

INNOVATION IN AGING

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Abstracts

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Abstracts are arranged numerically by session and in the order of presentation within each session.

SESSION 5 (SYMPOSIUM)

ENHANCING RECOGNITION OF GERIATRIC SYNDROMES BY PRIMARY CARE HEALTH PROFESSIONALS

Chair: J.E. Morley, *Saint Louis University, St. Louis, Missouri*

Co-Chair: H. Arai, *National Center for Geriatrics and Gerontology, Nagoya, Japan*

B. Vellas, *CHU Toulouse, Toulouse, France*

There is a shortage of geriatricians around the world. In the USA the number of geriatricians has grown smaller. This is in the face of the increased aging of the baby boomer population. Many primary care health professionals have had limited training in geriatrics. There is increasing understanding that early recognition of the new geriatric “giants” – frailty, sarcopenia, anorexia of aging and cognitive dysfunction – can lead to a decrease in disability and hospitalization with appropriate management. This has led to the development of a number of brief comprehensive screening processes for geriatric conditions. Examples of these include the Easy Care in the United Kingdom which has been widely disseminated; the Kihon Checklist (KCL) in Japan; the Gerontopole screen tool in Toulouse, and the Rapid Geriatric Assessment that has been developed as part of the Medicare Wellness Visit in Missouri. Professor Arai will discuss experience with the Kihon Checklist which is used by the Japanese Long-Term Care Insurance system. He will focus on how this index can be used to classify person into robust, frail and prefrail and its predictive value. He will also provide evidence of an exercise intervention for improving outcomes. Professor Vellas will explain the short Gerontopole screening questionnaire used by family practitioners as a tool to find persons in need of a referral to geriatricians. He will report on the outcomes of 1,108 older patients (mean age 82.5) that were screened by their family physicians. The necessary interventions in this group included medical conditions with a new intervention (32%), nutritional intervention (62%), physical activity intervention (57%) and a social intervention (26%). Professor Morley will describe the RGA consisting of 4 rapid screens – the FRAIL for frailty, SARC-F for sarcopenia, SNAQ for anorexia of aging and Rapid Cognitive Screen for MCI and dementia. These tests have been validated in from 2 to 5 continents and are available in up to 30 languages. Over 2,000 persons have undergone the test. Results show that both screening and case finding produce similar deficits. A computer assisted screening and management program has been developed and in addition handouts for lifestyle

intervention are available. These examples suggest that high quality geriatric screening can be carried out by primary care health professionals with positive outcomes.

RAPID GERIATRIC ASSESSMENT

J.E. Morley, *Saint Louis University, St. Louis, Missouri*

The Rapid Geriatric Assessment (RGA) is a tool developed to quickly identify four geriatric syndromes viz frailty, sarcopenia, anorexia of aging and cognitive dysfunction as well as to enquire if the person has advanced directives. It was developed to be used in conjunction with the Annual Medicare Wellness Visit. It takes less than 4 minutes to administer.

The components of the RGA are the FRAIL for frailty, SARC-F for sarcopenia, SNAQ for anorexia of aging and the Rapid Cognitive Screen which is derived from the St. Louis University Mental Status Examination. All the screening tools have been validated in multiple continents and are available in up to 30 languages.

We have ongoing educational interventions in rural counties, inner city clinics and academic centers. To date over 2,000 persons have been evaluated either as case finding in physicians' offices or screening in the community. Preliminary results show the prevalence of frailty to be 23%; sarcopenia 32.8%; Anorexia 34.7%, MCI 19.3% and dementia 23.9%. In a group of diabetics both the SARC-F and FRAIL were highly predictive of new disability and hospitalization.

In addition to the screening tool we have developed a computerized assessment and management program for physicians' offices. This program specifically provides a diagnostic plan for each component of the FRAIL, and diagnostic and management programs for the other syndromes. This approach is well accepted by primary care physicians.

We believe that this is a simple intervention secondary prevention program that will enhance the health of older persons.

FAMILY PHYSICIAN SCREENING FOR GERIATRIC SYNDROMES

B. Vellas, *CHU Toulouse, Toulouse, France*

The GFST (Gerontopole Frailty Screening Tool) has been developed to help health care professional to target older adults at risk for frailty. The GFST does not aim to measure frailty, but only to detect those at risk to be frail, to refer them to a frailty clinic for more precise assessment of frailty, and to look after the cause of frailty to propose targeted interventions.

The GFST includes few questions: is your patient living alone, had involuntary weight loss in the past 3 months, fatigability, mobility difficulty, memory complaints, slow

gait speed (see fig 1)? After that, most importantly the GFST asks in your own clinical opinion, do you feel that your patient is frail and at risk for further disabilities? If the health professional feels it, the subject must be referred to a frailty or geriatric clinic for further assessment. It was found that 95% of the subjects referred to the Gerontopole frailty clinic (n=1108) using the GFST were frail or pre-frail.

THE KIHON CHECKLIST: IS IT A RELIABLE ASSESSMENT OF FRAILITY?

H. Arai, *National Center for Geriatrics and Gerontology, Obu, Japan*

The Japanese Long-term Care Insurance (LTCI) system classifies older adults as vulnerable, dependent or independent. According to the LTCI system's criteria, vulnerable older adults are community-dwelling people who are at high risk of becoming dependent in the near future, as identified through a health check-up questionnaire, the Kihon Checklist (KCL). This checklist is comprehensive for assessing physical, social, and mental functions of seniors' lives. Therefore, it is conceivable for us to use it for screening frailty in a clinical setting as well as in the community. Based on the total KCL scores we could classify older adults into 3 groups, robust, pre-frail and frail, with a significant predictive ability for adverse health outcomes, such as an incidence of dependency or mortality, in a population-based longitudinal observational study. We also found that higher KCL scores were associated with higher incidence of adverse health outcomes such as incident disability and mortality in older diabetic patients. Thus the KCL also can be easily administered by healthcare professionals and used to evaluate the effectiveness of interventions.

SESSION 10 (SYMPOSIUM)

DESIGN, RESULTS, AND IMPLEMENTATION OF A WHOLE PERSON INTERVENTION FOR LATE LIFE CARE

Chair: P. Bingham, *Allina Health, Minneapolis, Minnesota*
Discussant: S. Schroeder, *University of California, San Francisco, California*

In the next decade and a half, communities in the US will care for the same number of individuals over the age of 65 as they have over the past combined nine decades. Seven in ten of these individuals will live with a progressive serious illness that will last not weeks but months to years. While traditional palliative care services provided through inpatient settings and community-based models have demonstrated positive impacts on symptom management and experiences of care, there exists a woefully small number of palliative trained providers to enable sufficient support for the growing population. The need for innovative, upstream palliative care models that can be deployed wide scale and sustainably is critical. A large healthcare delivery system in the upper Midwest has developed an innovative model—LifeCourse—to support patients facing advanced serious illness and their key friends and families. The model is being evaluated in partnership with 900 intervention and usual care patients and their key friends and family (total n=1,800). In an effort to close the widening gap between the production of positive research results from new interventions and

ultimate systematic implementation of those interventions, the community-based care system testing this approach has moved to rapid deployment of the model across its primary and specialty care service areas. This symposium will offer an overview of the development of the LifeCourse model, the components of the model, the results to date from the research trial, and lessons from the rapid deployment of LifeCourse across the healthcare system.

CREATING A WHOLE PERSON INTERVENTION FOR PATIENTS WITH SERIOUS ILLNESS AND THEIR CAREGIVERS

E.W. Anderson¹, S. Schellinger¹, K. White², M. Frazer¹, K. Radel¹, D. Elumba¹, J. Roberts¹, J. Blomberg¹, 1. *Allina Health, Minneapolis, Minnesota*, 2. *University of Minnesota, Minneapolis, Minnesota*

This presentation describes the LifeCourse intervention and the human-centered research approach used to create it. Meetings were conducted with 183 patients, caregivers, and care professionals who experienced and/or worked with serious illness to systematically gather perspectives on optimal care delivery for persons diagnosed with serious illness. Participant feedback was shaped into care components that attend to how illness is lived, the care relationship is experienced, and care is delivered. Care components guided creation of protocols for a trained lay healthcare worker who meets with patients and caregivers in their home, earlier in the patient's illness trajectory, to holistically understand the patient's experience and goals for living well, and to enhance supportive relationships in one's family, community, and health care teams. Drawing upon the experiences of those who have lived and worked with serious illness may yield an approach that more fully supports patients and caregivers so they can live well.

UTILIZATION, QUALITY OF LIFE, AND CARE EXPERIENCE OF PATIENTS IN LIFE COURSE

H. Britt¹, N. Shippee², T.P. Shippee², P. Mobley¹, K. Fernstrom¹, A. Jones¹, J. Taghon¹, C.L. Cain³, 1. *Allina Health, Minneapolis, Minnesota*, 2. *University of Minnesota, Minneapolis, Minnesota*, 3. *University of California, Los Angeles, California*

Based upon current data from 450 intervention and 448 comparison patients, we find a 25% reduction in inpatient days (p=0.003) and a 57% reduction in number of ICU stays (p=0.004) for intervention compared to usual care patients. Of deceased patients, 49% of those in the intervention group enrolled in hospice compared to 42% of usual care patients; median length of stay in hospice for intervention patients was 23 days, compared to 15.5 for usual care patients (p=0.05). Examination of quality of life (QOL) of patients enrolled in LifeCourse (using the FACIT-Pal) reveals consistently more positive QOL for intervention patients than comparison patients, especially in the emotional, functional and palliative domains and among patients with lower starting QOL values. An experience survey designed specifically for the longitudinal nature of LifeCourse reveals consistently more positive experience, both overall and across many experience domains, for intervention compared to usual care patients.

LIFE COURSE BEYOND RESEARCH: LEARNING THROUGH IMPLEMENTATION AND EVALUATION

P. Bingham, V. Anugwom, S. Curran, A. Hunt, M. Hutchison, S. Nelson, L. Sutter, A. Betzner, *Allina Health, Minneapolis, Minnesota*

Strong research results and supportive funding propelled leadership of a healthcare system to implement LifeCourse across multiple clinics and collaborating community sites. LifeCourse relies upon lay healthcare workers, called care guides. The implementing primary and specialty care clinics hired care guides to provide whole person care for clinic patients living with serious illness. During implementation, clinic leaders were solicited to be part of a team which met over several weeks to help prepare the clinics, hire the care guides, and champion LifeCourse. The program materials were adapted from the research intervention to support the specific patient population and clinic processes. In addition to following a detailed implementation strategy, an evaluation plan was created to measure the effectiveness and provide feedback on the process and outcomes. The presentation will describe the implementation and evaluation framework for systematic deployment and will summarize the successes and challenges of integrating research into practice.

SESSION 15 (PAPER)

FACTORS AND DECISION-MAKING AFFECTING POST-ACUTE CARE AND READMISSIONS

CARE TRANSITIONS: AN INTEGRATED MODEL OF CARE FOR ELDERLY PATIENTS AT HIGH RISK FOR READMISSIONS

U. Ohuabunwa^{1,2}, E. Johnson², J. Turner², Q. Jordan², S. Cruel², 1. *Emory University, Atlanta, Georgia*, 2. *Grady Hospital, Atlanta, Georgia*

The peri-discharge period constitutes a critical time for older adults. Several successful care transitions models entail the use of advanced practice nurses, often cost prohibitive. The role of non medical personnel such as community health workers (CHWs) in improving transitions of care has not been widely studied. We sought to determine the effectiveness of a care transitions model utilizing CHWs in reducing readmissions and emergency room visits (ERVs).

A patient care model evaluation was done using a pre and post intervention design with follow-up at 3, 6, 9 and 12 months. Eligible patients were at high risk for readmission or with up to 4 emergency room visits in 1 month. They participated in the model designed to provide the patients with self management skills, and the support of a CHW who assisted in coordination of their care and followed the patient for a period of 1 year post discharge, achieved through pre-discharge interdisciplinary team meetings, regular home visits, weekly phone contact, accompaniment to PCP appointments, support with transportation, and medications, self management education aimed at promoting independence and good health behaviors at the time of discharge from the program.

Main Outcome Measures were readmissions, ERVs, increased primary care utilization.

Of 126 patients enrolled in the study, 117 patients participated actively, 65% males; 35% females. There was a

reduction in ERVs in 83.9% of patients, reduction in readmissions in 76.6% of patients, increased primary care utilization with established PCPs in up to 86.6% of patients. There was also a 65% reduction in healthcare cost.

Use of non healthcare personnel such as community health workers during transitions of care may be helpful in reducing healthcare utilization and probably costs.

IMPLEMENTING AN ACUTE CARE FOR THE ELDERLY SERVICE IN AN URBAN SAFETY NET HOSPITAL

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Background: Older adults who are hospitalized are prone to multiple hazards such as falls, delirium, pressure ulcers, malnutrition, hospital-acquired infections and functional decline resulting in institutionalization, and readmission to the hospital after discharge. Geriatric-focused models of inpatient care offer effective ways to transform inpatient care for older adults and have been shown to improve outcomes. The role of these models of care in urban safety net hospitals has not been reported. We sought to determine the effectiveness of an Acute Care for the Elderly Service at our safety net hospital established 9mos ago.

Project Setting is a 953 Bed academically affiliated safety net hospital.

Participants were older adults 75yrs and older or patients 65 years and older identified to have 1 or more geriatric syndromes.

All patients who met criteria were admitted to the ACE Service run by an interdisciplinary team constituting of a Geriatrician, Nurse Practitioner, Pharmacist, Dietitian, Case Management/ Social Work, Nursing Staff, Rehab personnel including PT, OT, ST, Team members reviewed the patients and made recommendations regarding the patient's care. The focus of the service was to manage the following aspects of patient care – cognition, mood, functional status, nutrition, medication safety, skin care, transitions of care, A team of volunteers from our Senior Services Division also focused on involving patients in individual and congregate functional and cognitive activities to help preserve cognition and functional status. Community Health Workers provided support regarding the patients transition to other care settings with their providing support and care coordination immediately pre-discharge and in the discharge care setting for a period of 6 months post discharge for patients meeting criteria.

Initial data show a significant improvement in delirium and cognition scores as measured by the Nudesc and Six Item screen scores, on admission compared to discharge. There was a drop in the Nudesc Scores by 14.9% at discharge compared to admission scores. There was also significant improvement in mobility scores for patients pre ACE intervention and post intervention., though there was some decline in the Katz and Lawton functional scores, There was also a positive response by the primary hospital teams in reducing the number of beers medications that the patient was taking.

An ACE service with its care processes is a useful mechanism to improve cognition, mobility and medication safety in hospitalized older adults in a safety net hospital

IMPROVING DECISION-MAKING AND OUTCOMES IN TRANSITIONS TO POST-ACUTE CARE FACILITIES

R.E. Burke¹, E. Whitfield², C. Levy², E. Hess², 1. *Research and Hospital Medicine Sections, Denver VA Medical Center, Denver, Colorado*, 2. *Denver VA Center of Innovation, Denver, Colorado*

The number of older adults discharged to post-acute care (PAC) facilities after hospitalization is increasing rapidly, but their clinical course is uncertain. We sought to identify prognostic factors linked to outcomes of older adults discharged to PAC using a retrospective analysis of the 2003–2009 Medicare Current Beneficiary Survey (MCBS), a nationally-representative survey of Medicare recipients matched with claims data. Community-dwelling adults age 65 and older who were hospitalized and discharged to a PAC facility were included. The primary outcome was a composite of events representing failure to return to the community, including death, readmission to the hospital, or remaining in a PAC facility 100 days post-hospital discharge. Of 1416 eligible patients, 510 (35.9%) did not return to the community. In multivariable analysis, the most important factors included the presence of dyspnea (OR 1.46; 95% CI 1.09–1.96), cognitive impairment (1.12; 1.02–1.24), use of antipsychotics (1.10; 1.04–1.17), number of physician visits in the PAC facility (1.09; 1.03–1.14), index hospital length of stay (1.02 per day; 1.01–1.03), PAC facility length of stay (0.99 per day; 0.98–0.99), and better functional status (0.80; 0.75–0.85). The c-statistic was 0.694. More than one-third of older adults discharged to PAC facilities are readmitted, die, or remain in the PAC facility 100 days post-discharge. Several factors that influence these outcomes may be modifiable. Their predictive value is similar to most readmission prediction models, which have been successfully used to target interventions to high-risk groups. These findings may serve as a starting point for better informing decision-making and improving outcomes.

GERIATRIC CO-MANAGEMENT FOR CARDIOLOGY PATIENTS IN THE HOSPITAL (G-COACH):

DEVELOPMENT AND FEASIBILITY

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The need to explore innovative care models that are able to sustain or improve healthcare outcomes for older hospitalized adults is urging. G-COACH is a multi-phase mixed methods research project that aims to test the efficacy of a geriatric-cardio co-management model of care. Geriatric co-management is characterized by collaboration and shared decision-making between the interdisciplinary geriatric team and treating physician. The G-COACH project incorporates: 1) a systematic literature review; 2) a two-round international Delphi study to determine quality indicators; 3) model development based on local stakeholder involvement and 4) a pre-post intervention study to test the efficacy of a geriatric co-management intervention.

The systematic review and meta-analysis including 12 prospective experimental studies showed that geriatric co-management reduced overall length of stay (MD, -1.88 [95% CI, -2.44 - -1.33]) and resulted in a trend towards reduced in-hospital mortality (OR, 0.72 [95% CI, 0.50 - 1.03]). There

was no effect on the number of patients discharged home, post-discharge mortality and readmission rate. The Delphi study resulted in 8 structure, 7 process and 16 outcome indicators that 28 international experts found feasible and appropriate to evaluate geriatric co-management programs. Based on the information from the review and Delphi-study, a theoretical geriatric co-management intervention was designed. This theoretical model was adapted into a practical co-management program based on participant observation, focus groups, interviews and an observational pilot and feasibility study including 80 patients. Finally, the practical co-management program will be evaluated in a large pre-post intervention study including 170 participants in each cohort.

LATE MOBILIZATION IN ELDERLY SURGICAL PATIENTS PREDICTS READMISSION OR DEATH AFTER DISCHARGE

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Acute surgical services are increasingly treating seniors with complex care needs who are at high risk for hospital readmission and functional decline. Yet, the prognostic importance of early post-operative mobilization remains unclear. We investigated whether time to post-operative mobilization among older surgical patients predicts readmission or death. Mobilization after emergency abdominal surgery in a prospective cohort of patients aged ≥ 65 years requiring help pre-operatively with < 3 activities of daily living were followed after discharge from 2 Canadian tertiary-care hospitals. Late mobilization was defined as ≥ 36 hours following surgery. The primary outcome was 30-day all-cause readmission or death. Patients (N=306) had a mean age of 76 ± 7.7 years, 55% were women, 41% were vulnerable-to-moderately frail. Gallstones (23%), intestinal obstruction (21%), or hernia (17%) were the most common reasons for admission. Twenty-four percent were mobilized ≥ 36 hours after surgery. Late mobilized patients were more often readmitted or died within 30-days [19 (26%) vs 22 (10%), $p < 0.001$] and within 6-months [38 (51%) vs 64 (28%), $p < 0.001$], compared to early mobilized patients. Late mobilization remained associated with increased risk of readmission or death within 30-days [adjusted odds ratio (aOR) 2.50, 95%CI 1.16–5.40, $p = 0.02$] and at 6-months (aOR 1.85, 95%CI 0.99–3.5, $p = 0.055$) in multivariable logistic regression adjusting for age, sex, comorbidities, total medications, hemoglobin, and frailty. Late mobilization is common in elderly patients following emergency abdominal surgery and identifies heightened risk of readmission or death after discharge. Interventions targeted at early mobilization may decrease risk for adverse events in this vulnerable population.

SESSION 20 (PAPER)

UNDERSTANDING AND TREATING MEMORY LOSS AND DEMENTIA

COGNITIVE DECLINE AND ITS DETERMINANTS IN DIVERSE ETHNO-REGIONAL GROUPS: THE COSMIC COLLABORATION

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The Cohort Studies of Memory in an International Consortium (COSMIC) (*BMC Neurol.* 2013 Nov 6;13:165) is a consortium of population-based longitudinal studies of ageing and dementia, which currently comprises 27 studies with >50,000 participants. The main objectives of COSMIC are to harmonise shared, non-identifiable data from cohort studies in older individuals (60+ years), and perform joint or mega-analyses using combined, harmonised data sets. An earlier project applied uniform criteria to the prevalence of MCI in 11 studies, and estimate the prevalence to be 6.7% (range 3.2 to 10.8%), in contrast to the published estimates of 5.0% to 36.7% (*PLOS One.* 2015 Nov 5;10(11):e0142388). The current study examined rates of cognitive decline in 14 studies from 12 countries. It showed that cognitive function declined significantly with age for nearly every study and neuropsychological test, with processing speed exhibiting the greatest median decline (0.77 IQ points per year). No consistent relationships between test type and rate of decline were observed, however. The effects of sex and apolipoprotein E gene (*APOE*) were inconsistent in different studies. Each extra year of education conveyed enhanced scores for every test in every study. Language tests received the largest benefit (0.80–2.75 IQ points). The effects of other putative risk factors are currently being analysed and will be presented. COSMIC represents a truly international collaboration to establish the epidemiology of age-related cognitive decline and dementia.

THE CINGULATE CORTEX OF OLDER ADULTS WITH EXCELLENT MEMORY CAPACITY

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Memory deterioration is the earliest and most devastating cognitive deficit in normal aging and Alzheimer's disease. Some older adults, known as "Supernormals", maintain excellent memory. This study examined relationships between cerebral amyloid deposition and functional connectivity (FC) within the cingulate cortex (CC) and between CC and other regions involved in memory maintenance between Supernormals, healthy controls, and those at risk for Alzheimer's disease (amnesic mild cognitive impairment). Supernormals had significantly stronger FC between anterior CC and R-hippocampus, middle CC (MCC) and L-superior temporal gyrus, and posterior CC and R-precuneus, while weaker FC between MCC and R-middle frontal gyrus and MCC and R-thalamus than other groups. These FC were significantly related to memory and global cognition in

all participants. Amyloid deposition did not differ among groups. Relationships between global cognition and FC were stronger among amyloid positive participants. Relationships between memory and FC remained regardless of amyloid level. This revealed how CC-related neural function participates in cognitive maintenance in the presence of amyloid deposition, potentially explaining excellent cognitive function among Supernormals.

MILD COGNITIVE IMPAIRMENT DETECTION BY SIMULTANEOUS USE OF SCALES: A NEURAL COMPUTING SOLUTION

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At present there is an increase in the elderly population and more persons with cognitive troubles, where dementia is a socio-sanitary challenge. Mild cognitive impairment (MCI) may be a prodromal state of Alzheimer's disease and other dementias. It is considered an optimal target for diagnosis, likely to be highly prevalent in the future, worldwide.

MCI diagnosis is principally based in cognitive and daily living functional activities assessment. However, in clinical settings, essentially primary care setting, MCI is challenging because of time, consulting restrictions and even difficulties understanding cognitive test cut-off points, mainly when diagnosis depends on two or more scales, and it is underdiagnosed.

An intelligent system to assist in MCI diagnosis, based on hybrid neural architectures, the counter-propagation network (CPN), with a wrapper approach, has been designed. The dataset includes scores of three commonly used scales, MMSE, GDS and FAQ, along with years of education and age, relative to 203 normal control subjects and 128 subjects who revealed a MCI, from ADNI database.

The efficiency of the proposed CPN-based system, with MMSE, FAQ and age, was evaluated using several performance measurements and the clinical utility index (CUI). Its diagnostic performance was compared with a geriatrician, a neurologist and two family physicians. Our proposal achieved the highest score amongst all, AUC: 95,11%, Accuracy: 86,84%, Sensitivity: 90%, Specificity: 84,78%, CUI: 0,715. These results were also better than optimum cut-off over each one of the tests.

Neural computing methods may be useful tools in clinical settings even when employing brief screening tests.

BIDDING THE MEDICAL MODEL "GOODBYE!" NEW WAYS OF THINKING ABOUT DEMENTIA

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Although dementia is a medical diagnosis, there are currently no disease-modifying therapies and health services have little to offer people who receive a dementia diagnosis. However, the Medical Model exerts a powerful grip on thinking about dementia, limiting the exploration of other models and approaches that may be of benefit. This opportunistic study explored the ease at which alternate models from other areas of health and disability could be explained to and understood by a range of health professionals. Data were captured from 40 staff in a psychiatric hospital during an interactive Grand Rounds session. A true case scenario was used with phased presentation of four different theoretical models: Medical Model, Recovery, Self-Management and Rights-Based. The session concluded with a video of the individual describing his life after adopting technology. Understanding was assessed through written answers regarding benefits and limitations of each approach to the case scenario and a final question asking which approach best explained his experience. The results suggested that conveying conceptual alternatives to the Medical Model is possible in a simple and accessible way. The written answers conveyed understanding of the three alternate models and their application to the case scenario. Fewer than 10% of respondents proposed that the Medical Model best explained the experience of the participant "loving every minute" of his life. This suggests the time has come to explore alternate models and lessons learnt from other fields to enable people to live well with dementia.

INTERVENTIONS FOR THE TREATMENT OF BEHAVIOURAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA: AN OVERVIEW

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Behavioural and psychological symptoms of dementia (BPSD) are common amongst people with dementia and can have a large impact on public health by potentially reducing quality of life, increasing caregiver impact and increasing costs associated with dementia care. The objective of this study was to synthesise the findings of systematic reviews of randomised controlled trials of interventions for the treatment of BPSD (PROSPERO CRD42016039477). A systematic search of The Cochrane Database of Systematic Reviews, DARE, Medline, EMBASE and PsycINFO retrieved 3467 citations. Systematic reviews of randomised controlled trials of interventions aimed at treating BPSD in patients with dementia of any type including Alzheimer's disease or Alzheimer's disease only were included. The most comprehensive and up-to-date reviews for acetylcholinesterase inhibitors, antipsychotics, antidepressants, benzodiazepines, mood stabilisers, melatonin, caregiver interventions, exercise, music therapy, cognitive stimulation and psychological interventions were included. For the majority of the interventions, included reviews were of moderate to high quality according to the AMSTAR checklist and the evidence was of low to moderate

quality as rated using GRADE criteria. Reported effect sizes for atypical antipsychotics on global BPSD measures were very small (SMD 0.17, 95%CI 0.08 to 0.25; moderate quality evidence). Cognitive enhancers also had very small effects; reviews reported non-significant trends in favour of donepezil or memantine (4 and 2 studies, respectively) and a small but significant effect for galantamine based on high quality evidence from two studies. Effect sizes have been compared across interventions and interpreted in light of the severity of dementia in study populations.

SESSION 25 (SYMPOSIUM)

PROMOTING HEALTHY AGING IN DIVERSE OLDER COMMUNITIES THROUGH ACADEMIC-COMMUNITY RESEARCH

Chair: N.M. Giunta, *Hunter College, New York, New York*
Discussant: D. Gardner, *Hunter College, New York, New York*

As global aging brings increased diversity in race/ethnicity, language and culture, ability, sexual orientation, gender identity, and access to economic and other resources, supporting the health and well-being of older adults and their communities is complicated by cultural and geographic diversity, and growing structural inequities. Community-based scholarship plays an essential role in understanding and addressing the needs that emerge from disparities and intersectionalities that shape the lives of older adults in multicultural communities. This symposium highlights innovative research and describes the challenges and rewards of academic-community relations that build knowledge and promote healthy aging through community-based inquiry. First, we present a study exploring long-term and advanced care planning among multicultural members of an urban LGBTQ senior center. Second, preliminary findings are shared from a community-based initiative to address knowledge and service-utilization gaps regarding Alzheimer's disease among urban Latino elders. Third, we describe a university-community collaboration using social network analysis to improve provider knowledge and support for caregivers of individuals with dementia. Fourth, results are shared from a study of intergenerational transmission of cultural identity among older Pacific Islanders in Hawai'i. Finally, we present an ethnographic study of academic-community relationships in a rural U.S. college town, and perceptions of multiple stakeholders who influence the aging experience in their community. Through a variety of methods, these studies share a commitment to community-based research that aims to support collaboration, empower communities, and ultimately transform practice and policy to better meet the diverse needs of urban and rural older adults around the globe.

LONG-TERM CARE PLANNING AND THE CHANGING LANDSCAPE OF LGBTQ AGING

J. McGovern¹, D. Gardner^{2,3}, 1. *Lehman College, City University of New York, New York, New York*, 2. *Silberman School of Social Work, Hunter College, City University of New York, New York, New York*, 3. *Brookdale Center for Healthy Aging, New York, New York*

Older LGBTQ adults are twice as likely to grow old without a spouse or adult child and more often act as caregivers

for family members or friends than their non-LGBTQ peers. These distinct caregiving experiences may contribute to health and quality-of-life disparities for aging LGBTQ adults, including increased rates of isolation, depression, chronic illness, and shortened life expectancy. Findings are presented from a qualitative study examining long-term care and end-of-life planning among members of an LGBTQ senior center in the Bronx, New York. Focus groups and in-depth interviews with the primarily African American, Afro-Caribbean, and Latino participants explored plans and concerns regarding their future and advanced care needs. Findings suggest considerable resilience; participants recognized their future care needs and preferences, and described an increased sense of personal agency and greater acceptance about aging and end-of-life. We discuss implications for more inclusive and strengths-based practice, policy, and research with LGBTQ elders.

COMMUNITY-BASED PARTICIPATORY METHODS IDENTIFY NEEDS AND SOLUTIONS: LATINOS AND ALZHEIMER'S DISEASE

C.R. Gelman¹, R. Glushefski², 1. *Silberman School of Social Work at Hunter College, City University of New York, New York, New York*, 2. *Brookdale Center for Healthy Aging, New York, New York*

In the U.S. there will be over 1 million Latinos with Alzheimer's disease and related dementias (ADRD) by 2050. While Latinos are at greater risk for ADRD than non-Hispanic whites, they are less likely to access diagnostic and intervention services. Through an academic-community partnership, a needs assessment identified ADRD as a critical area of concern and an academic-community coalition was formed to design, implement, and evaluate an intervention that trains "natural helpers" (e.g., clerks, hair dressers) to be able to detect symptoms of ADRD, provide culturally competent information, and facilitate referral to a single bilingual, bicultural community-based organization for further intervention. Timely detection of ADRD can result in slower progression of dementia and an improved quality of life for persons with ADRD and their families. We describe the collaborative process of this community-academic partnership and discuss implications internationally, drawing comparisons with projects using natural helpers in various Latin American countries.

USING NETWORK ANALYSIS TO EXAMINE DEMENTIA CARE REFERRALS

C. Morano¹, A. Savage¹, C. Rees², 1. *Silberman School of Social Work at Hunter College, City University of New York, New York, New York*, 2. *State University of New York – Albany, Center for Human Services Research, Albany, New York*

Social network analysis (SNA) has been employed extensively to understand the size, density, centralization, fragmentation of health care and social care. Network theory and analysis has guided research in topics as diverse as primary care practices, teamwork and inter-professional practice, translational research, and to examine structural relationships and influence in networks. This paper describes a collaborative process with two universities and a community-based provider in designing the PSS Network Analyses

pilot study to examine the network structures used by dementia care consultants in a community-based program. Findings suggest a hierarchy of factors, including but not limited to length of waiting lists, distance to the caregiver, and race/ethnicity of the provider that influenced the selection of referrals to a variety of dementia related providers. This session concludes with a discussion of potential uses of SNA to support the concrete physical, emotional and financial needs of dementia caregivers.

INTERGENERATIONAL CULTURAL TRANSMISSION AND COMMUNITY IDENTITY AMONG PACIFIC ISLANDERS

H. Vakalahi², N.M. Giunta¹, 1. *Silberman School of Social Work at Hunter College, City University of New York, New York, New York*, 2. *Morgan State University, Baltimore, Maryland*

Transmission of cultural values, beliefs, and traditions from one generation to another rely on multiple mechanisms within a variety of social and environmental contexts. Intergenerational transmission of culture has been conceptualized among Pacific Island communities as relationships and connections across multiple systems from micro to macro to metaphysical. This phenomenological study set in a small community in Hawai'i included in-depth individual interviews conducted with 36 Elders in their homes. Community consultants collaborated with researchers throughout the study to maintain trust and rapport with participants. Qualitative analysis using principles of grounded theory resulted in preliminary findings that suggest community rituals serve as an important conduit for intergenerational transmission of values, traditions, beliefs, and historical knowledge. Culture is a primary underpinning of community life; therefore, the community context is essential for understanding macro and micro social work practice, particularly with indigenous communities. Implications for practice and research will be discussed.

A NEW NEIGHBORHOOD EVERY FALL: AGING IN PLACE IN A SMALL COLLEGE TOWN

K.H. Powell, *Frostburg State University, Frostburg, Maryland*

Older adults who live in neighborhoods adjacent to academic institutions have unique experiences that make them vulnerable to marginalization and displacement. As these neighborhoods become increasingly dominated by students and other university stakeholders, older adults find themselves in the minority in a neighborhood where they have lived for many years. Often these neighborhoods are attractive to universities, city governments, and private companies for their development potential, which can result in gentrification. Results of a year-long ethnographic study of a neighborhood adjacent to a medium-sized public university are presented to shed light on relationships between members of the following five stakeholder groups with vested interests in the neighborhood: older adult year-round residents, students who live off-campus, property owners/managers who serve as landlords, and public university or community officials. The study highlights challenges and opportunities for academic-community relations to support aging in place. Implications for practice and research will be discussed.

SESSION 30 (PAPER)

NUTRITIONAL ISSUES IN OLDER ADULTS

FAT MASS PREDICTS SURVIVAL IN MEN BUT NOT WOMEN IN THE BALTIMORE LONGITUDINAL STUDY OF AGING

N. Chiles Shaffer, S.A. Studenski, *National Institutes of Health, Baltimore, Maryland*

Age and body mass index (BMI) are known risk factors for mortality. It is important to distinguish the makeup of one's body composition, specifically the amount of lean and fat mass, from BMI and understand the contribution of body composition to mortality risk. We examined whether baseline lean mass and fat mass predict survival in the Baltimore Longitudinal Study of Aging, a study of normative aging. Cox proportional hazards were modeled in 632 men and 684 women (ages 20–95 years old) with DXA data. In the analytic sample, women were younger than men (mean age 59.8 vs. 63.7, p -value <0.001). Follow-up ranged from 2 to 25 years (mean: 13 years), and over the follow-up period 133 men and 91 women died. Baseline appendicular lean mass (ALM) (kg) and fat mass (kg) were used to predict survival, additionally adjusting for age and BMI (quadratic). In men, greater fat mass reduces mortality after accounting for age, ALM, and BMI. In women, neither fat mass nor lean mass were associated with mortality risk. In women, body composition does not add to the survival effect of BMI, while in men both lean and fat mass add to the survival effect of BMI. Further research is needed to fully understand the impact of lean and fat mass on survival in men and women, particularly assessing change in body composition over time.

PLASMA KLOTHO, ADIPOSITY, AND INSULIN RESISTANCE IN OLDER ADULTS: FINDINGS FROM THE INCHIANTI STUDY

M. Shardell¹, R. Kalyani², R.D. Semba², S. Bandinelli³, R. Varadhan², L. Ferrucci¹, 1. *National Institute on Aging, Baltimore, Maryland*, 2. *Johns Hopkins Medical Institutions, Baltimore, Maryland*, 3. *LHTC, Local Health Unit Tuscany Centre, Firenze, Italy*

Klotho is a recently discovered hormone with demonstrated anti-aging properties in animal studies. In older humans, evidence has linked plasma klotho with longevity. Insulin signaling is associated with longevity in animals and in humans, mediated in part by the accumulation of fat mass common in aging. Whether klotho is part of this longevity pathway is unknown. We hypothesize that plasma klotho is associated with insulin resistance and this association depends on by obesity status.

Plasma klotho was measured in 832 participants aged ≥ 55 years in InCHIANTI, a prospective cohort study comprising Italian adults. Insulin resistance was operationalized using the homeostasis model for insulin resistance (HOMA-IR). Body size was categorized using World Health Organization body mass index (BMI) categories (<25 [under- or normal weight; $n=303$], 25–29.9 [overweight; $n=393$], ≥ 30 [obese; $n=136$] kg/m²). Stratified inverse probability weighted linear regression modeled the association while handling missing data.

Mean (SD) klotho concentrations (pg/mL) were 718.9 (434.6) for under/normal weight, 687.8 (237.1) for

overweight, and 680.6 (210.6) for obese participants. After adjustment for biomarkers, comorbidities, demographics, and lifestyle; each logarithm higher klotho (pg/mL) was associated with 0.69 higher units of HOMA-IR (95% confidence interval [CI] 0.19–1.20; p -value=0.007) in overweight participants. We found little evidence for association in participants with BMI <25 kg/m² (beta=0.20; 95% CI -0.20–0.61; p -value=0.32) or obese participants (beta=-0.11; 95% CI -1.16–0.94; p -value=0.84).

Plasma klotho was positively associated with insulin resistance in overweight older adults, but not associated in other BMI categories. Further studies are needed to explore the relationship of these paradoxical findings to longevity.

NUTRITIONAL STATUS AND MORTALITY IN 5 YEARS IN BRAZILIAN ELDERLY: SURVIVAL ANALYSIS

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This study aimed to assess the impact of nutritional status on survival time in Brazilian elderly living in five years follow-up. Elderly ($n=1,256$) from the third wave of SABE Study (Health, Well-being, and Aging) conducted in 2010, were followed for 5 years, when they were contacted for the fourth wave. Survival functions were estimated according to nutritional status in four groups: 1) without nutritional alteration; 2) anemia only; 3) hypoalbuminemia only; 4) anemia and hypoalbuminemia (Anemia= hemoglobin <12g/dL for women and <13g/dL for men, and hypoalbuminemia= serum albumin <3.5g/dL). Body Mass Index (BMI) was also included. Hazard ratios (HR) were calculated, following the Cox proportional hazards model, controlling for baseline covariates. All analyses considered sample weights and were performed using the Stata®14. After the 5-year period, 12.3% of the elderly died and 8.2% were lost to follow-up. Those who died had lower hemoglobin and albumin concentrations (13.4g/dL and 3.7g/dL) compared to survivors (14.3d/dL and 3.9g/dL; $p<0.001$). Crude death rate was 27.6/1000 person-years for elderly in group 1, 124.3 in group 2, 116.0 in group 3 and 222.8 in group 4 ($p<0.001$). In final models, group 2 and 3 showed similar effect (HR=2.53, $p=0.002$; 2.32, $p=0.001$; respectively) and group 4 had a twofold risk (HR=4.48; $p<0.001$). BMI did not alter results, and lost significance when in the same model as biomarkers. Thus, anemia and hypoalbuminemia have additive effect on mortality risk in 5 years, independently from BMI. Because they are common and cost-effective biomarkers, they should be part of the geriatric evaluation in clinical practice.

PROTEIN INTAKE AND INCIDENT SARCOPENIA IN OLDER ADULTS: THE HEALTH ABC STUDY

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Low protein intake has been hypothesized to contribute to sarcopenia, the age-related loss of muscle mass, strength, and performance. We examined the association between protein intake and incident sarcopenia in community-dwelling, older adults in the Health ABC study ($n=2,101$; mean age 74.5 yrs, 53% female, 37% black). Protein intake was calculated using an interviewer-administered food frequency questionnaire and categorized into tertiles (<0.7 , $0.7-1.0$, and ≥ 1.0 g protein/kg actual body weight and <0.76 , $0.76-1.06$, and ≥ 1.06 g protein/kg adjusted body weight). Sarcopenia was defined as low appendicular lean mass adjusted for BMI (<0.789 in men, <0.512 in women) and low grip strength (<30 kg in men, <20 kg in women) or slow gait speed (<1.0 m/sec). The association between protein intake and incident sarcopenia over 4 years of follow-up was examined using proportional hazard regression models adjusted for demographics, behavioral characteristics, height, total energy intake, and chronic conditions. Mean (SD) protein intake was 0.90 (0.36) g/kg actual body weight. The cumulative incidence of sarcopenia over 4 years of follow-up was 18.5%. Individuals in the lower two protein tertiles based on actual body weight were at greater risk of sarcopenia over 4 years of follow-up (HR (95% CI): 3.25 (2.04–5.18) and 1.78 (1.22–2.60), respectively) compared to those in the upper protein tertile. When adjusted body weight was used, only those in the lowest protein tertile were at greater risk of sarcopenia (HR (95% CI): 1.62 (1.02–2.57) and 1.17 (0.80–1.70)). Dietary protein should be studied further as a modifiable risk factor for sarcopenia.

DEVELOPING A CLINICAL DIAGNOSTIC TOOL FOR THE IDENTIFICATION OF OLDER ADULTS WITH HYPOVITAMINOSIS D

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Background: Hypovitaminosis D is highly prevalent among older adults and associated with adverse health events. To rationalize vitamin D assays and save health costs, our objectives were to develop and test a clinical diagnostic tool for the identification of older community-dwellers with hypovitaminosis D.

Methods: 1924 community-dwelling volunteers ≥ 65 years without vitamin D supplements were recruited in this cross-sectional study. A set of clinical variables (age, gender, living alone, individual deprivation, body mass index, undernutrition, polymorbidity, number of drugs used daily, psychoactive drugs, bisphosphonates, strontium, calcium supplements, falls, fear of falling, vertebral fractures, Timed Up&Go test, walking aids, lower-limb proprioception, handgrip strength, visual acuity, wearing glasses, cognitive disorders, sad mood) was recorded from standardized questionnaires and medical examination at the time of serum 25-hydroxyvitamin D (25OHD) measurement. Hypovitaminosis D was defined as serum 25OHD ≤ 75 nmol/L, ≤ 50 nmol/L or ≤ 25 nmol/L. The whole sample was separated into training and testing subsets to design, validate and test an artificial neural network (multilayer perceptron, MLP).

Results: 1729 participants (89.9%) had 25OHD ≤ 75 nmol/L, 1288 (66.9%) had 25OHD ≤ 50 nmol/L, and 525 (27.2%) had

25OHD ≤ 25 nmol/L. MLP using 16 clinical variables was able to diagnose hypovitaminosis D ≤ 75 nmol/L with accuracy=96.3%, area under curve (AUC)=0.938, and $\kappa=79.3$ indicating almost perfect agreement. It was also able to diagnose hypovitaminosis D ≤ 50 nmol/L with accuracy=81.5, AUC=0.867 and $\kappa=57.8$ (moderate agreement); and hypovitaminosis D ≤ 25 nmol/L with accuracy=82.5, AUC=0.835 and $\kappa=55.0$ (moderate agreement).

Conclusions: We developed an algorithm able to identify, from 16 clinical variables, older community-dwellers with hypovitaminosis D. Such inexpensive tool should help clinicians in decisions to supplement their patients without resorting to blood tests.

SESSION 35 (SYMPOSIUM)

INNOVATION IN HEALTH CARE DELIVERY FOR ADULTS AGING WITH DISABILITIES

Chair: J. Caldwell, *National Council on Aging*

Co-Chair: M. Campbell, *Grapeview, Washington*

The Center for Medicare and Medicaid Services (CMS) Innovation Center (CMMI) has contracted with NORC at the University of Chicago to evaluate 23 Health Care Innovation Award (HCIA) programs, using a multi-year mixed-methods evaluation comprising several domains: Medicare and Medicaid claims experience, multiple site visits, focus groups, and in-depth interviews with patients, physicians, program staff, and front line workers. After the second year of the evaluation, we observe evidence of reduced health care utilization and improved quality of life for one-fourth of the programs, with supportive qualitative information seen in focus groups, such as improved communication with physicians, enhanced access to non-medical services, and the establishment of a single point of contact, thereby reducing the need for acute services. This symposium summarizes key evaluation findings on five topics central to health care delivery: expanded medical homes for individuals with intellectual or developmental disabilities, care coordination for Medicaid beneficiaries, chronic disease self-management for individuals aging with disability, end-of-life care, and training for direct care workers. The panel suggests that policy makers hoping to implement innovative care coordination services for high-risk populations should consider the upfront investment necessary to establish a medical home, careful retraining of clinicians, and the return-on-investment that may be possible through reductions in hospitalizations and emergency department use.

AGING WITH A PHYSICAL DISABILITY IN MEDICAID MANAGED CARE

T. Heller, R. Owen, A. Bowers, H. Gibbons, *Department of Disability and Human Development, University of Illinois at Chicago, Chicago, Illinois*

Medicaid expansion brings the opportunity to serve new patients through innovation programs. Using data from a mixed-methods CMMI evaluation, we explore cost and quality of care outcomes for five programs. Several awardees achieved statistically significant reductions in total cost of care and significant reductions in hospitalizations, relative to respective comparison groups. In addition, three of these

awardees delivered targeted services to Medicaid beneficiaries at the highest risk, while improving quality on indicators such as primary care use and potentially avoidable hospitalizations. Innovation programs achieved these outcomes by helping patients who use unnecessary emergency department visits establish relationships with primary care practitioners, investing substantially in building patient trust through community outreach, peer support, home visits, and providing social service support for housing, food, and transportation.

INNOVATION FOR INDIVIDUALS AGING WITH LIFELONG DISABILITY

S.A. Ruiz¹, M.M. Putnam², J. Caldwell³, 1. *Health Care, NORC at the University of Chicago, Bethesda, Maryland*, 2. *Simmons College, Boston, Massachusetts*, 3. *National Council on Aging, Arlington, Virginia*

Medical advancements have extended the life of individuals with long-term disability into later life, also known as aging with disability. The paucity of evidence-based programs demonstrating effectiveness represents a gap for this unique group. This study analyzes quasi-experimental mixed-methods evaluation data on two programs in California (N=211) and Minnesota (N=124) funded under CMMI's Health Care Innovation Award (HCIA) program, including Medicare and Medicaid claims data on over 800 patients, administrative comparison groups, survey data, site visits, and focus groups with patients and caregivers. All programs show evidence of improved quality of care and some support for reduced utilization. In addition to self-management education and motivational interviewing, mechanisms driving these favorable findings include enhanced access, supportive care, and avoidance of acute exacerbations of chronic conditions. Individuals aging with disability are not traditional consumers and often require careful tailoring and adaptations of existing programs.

INNOVATION IN CARE COORDINATION FOR INTELLECTUAL OR DEVELOPMENTAL DISABILITIES

S.A. Ruiz¹, J. Caldwell², 1. *Health Care, NORC at the University of Chicago, Bethesda, Maryland*, 2. *National Council on Aging, Arlington, Virginia*

A significant gap remains between existing evidence-based care coordination techniques in medical homes for the general population and those that have been successfully translated for people with intellectual and developmental disabilities (ID/DD). Two programs funded by CMMI have dedicated resources to the translation of existing evidence-based practices for the ID/DD population in community or clinical settings. Across New York, New Jersey, and Rhode Island, these programs have served over 2,200 individuals and demonstrated improved quality of care and limited evidence of reduced health care claims utilization. A greater-than-expected investment was needed to retrain clinicians and other staff to understand the unique needs of people with ID/DD and cater approaches based on person-centered planning. Establishing a medical home faced several barriers, such as administrative delays due to changes in State Medicaid offices and issues regarding health plan reimbursement. Additionally, community-based organizations often encountered difficulties in targeting their services to a population with the appropriate risk level for a successful intervention.

SESSION 40 (SYMPOSIUM)

LONG-LIVED ANIMAL MODELS AND HEALTH-SPAN EXTENSION IN STUDIES OF AGING

Chair: N.R. Barzilai, *Albert Einstein College of Medicine, New York*

Co-Chair: V. Gorbunova, *Rochester University, Rochester, New York*

Discussant: D. Sinclair, *Harvard Medical School, Boston, Massachusetts*

A dramatic advance in the field of aging occurred when animal models were targeted by genetic, environmental or by drugs and their life span has been extended. Some drugs are approved for use in human conditions but not for aging. The NIA has created an intervention testing program (ITP) where drugs that may target specific mechanism for aging can be used and life span is determined in 3 centers for both sexes. The challenge that has not been addressed adequately before, is how we make sure that life span extension is coupled with health-span. A longer or even similar period of diseases is not really a good alternative for targeting aging. For example, while different species of nematodes may have extended life- but not health-span several human centenarians group have extended health-span coupled with contraction of morbidities. In this symposium we would like leading gerontologists in the biology of aging to discuss their experience and address the following points:

Is longevity in long-lived sub-species in nature live also healthier?

How do we study health-span in pre clinical setting of animal models?

Is there health-span exchange i.e. protection from one disease but propensity for another (rapamycin and diabetes as an example)?

Which other animal models can be useful to confirm effects that are relevant to humans.

Animals in nature (Gorbunova, V), genetic manipulations (Cohen, H), testing drugs in rodents (Sinclair, D and Strong R; including rapamycin, acarbose, metformin, resveratrol and supplement of NAD) will be subject for discussion.

THE NIA INTERVENTIONS TESTING PROGRAM: AN UPDATE

R. Strong¹, D. Harrison², N. Nadon³, R.A. Miller⁴, 1. *Texas Health Sciences Center, San Antonio, Texas*, 2. *Jackson Lab, Bar Harbor, Maine*, 3. *NIH/NIA, Bethesda, Maryland*, 4. *University of Michigan, Detroit, Michigan*

The NIA Interventions Testing Program is a preclinical, multi-site translational research program to evaluate agents hypothesized to extend mouse lifespan by retarding aging or postponing late life diseases. Interventions proposed by scientists from the research community are initially tested, in parallel, at three sites (Jackson Laboratories, University of Michigan and the University of Texas Health Science Center at San Antonio) in male and female genetically heterogeneous UM-HET3 mice using identical, standardized protocols. The use of genetically heterogeneous mice greatly reduces the possibility that the results are only valid for a single strain. Fifty-three lifespan experiments, involving 30 test agents, were initiated in the first 11 years of the ITP. Significant effects on longevity, in one or both sexes, have been published

for 6 of the tested agents. These agents are proving useful as new tools to probe the aging process and for identifying new therapeutic targets for clinical intervention.

LONGEVITY MECHANISMS IN LONG-LIVED MAMMALS

V. Gorbunova, A. Seluanov, *University of Rochester, Rochester, New York*

Animals have evolved a dramatic diversity of aging rates. Even within mammals, lifespans differ over 50-fold from four years in a mouse to 211 years in a bowhead whale. This natural diversity of lifespan can be exploited to understand the mechanisms of longevity. With modern technological advances now available, it became possible to undertake comparative study of aging at molecular level. Our goal is to identify mechanisms that allow such exceptionally long-lived animals to live long and healthy lives and then use these mechanisms to benefit human health. I will discuss our recent progress in the studies of tumor suppressor mechanisms, and DNA repair in short and long-lived rodent species.

IMPROVING HEALTHSPAN BY MANIPULATING SIRT6 LEVELS: HOW DOES IT WORK?

H. Cohen, *Bar-Ilan University, Tel Aviv, Israel*

Mice over expressing the NAD⁺ dependent deacylases SIRT6 (MOSES mice) have extended lifespan along with significant improvement of their healthspan. In comparison to their wild-type (WT) littermates, old MOSES mice showed amelioration of a variety of age-related disorders, including: improved glucose tolerance, younger hormonal profile, reduced age-related adipose inflammation and increased physical activity. To explore the mechanisms underlying SIRT6 positive effects, series of complementary metabolomics, transcriptomics and proteomics analyses were performed. Together, these analyses demonstrate that SIRT6 overexpression mimics key features of the metabolic profile of dietary restriction (DR) a well-known treatment that extends healthy lifespan in multiple organisms. Like DR, SIRT6 overexpression reduces IGF-1 levels and signaling and induces liver and muscle AMPK activity. In addition, it reprograms liver metabolism, particularly, the induction of fatty acid beta-oxidation, thus providing the required energy when nutrients are limited. These findings will promote the development of drugs against age related diseases.

NAD PRECURSORS AS INTERVENTIONS FOR AGE-RELATED DISEASES AND EXTENDING HUMAN HEALTHSPAN

D. Sinclair, 1. *Harvard Medical School, Boston, Massachusetts*, 2. *Harvard Glenn Center, Boston, Massachusetts*

From yeast to mammals, nicotinamide adenine dinucleotide (NAD⁺) is a critical cofactor for redox reactions and for the activity of sirtuins. Levels of NAD⁺ decline with age. Interventions that boost NAD⁺ levels increase *C. elegans* lifespan and restore mitochondrial function in aging mice, in each case is dependent upon the sirtuins. Interventions that increase NAD⁺ availability, such as NAD⁺ precursors

and CD38 inhibitors induce profound changes in aging mice including reversal of aspects of aging. Thus agents that restore youthful NAD⁺ levels may be next generation interventions to improve human healthspan.

SESSION 45 (SYMPOSIUM)

BIOLOGICAL MARKERS IN FAMILY RESEARCH

Chair: L. Bangerter, *Mayo Clinic, Pennsylvania*

Co-Chair: S. Zarit, *Penn State University*

This symposium will examine the use of biological markers as an important component of family research. The papers presented in this symposium highlight the utility of biological markers as a mechanism by which to enhance our understanding of a variety of family experiences and relational ties including family stressors, parent-child interactions, everyday family support, and family caregiving. *Cichy* will discuss the association between daily family stressors and naturally occurring cortisol levels; this discussion will emphasize racial differences in these associations. *Birditt* will examine daily interactions that middle-aged adults have with their aging parents and adult children. This presentation will focus on how daily interactions with generations above and below have implications for daily negative affect and cortisol. *Bangerter* will focus specifically on the relationships between middle-aged children and aging parents and discuss the biopsychosocial implications of giving support to parents with health problems and limitation in activities of daily living. *Liu* will conclude with a discussion of biological implications of family caregiving through an examination of three biomarkers: salivary cortisol, Dehydroepiandrosterone Sulfate, and alpha amylase. Each presentation applies biological markers to understand distinctive family experiences and ties which are fundamental to individual and family functioning.

RACIAL DIFFERENCES IN ASSOCIATIONS BETWEEN FAMILY NETWORK STRESSORS AND SALIVARY CORTISOL

K.E. Cichy¹, R.S. Stawski², 1. *Human Development and Family Studies, Kent State University, Kent, Ohio*, 2. *Oregon State University, Corvallis, Oregon*

Research reveals emotional costs of African Americans' family ties, however, few studies consider the physiological toll of stressors involving family. We address this gap by examining racial differences in associations between daily family stressors and naturally occurring cortisol levels. During daily diary interviews, African American and European American respondents from the National Study of Daily Experiences (NSDE II, N = 1, 931) reported on daily network stressors (i.e., other family members' stressors) and provided salivary cortisol samples four times throughout the day on 4 of the 8 interview days. The interaction between individual differences in network stressor frequency and race significantly predicted cortisol area under the curve (AUC; $p < .01$). Even after covarying for negative affect, symptoms, and family support provision, African Americans who report more network stressors exhibited a lower AUC (i.e., less cortisol output), whereas European Americans exhibited no association. Implications for health disparities will be discussed.

DAILY INTERACTIONS WITH AGING PARENTS AND ADULT CHILDREN: IMPLICATIONS FOR WELL-BEING AND CORTISOL

K. Birditt¹, J. Manalel¹, K. Kim², S. Zarit³, K.L. Fingerman⁴,
1. *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*, 2. *University of Massachusetts Boston, Boston, Massachusetts*, 3. *Pennsylvania State University, State College, Pennsylvania*, 4. *University of Texas at Austin, Austin, Texas*

Midlife individuals report greater investment in their children than in their parents. Little is known about daily experiences in these ties, and the psychological and biological systems that may underlie these associations. The present study examined daily experiences with aging parents and adult children and implications of those experiences for daily negative affect and cortisol. Participants were middle-aged adults ($N = 156$; 56% women) from the *Family Exchange Study* Wave 2 who completed a 7-day daily diary study and 4 days of saliva collection which was assayed for cortisol. Individuals reported more contact but fewer negative experiences with adult children than with parents. Nevertheless, contact and negative experiences with adult children were more consistently associated with negative affect and daily cortisol patterns than interactions with parents. Findings are consistent with the intra-individual stake hypothesis which suggests that individuals are more invested in relationships with their children than their parents.

SUPPORT TO AGING PARENTS: IMPLICATIONS FOR MIDDLE-AGED CHILDREN'S DIURNAL CORTISOL AND DAILY MOOD

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This study examines whether giving support to parents has implications for middle-aged children's diurnal cortisol and daily mood. During 4 consecutive days, 148 middle-aged adults (mean age = 55) reported support they gave to their parents and provided saliva 4 times a day. Multilevel models estimated within-person differences in positive and negative affect (PA/NA), cortisol awakening response (CAR) and area under the curve (AUC-G) as a function of giving same-day and previous-day support. We examined whether these associations are exacerbated when a parent has health problems or activities of daily living (ADL) needs. When participants gave support to parents with ADL needs, they had higher next-day AUC-G, higher same-day PA and lower next-day NA. Giving support to parents with health problems was associated with higher next-day NA. A biopsychosocial approach shows that giving support to aging parents is an ambiguous experience with differential implications for biological stress and daily mood.

LINKING DAILY HPA AND SNS ACTIVITY TO FAMILY CAREGIVERS' FUNCTIONAL HEALTH OVER TIME

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The study examined the extent of association between stress biomarkers among 153 family caregivers of individuals with dementia (IWDs) and caregivers' changes in functional health over time. Caregivers who initially participated in a study of the effects of ADS services on three biomarkers, salivary cortisol, DHEA-S and alpha amylase (sAA), were followed for a one-year period. Two factors, caregiving transitions and ADS use, which might moderate the effects of biomarkers on functional health were considered. Among caregivers who experienced a transition, and who used less than average ADS days per week, lower daily cortisol and sAA total outputs were associated with increasing functional limitations. Caregivers who experienced a transition but used greater than average ADS days per week did not show such patterns of association. This study is among the first to explore associations between daily biomarkers and long-term health among family caregivers of IWDs.

SESSION 50 (SYMPOSIUM)

CHALLENGING ATTITUDES TO AGEING AND AGEISM

Chair: A. Kydd, *Edinburgh Napier University, Edinburgh, Lothian, United Kingdom*

Discussant: L. Ayalon, *Bar Ilan University, Ramat Gan, Israel*

The developed world has an increasing number of people who are classed as the 'old', with the largest increase being those aged over eighty-five years. Population ageing is a worldwide phenomenon. The "oldest old" (people aged 85 or older) constitutes eight per cent of the world's 65-and-over population. On a global level, the 85-and-over population is projected to more than triple between 2010 and 2050 (National Institutes of Health, 2011:8). In many countries, the oldest old are the fastest growing age group in the total population (United Nations, 2014; National Institutes of Health, 2011). These people are more likely to have multimorbidities and have less functional capacity to compensate physically for an acute episode of injury or ill health. Projections indicate that there will be considerable differences in the age composition of the EU-27 population during the period 2015 to 2050 (Eurostat, 2015). The most pronounced changes being the share of working-age and old-age groups in the population (Sobczak, 2014:18), meaning that there are a growing number of potentially dependent people coupled with a shrinking working-age population (Eurostat, 2015). It is imperative for all societies to address negative attitudes towards older people as there remains a high prevalence of ageism in societies globally. The detrimental effects of negative attitudes and ageism are substantial. In this symposium negative attitudes and ageism are discussed at discourse level; amongst older people; with caregivers; amongst professionals and with housing providers covering work from Ireland, Scotland, America, Malta and Spain.

AGEISM IN THE THIRD AGE

A. Kydd¹, A. Fleming², 1. *School of Nursing Midwifery and Social Care, Edinburgh Napier University, Edinburgh,*

Lothian, United Kingdom, 2. Independent Researcher, Hamilton, Lanarkshire, United Kingdom

The global increase in the numbers of older people show a dramatic increase in the numbers of people over 85 years. This means that the definition of 'older people' spans sixty years. The advent of the 'third' and 'fourth' age has served to provide a distinction between the old and the oldest-old. This paper presents a literature review exploring ageism by those in their third age not wanting to be seen as a member of the fourth age. This is a form of ageism -it involves stereotypical perceptions of the oldest old. Such attitudes disenfranchise the oldest old and can prove detrimental to those transitioning into the fourth age. They may choose to refuse assistance that might put them into the fourth age category, but might help them maintain their engagement and independence into their older age. After attending this session, participants will gain understanding of ageism amongst the old.

ATTITUDES TOWARD AGING AMONG THE GERIATRIC HEALTH CARE TEAM: DON'T FORGET THE CAREGIVER

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Previous research examining attitudes toward the elderly among healthcare providers has established that negative stereotypes and negative views of older adults are common. However, few studies have assessed attitudes in an essential member of the geriatric health care team, the family caregiver. We present an overview of past research examining attitudes toward aging in health care, and discuss original findings from a sample of caregivers of White and African-American older women living in the community. Using the AGED Inventory (Knox et al., 1995), we examined predictors of negative or positive evaluations of the "typical" older woman. Associations with both caregiver and care recipient characteristics were observed. More negative ratings were related to increased caregiver burden and more care recipient depression, though care recipient medical burden was not related to caregiver attitudes. African-American caregivers rated older women more positively on some dimensions. Implications for addressing ageism in the healthcare team and for caregiver education are discussed.

PROFESSIONAL AGEISM-DOES IT EXIST?

S.C. Buttigieg, 1. *University of Malta, Msida, Malta, 2. University of Birmingham, Birmingham, United Kingdom, 3. Aston University, Birmingham, United Kingdom*

Ageism has complex social roots and broad consequences. It includes a span of intolerant knowledge, values, attitudes and behaviours towards older adults. Two contexts that are intensely accessed by older people are healthcare and long-term care. Nevertheless, there is scant literature on the older people's real needs for care, seemingly a reflection of actual practice and ageist attitudes. One questions whether or not these contexts, as well as the transition between them, are serving the older people well. Indeed, professional ageism is the label used to describe the service providers' attitudes towards older adults, namely specific patient management

biases that are often based on negative misconceptions. This paper presents the findings of a narrative literature review that explores professional ageism in healthcare and long-term care, emerging from medical, geriatrics and gerontology journals. After attending this session, participants will understand the concept of professional ageism as identified in the literature.

AGEISM IN HOUSING: CHALLENGES FOR AGEING IN PLACE. THE CASE OF THE CITY OF TARRAGONA (SPAIN)

B. Deusdad, *Rovira i Virgili University, Tarragona, Spain*

Ageism as a practice associated with housing has not been analysed either by ageism analyses or housing studies, even though it is one of the causes, which prevents ageing-in-place. At the same time, most of the studies agree that older adults prefer to remain at home as long as they can. However, accessibility in dwellings and neighbourhoods is lacking in Western societies, not to mention in developing countries. Moreover, there is not enough housing supply currently to provide the possibility of moving in adapted apartments at an old age. This is clearly also the situation with those users of little or no resources.

Even though an Integral Urban Plan was implemented in Tarragona, most buildings still have accessibility difficulties for older people (no lifts, barriers outside and inside the dwellings), which has consequences for older people trying to maintain an active social life which in turn reinforces an attitude of ageism (forced isolation and loneliness). The city fails to provide care-adapted housing to those in need. Needless to say, there are long waiting lists so as to have access to public care-homes. A *false deinstitutionalization* based on family care and support is taking place with far more severe consequences for older people's ageing-in-place in the future.

DOES DISCOURSE MATTER IN AGEISM?

A. Phelan, *School of Nursing, Midwifery & Health System, University College Dublin, Dublin, Dublin, Ireland*

This presentation examines how ageism is explicitly and implicitly expressed in common discursive activities in everyday life. Using two methods of discourse analysis, Foucauldian discourse analysis and discursive psychology, the paper demonstrates how ageism is produced and reproduced through prevailing macro and micro discourses. Findings indicate that ageism is tacitly interwoven within commonplace narratives through domains such as cognitive, functional and financial dependency and such narratives serve to perpetuate and consolidate both a professional and social marginalization of older people. The paper concludes with the observation that discourse does indeed matter in the context of how we discursively construct older people, which inevitably impacts on how we relate to them and deliver services to them. After attending this session, participants will be able to understand the ways ageism is interwoven in commonplace, taken for granted narratives. In addition, participants will identify how ageist discourse impacts on practice in everyday life.

SESSION 55 (SYMPOSIUM)

DESIGN OF TECHNOLOGIES TO SUPPORT SUCCESSFUL AGING WITH DISABILITY

Chair: W.A. Rogers, *Georgia Institute of Technology*

Millions of people, worldwide, are aging with long-term impairments such as mobility, vision, and hearing impairments. They may have lifelong experience dealing with these limitations but the normative aging process brings additional motor, sensory, and cognitive changes that may lead to disabling conditions. Technology has great potential to support the needs of these individuals but we need targeted design solutions and a multi-pronged approach: (1) Success will depend on understanding user needs for everyday task challenges, in general, as well as for specific tasks such as medication adherence. These are the research topics of the presentations by Gonzalez et al. and Fain et al. (2) We need to test potential design solutions. Sanford et al. will detail a mobile application to support outdoor route planning by people aging with ambulatory disabilities who have comorbid vision loss. Gandy et al. will describe a cognitive game that overcomes barriers of access and provides compelling experiences that motivate and engage older players. (3) Long-term success will come from ensuring that designers consider the unique needs of older adults aging with impairments. Rebola et al. will describe a unique design competition targeted to students, worldwide, intended to inspire talented designers to develop innovative technology-enabled design solutions for the aging population, especially considering the varied abilities and limitations of older adults. These projects are part of the RERC on Technologies to Support Successful Aging with Disability (www.techsage.gatech.edu). This symposium links well with the meeting theme of global aging and health: bridging science, policy, and practice.

AGING CONCERNS, CHALLENGES, AND EVERYDAY SOLUTION STRATEGIES (ACCESS) OF INDIVIDUALS WITH IMPAIRMENTS

E.T. Gonzalez¹, T.L. Mitzner¹, J.L. Singleton¹, W.A. Rogers²,
1. *Georgia Institute of Technology, Atlanta, Georgia*, 2. *University of Illinois at Urbana-Champaign, Champaign, Illinois*

Many individuals with long-term impairments use assistive technologies to enable them to participate in everyday activities. As their capabilities change with age, it is crucial to determine if their support needs are still being met, and if not, how to adapt or integrate technology supports. The Aging Concerns, Challenges, and Everyday Solution Strategies (ACCESS) Study provides a comprehensive user needs assessment for older adults with long-term vision, hearing, and mobility impairments. ACCESS is a two-part study comprised of questionnaires (e.g., demographics, health, functional limitations) and an in-depth interview assessing challenges with a range of daily activities and current strategies for overcoming them. Participants are between the ages of 60–79 in each target population (blind/low vision, Deaf/hard of hearing, mobility impaired). Data will provide insights into unmet needs among older adults with long-term sensory and mobility impairments and will provide guidance for the design of supportive technologies for this understudied population.

MEDICATION ADHERENCE FACILITATORS AND BARRIERS FOR OLDER ADULTS WITH DISABILITIES

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Medication regimens for older adults with chronic illnesses can be complex and difficult to manage. Approximately 50% of the general population does not adhere to prescribed medication schedules (Lee & Taylor, 2006). Various factors, including medication regimen complexity, cost, and poor patient health literacy interact in complex ways to produce barriers to adherence. Little is known about the medication adherence strategies of people with disabilities aging into secondary disabilities. This study uses an ethnographic approach to identifying facilitators and barriers to medication adherence in a population of 26 older participants with primary visual, hearing, or mobility disabilities. Many technologies designed to facilitate adherence are not viable for this population as they face a set of unique challenges compared to non-impaired older adults. By understanding how and why some patients are successful in managing their own medications, interventions can be developed to support those who are not.

APPLICATION FOR LOCATIONAL INTELLIGENCE AND GEOSPATIAL NAVIGATION (ALIGN)

J.A. Sanford, S. Guhathakurta, S. Melgen, G. Zhang,
S. Mahajan, *Georgia Tech, Atlanta, Georgia*

For people aging with long term ambulatory disabilities, the onset of age-related comorbid functional losses can severely restrict community mobility. The purpose of this project is to develop and evaluate the feasibility of a mobile application (ALIGN) based on static (e.g., sidewalk condition, street networks, land uses) and dynamic (e.g., traffic volumes, weather, and light quality) environmental factors to inform outdoor route planning by people aging with ambulatory disabilities who have comorbid vision loss. Twenty individuals with mobility and vision loss completed initial usability and utility testing with a beta version that limited the number of factors. Based on feedback from the laboratory usability testing, the user interface was refined, including increasing font size, adding a voice command button and a tutorial. Although real world testing demonstrated the utility of the application, results suggested that effectiveness could be increased with more precise and consistent verbal directions and real time information.

DESIGNING “SERIOUS” GAMES FOR OLDER ADULTS: A COGNITIVE TRAINING CASE STUDY

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Interactive Media Technology Center, Georgia Tech, Atlanta, Georgia

The rising ubiquity of technology in people's homes and across the world allows researchers to carefully craft game-based interventions for older adults that address serious needs such as physical rehabilitation, social connectedness, and education/training. Cognitive games, and other beneficial interventions, can be pushed, updated, and delivered to existing technology (computers, phones, tablets, smart TVs) overcoming barriers of access and providing compelling experiences that motivate and engage the older players.

However, these interventions must be built upon a foundation of scientific understanding regarding what types of activities will yield the desired “serious” outcomes. While game theming and interfaces must be designed to be accessible, approachable, and compelling for the target audience. Lastly validation of these interventions must be demonstrated via formal user studies. In this paper we present a case study of a multi-year project focused on designing, implementing, deploying, and testing a universally designed cognitive training game.

DEVELOPING A COMPETITION TO ADVANCE TECHNOLOGY DESIGN FOR THE AGING WITH DISABILITY POPULATION

C.B. Rebola, *Rhode Island School of Design, Providence, Rhode Island*

Design and technology can have a significant impact on the aging with disability population, empowering these individuals to sustain independence, maintain health, engage safely in basic activities at home/community, and fully participate in society. Yet, there is a need to increase knowledge, practice about, and availability of effective universally-designed technologies. A competition can be an effective way to tap into a rich, diverse and collective design intelligence to address these issues. The TechSage Design Competition 2016 was launched to inspire talented designers to develop innovative technology-enabled design solutions. As part of the competition, judging criteria were framed to guide contestants in the design of technologies. The judging was based on the criteria of promoting independence, integration, implementation, inspiration, and progression, as part of a framework through universal design. This presentation discusses results from the competition by analyzing the entries and judging towards presenting refined criteria for future competitions.

SESSION 60 (SYMPOSIUM)

THE HEALTHY AGING PROGRAM AT THE U.S. CDC: PROMISE AND PROGRESS IN PUBLIC HEALTH

Chair: L.C. McGuire, *Centers for Disease Control and Prevention, Georgia*

Co-Chair: V.J. Edwards, *Centers for Disease Control and Prevention*

With the graying of the U.S. population, there has been an increased recognition in public health to promote healthy aging and address major problems afflicting older Americans. The Centers for Disease Control and Prevention (CDC) has established the Healthy Aging Program (HAP) to serve as the focal point for cross-cutting public health action. Housed in the CDC's National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP), Program staff work with a variety of partners to increase the reach of their programs and broaden dissemination of their efforts.

For over 10 years the HAP has used the Healthy Brain Initiative as its guide for prioritizing activities. Based upon the public health model, this document enumerates a variety of activities designed to increase awareness of and support for cognitive health. Although this is a new area for public

health, great strides have been made in infusing cognitive health into public health programs.

This symposium will report on the activities of CDC's HAP. Dr. McGuire will give an introduction to the Healthy Brain Initiative and explain how it serves as a guide for the CDC and state public health agencies. Dr. Taylor will discuss the new data portal for information about aging, and its potential to become a resource for researchers and policy makers. Dr. Edwards will describe surveillance efforts via modules administered via the Behavioral Risk Factor Surveillance Survey (BRFSS). Finally, Ms. French of the Alzheimer's Association will present examples of CDC's partnership activities and their impact on the community.

CDC'S HEALTHY BRAIN INITIATIVE: COGNITIVE AGING AND AD/RD FROM A PUBLIC HEALTH APPROACH

L.C. McGuire, *Centers for Disease Control and Prevention, Atlanta, Georgia*

The Center for Disease Control and Prevention's (CDC) Healthy Aging Program leads the Healthy Brain Initiative to broaden understanding of and support for healthy cognitive aging as a central part of public health practice. The Initiative creates and supports partnerships, collects and reports data, increases awareness of cognitive aging, and promotes adoption of 35 action items detailed in *The Healthy Brain Initiative: The Public Health Road Map for State and National Partnerships, 2013–2018* (<http://www.cdc.gov/aging/pdf/2013-healthy-brain-initiative.pdf>). Because dementia, including Alzheimer's disease, doesn't have a cure, identifying and reducing modifiable risk factors is the best approach. The public health community should embrace cognitive aging as a priority, invest in its promotion, and move scientific discoveries to public health practice. This presentation will focus on public health's role with respect to cognitive health through CDC's Healthy Brain Initiative and current CDC activities.

AGING-RELATED SURVEILLANCE ACTIVITIES AT THE CDC

V.J. Edwards, L.C. McGuire, C.A. Taylor, *Centers for Disease Control and Prevention, Atlanta, Georgia*

One priority action in “The Healthy Brain Initiative: The Public Health Road Map for State and National Partnerships, 2013–2018” is surveillance of cognitive health issues. CDC's Healthy Aging Program (HAP) has developed and promulgated the use of two modules, on subjective cognitive decline and caregiving, in the Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is the world's largest ongoing telephone health-related survey, collecting data in 50 states and three U.S. territories. The HAP enlisted the help of subject matter experts and used cognitive testing to refine and improve these modules.

State-level data from the modules have been used to inform state Alzheimer's plan development and implementation, and to create awareness and education about cognitive decline and caregiving through webinars, proclamations, and media events. These data can further the understanding of the public health burden, inform public health policy and strategies, and monitor quality of life for all Americans.

DATA AT YOUR FINGERTIPS: THE CDC HEALTHY AGING DATA PORTAL

C.A. Taylor, L.C. McGuire, *Centers for Disease Control and Prevention, Atlanta, Georgia*

Public health surveillance data are important as they can inform policymakers and health professionals on the current status of conditions, behaviors, and risk factors in a population. The Centers for Disease Control and Prevention National Center for Chronic Disease Prevention and Health Promotion has developed the Healthy Aging Data Portal. This free, publicly accessible online resource provides access to a range of national, regional, and state data on the health of older adults. Users can examine data on indicators such as nutrition and physical activity, screenings and vaccinations, tobacco and alcohol use, and mental and cognitive health.

Portal users may view data by geographic area or indicator, stratify by demographic variables, export data tables, print reports, and create customized maps and charts. The Portal enables policymakers and public health professionals to examine data on the health of older adults in order to enhance awareness and action in public health programming.

COLLABORATION BETWEEN THE ALZHEIMER'S ASSOCIATION AND THE CDC'S HEALTHY AGING PROGRAM

M.E. French, *Alzheimer's Association, Washington, District of Columbia*

The Alzheimer's Association has an ongoing, constructive partnership with CDC's Healthy Aging Program. This presentation highlights two products of this partnership -- state fact sheets and national reports based on the Subjective Cognitive Decline and Caregiving BRFSS modules, and, along with Emory University, the development of an undergraduate curriculum to prepare a competent public health workforce for the growing problem of Alzheimer's disease and other dementias.

BRFSS data can inform population-based responses to dementia. Alzheimer's Association state chapters disseminate state-specific data to local stakeholders and use BRFSS data to promote policy development/change. However, training future health professionals to understand the impact of this growing problem has not received a great deal of attention. To prepare a competent public health workforce, the Alzheimer's Association, CDC, and Emory University developed an undergraduate curriculum entitled, "A Public Health Approach to Alzheimer's and Other Dementias." Results of these joint efforts will be presented.

SESSION 65 (PAPER)

EDUCATION, RACE/ETHNICITY, AND COGNITION

COGNITIVE INEQUALITIES IN LATER LIFE: CROSS-COUNTRY DIFFERENCES IN THE EDUCATION-COGNITION GRADIENT

A. Leist, *PEARL Institute for Research on Socio-Economic Inequality, University of Luxembourg, Esch-sur-Alzette, Luxembourg*

Later-life cognitive function is intrinsically linked to amount and quality of education received in childhood and

adolescence, supposedly by education increasing cognitive reserve. However early cognitive skills also determine how much schooling is received. Current methods cannot disentangle education and cognition. I propose a method to standardize education and comparatively analyze the education-cognition gradient in order to assess if *cross-country differences in later cognitive function reflect earlier educational inequalities*.

Methods: 16,941 respondents to the Survey of Health, Ageing and Retirement in Europe providing at least two measurements (waves 1 to 5) from 16 countries, aged 50–59 were included. Cognitive function was an average of immediate, delayed recall and executive function. Education was standardized by logit-rank transformation, providing information on educational rank. Mixed (random-effects) models were run with covariates and education as fixed effect, random intercept and slope. Empirical Bayes predictors were estimated to investigate the education-cognition gradient.

Results: Cognitive levels were above average in most continental, northern European and some post-communist countries (Slovenia, Estonia), and below average in southern European, Poland, and Israel. Education-cognition gradients were above average in France and post-communist countries (Poland, Slovenia, Czechia), reflecting better average fit of cognitive levels with amount of schooling received. In contrast, continental European countries showed below-average gradients, i.e. higher cognitive inequalities.

Discussion: With this method, the link between education and cognition can be examined more closely. Findings reflect country differences in educational inequalities, i.e. accessibility to higher education independent of socioeconomic status, at the time when this middle-aged cohort was schooled.

EDUCATIONAL DIFFERENTIALS ON LIFE EXPECTANCY WITH AND WITHOUT COGNITIVE IMPAIRMENT IN BRAZIL

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Low educational levels have been linked to cognitive impairment in late life, however the impact of education on cognitive impairment free life expectancy (CIFLE) has not been previously estimated in Brazil. The aim of the present study is to investigate the differences in life expectancy with and without cognitive impairment by educational levels and gender in Brazil. The sample was drawn from the three waves (2000, 2006 and 2010) Health, Well-Being, and Aging Study (SABE) collected in Sao Paulo, Brazil. Participants for whom the Mini-Mental State Examination was available were included (n=2,101). Interpolation of Markov Chains method was used to estimate CIFLE and years spent with cognitive impairment (CILE) by education and gender. CIFLE at age 60 was 12.7 years among men with no education and 16.0 among their educated counterparts. On the other hand, CILE was higher among men with no education than those with education (3.2 and 1.6 years, respectively). Among 60-year old women without education, CIFLE reached 16.0 years, but it was considerably higher among educated women (20.1 years). CILE reached 4.4 years among women

aged 60 with no education, versus 2.4 years women their educated counterparts. Older adults with no education live shorter lives and more years with cognitive impairment than those with education. Older women in Sao Paulo live longer lives, but they live a greater number of years with cognitive impairment.

RACIAL AND ETHNIC DIFFERENCES IN COGNITIVE IMPAIRMENT-FREE LIFE EXPECTANCY IN THE UNITED STATES

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Background: Cognitive impairment and dementia are major health issues confronting older adults. In 2002, approximately 13.9% of people in the United States aged 71 and older had dementia, and 22.2% had cognitive impairment without dementia. Previous research suggests that older African Americans and Hispanics are more likely than older whites to suffer from cognitive impairment and dementia. Despite growing interests in racial/ethnic disparities in cognitive health, less is known about racial/ethnic differences in life expectancy with and without cognitive impairment/dementia.

Methods: This study employs data from 8 waves of the Health and Retirement Survey (1998–2012) to estimate racial/ethnic differences in the transitional probabilities among four states: cognitively normal, cognitively impaired/no dementia, dementia, and death among 32 271 Non-Hispanic Whites, African Americans, U.S.-Hispanics, and Foreign-born Hispanics adults 50 years and older. Sullivan-based multistate life tables are used to estimate life expectancies with and without cognitive impairment and dementia in later life.

Results: Results show that older African Americans and Hispanics spend a larger fraction of their remaining years with cognitive impairment and dementia relative to older whites regardless of gender. Foreign-born Hispanic women and African American males are particularly disadvantaged in the proportion of years spent after age 50 with cognitive impairment and/or dementia.

Conclusions: This issue merits special attention in the development of community-based long-term care programs to appropriately target the specific needs of different minority and immigrant elderly who are entering into their last decades of life.

EXAMINING CHANGES IN COGNITIVE IMPAIRMENT SYMPTOMS AMONG OLDER U.S. BLACK AND WHITE ADULTS

D. Byrd, *Community Health Sciences, UCLA Fielding School of Public Health, Los Angeles, California*

Individuals with increasing cognitive impairment are at risk of developing Alzheimer's or other dementias. Blacks are approximately 2–3 times more likely than whites to have cognitive impairment and these disparities worsen over time. This study examines black-white disparities in cognitive impairment scores among aging adults enrolled in all 5 waves of the Americans' Changing Lives Study (N = 3,617). Cognitive impairment was assessed at each wave using a 5-item Short Portable Mental Status Questionnaire. Multilevel analyses with age as the level-1 variable and other variables at the person-level were conducted. A significant interaction between age-squared and race was found (chi-squared = 6.19, $p = .045$), indicating that blacks cognitive impairment scores at each wave was significantly higher than whites in the presence of model covariates. Study findings demonstrate clear racial differences in the trajectory of cognitive impairment symptoms over time; whereby, cognitive impairment is more prevalent in later life among blacks.

EXERCISE AND COGNITIVE FUNCTION IN OLDER HISPANIC/LATINO ADULTS: RESULTS FROM THE "¡CAMINEMOS!" STUDY

L. Piedra¹, F. Andrade¹, R. Hernandez¹, S. Boughton¹, L. Trejo³, C.A. Sarkisian², 1. *Social Work, University of Illinois at Urbana-Champaign, Urbana, Illinois*, 2. *David Geffen School of Medicine at UCLA, Los Angeles, California*, 3. *City of Los Angeles Department of Aging, Los Angeles, California*

For this study, we examined the prospective effect of an evidenced-based exercise intervention (¡Caminemos!) on cognitive function among older Hispanic/Latino adults and the potential synergistic effects (if any) of an attribution retraining intervention given to a random sample to counter negative ascriptions of the aging process. We used baseline and follow-up (1- and 2- year) data collected from Hispanics/Latinos ≥ 60 years (N = 571) who participated in ¡Caminemos! across 27 senior centers. All participants were randomly assigned to either: a) treatment group – a 1-hour attribution retraining session + 1-hour exercise class, or b) control group – health education + 1-hour exercise class. Mixed-effects linear regression was used to determine the effects of the exercise class and the attribution retraining component on longitudinal changes in cognitive functioning, as measured by the Modified Mini-Mental State (3MS) Examination. After we adjusted our model for age, sex, education, income and medical comorbidities, participants in both intervention arms displayed higher cognitive functioning scores at the 1-year ($b = 1.76$, $p = 0.001$) and 2-year ($b = 1.37$, $p = 0.013$) follow-up when compared to original baseline scores. However, we found no significant difference in cognitive function between the treatment versus control conditions ($b = 0.41$, $p = 0.582$), nor were any differences found across groups over time. The results indicate that the exercise intervention improved cognitive function in older Hispanics/Latinos, regardless of the supplemental age-related attribution retraining. These findings suggest that limited access to exercise programs may present a greater obstacle in forestalling cognitive decline in older Hispanics/Latinos than the negative beliefs they might hold about the aging process.

SESSION 70 (SYMPOSIUM)

HEALTH AND MENTAL HEALTH ISSUES OF OLDER ADULTHOOD: EVIDENCE BASED TREATMENTS

Chair: N. Kropf, *Georgia State University, Atlanta, Georgia*
Co-Chair: S. Cummings, *University of Tennessee*

Although the population of older adults is experiencing higher levels of health and well-being than previously, there is also the probability that health and social changes will accompany advancing years. Treatment approaches that effectively address health and mental health issues are necessary with the aging of the Baby Boomer generation. Increased aging is not limited to the U.S.; it is a global issue that is reshaping family life and social policy throughout the world.

This symposium will present three evidence based treatment approaches that are effective in addressing challenges of aging. *Psychoeducational and support interventions* are used to help older adults with adjustments to new conditions, create and enhance network bonds, and provide information for skill development. *Problem solving therapy* is a psychological intervention that teaches people to cope with stress of 'here-and-now' problems to reduce negative health and mental health outcomes. Effective problem solving skills are thought to mitigate the probability of experiencing negative health and mental health outcomes when confronted with difficult and challenging events. *Motivational Interviewing* is an approach to counseling that focuses on helping clients resolve ambivalence in an effort to work toward and effect behavioral change. This approach is frequently used to help overcome addictions and develop new ways to function, as in situations where health challenges require different behaviors. For each approach, theories of change, treatment approaches, and application to a case will be presented.

PROBLEM-SOLVING THERAPY FOR OLDER ADULTS

S. Cummings, *University of Tennessee, Knoxville, Tennessee*

Problem solving therapy (PST) is an effective intervention for treating older adults who struggle with stress related health and mental health issues (D'Zurilla & Nezu, 1999; Nezu, Nezu & D'Zurilla 2013). Clients are trained to overcome major obstacles that inhibit effective coping and heighten stress by means of problem identification, generation of solutions, solution implementation, and post-implementation evaluation. Effective problem solving involves the ability to adaptively develop and match helpful solutions to life problems while taking into account internal and external factors that impact the problem (Nezu, 2013). Research documents the effectiveness of PST for use with older adults experiencing a variety of issues ranging depression, anxiety and mild cognitive impairment to cancer, arthritis and post-stroke functioning (Kirkham, Seitz, & Choi, 2015). PST treatment principles and strategies will be presented and the research base reviewed. A case study will highlight the PST treatment approach with older adults.

MOTIVATIONAL INTERVIEWING: AN EVIDENCE-BASED TREATMENT FOR OLDER ADULTS

L. Cooper, *Meharry Medical College, Nashville, Tennessee*

Motivational Interviewing (MI) is a brief client-centered intervention focused on the resolution of ambivalence to

enable patient behavior change. Changes in health behaviors such as drinking, smoking, exercise and diet are often prescribed by physicians for older adults to help improve physical health, combat medical conditions and foster enhanced mood (Rollnick, Miller & Butler, 2008). Lack of compliance, however, is common due to a conflict within the patient regarding the pros and cons of change (Cooper, 2012). MI focuses on helping patients explore and resolve ambivalence by drawing out their intrinsic motivation to and capacity for change (Rosengren, 2009). A growing body of research indicates the efficacy of MI for improving health behaviors and decreasing depression and anxiety among older adults. The research based will be reviewed. MI principles, skills and techniques will be discussed and demonstrated via a case study.

PSYCHOEDUCATIONAL AND SOCIAL SUPPORT INTERVENTIONS WITH OLDER ADULTS

N. Kropf, *Georgia State University, Atlanta, Georgia*

During later life, a number of changes occur that impact health and well-being. Regardless of the reason or whether they are normative or non-normative, the older adult experiencing these changes often needs to modify behaviors, learn new skills, or deal with the psychosocial consequences. Additionally, family members and care providers are also impacted by these changing conditions, which have significance for their own functioning. Two approaches that are used in these circumstances are psychoeducation and social support interventions. While differences and in structure and context exist, the underlying theoretical perspectives of these approaches are comparable with goals and outcomes of enhanced coping, increased competence, and decreased stress. These two treatment approaches will be overviewed, including the methods of practice. Case content of an older woman who is newly diagnosed with a chronic illness will be presented to highlight application of practice principles.

SESSION 75 (SYMPOSIUM)

DEALING WITH TRUNCATION BY DEATH IN LONGITUDINAL ANALYSES OF GERONTOLOGIC OUTCOMES

Chair: T.E. Murphy, *Yale University School of Medicine, Hamden, Connecticut*

Co-Chair: L.C. Barry, *University of Connecticut Center on Aging, Farmington, Connecticut*

Discussant: P.H. Van Ness, *Yale University*

In longitudinal studies of older persons, mortality among participants is common and may bias the associations of primary interest between explanatory variables and non-death outcomes. Appropriate handling of truncation by death in applied gerontologic research depends on factors that include the study objective and the richness of the data resources. We first present simple scenarios illustrating the effect of differing imputational assumptions on associations with several post-discharge functional outcomes from older persons surviving the ICU. This first presentation also emphasizes the need to creatively choose ways of clearly demonstrating how the death of participants influences associations. We proceed

to examine two cases wherein the associations between an explanatory variable and longitudinal outcome are evaluated with both joint and separate modeling. The first examines the association between diagnosis of dementia and count of medications and the second that between the causal effect of vitamin D on count of depressive symptoms. The second example of joint modeling posits the use of g-computation of model parameters to obtain causal effects. Lastly we discuss two-stage multiple imputation and demonstrate some approaches for dealing with the incomplete data, from both attrition and mortality, in longitudinal studies of cognitive outcomes.

ASSOCIATIONS WITH POST-DISCHARGE FUNCTION OF OLDER ICU SURVIVORS: SENSITIVITY TO DEATH

T.E. Murphy^{1,2}, M. Pisani^{1,2}, L. Ferrante^{1,2}, T.M. Gill^{1,2}, 1. *Yale School of Medicine, New Haven, Connecticut*, 2. *Yale Program on Aging, New Haven, Connecticut*

In the Precipitating Events Project, 754 initially non-disabled persons of age 70 years and above have been followed on a monthly basis for over 15 years. Monthly telephone interviews solicit self-reported dependence in ADLs, IADLs, and certain mobility measures. Having recorded all deaths among participants, it allows a very focused examination of the interplay between monthly function and the occurrence of death. Supposing that decedents continued providing data after death, we illustrate how their deaths affect the primary associations of interest between explanatory variables and non-death outcomes over a range of imputational assumptions. We include the following examples on the monthly post-discharge function of survivors of an ICU admission: association between risk factors and time to functional recovery, association between pre-admission frailty and total count of disability among ADLs, IADLs, and mobility, and association between pre-admission frailty and incident discharge to a skilled nursing facility.

ASSOCIATIONS BETWEEN DEMENTIA STATUS AND POLYPHARMACY JOINTLY ACCOUNTING FOR DROPOUT AND DEATH

G. Agogo¹, D. Gnjdic², D. Moga³, H. Allore¹, 1. *Yale School of Medicine, New Haven, Connecticut*, 2. *University of Sydney, Sydney, New South Wales, Australia*, 3. *University of Kentucky, Lexington, Kentucky*

Dropout and deaths may bias associations between exposures and outcomes in longitudinal studies of older patients and may be accounted for by jointly modeling longitudinal outcome and death or dropout. As more seriously ill persons have both a higher likelihood of taking more medications and dying, we present methods to study the association between dementia diagnosis and change in the number of medication. Data from the US National Alzheimer Coordinating Center was used to match participants on year, sex, and age (n=5048; 2524 develop dementia, 2524 controls) who were ≥60 years and observed annually for 3 years (pre-diagnosis, diagnosis and post-diagnosis). One year post-diagnosis, 1532 (30%) participants had dropped out and 710 had died. We compare adjusted results from the joint model with separate models. We will demonstrate whether accounting for dropout and deaths alters the association between dementia and medication use.

COMBINING SHARED PARAMETER MODELS WITH STRUCTURAL MODELS TO OVERCOME DEATH BIAS IN AGING RESEARCH

M. Shardell, *National Institute on Aging, Baltimore, Maryland*

Bias from death is common in longitudinal studies of older adults. The problem is even more complex when researchers aim to estimate causal effects when time-dependent confounding is present. To address this problem, we propose fitting shared-parameter models for the study outcome and mortality. To obtain causal effects, we perform g-computation on model parameters. SAS PROC NLMIXED code enhances the method's usability. We illustrate the approach to study 25-hydroxyvitamin D [25(OH)D] and affect in observations occurring every three years from participants enrolled in the InCHIANTI study. Among 1,203 participants aged ≥ 60 years; 143, 298, and 435 participants died prior to first, second, and third follow-up visits, respectively. 25(OH)D < 20 ng/mL at all visits was associated with 2.61 worse mean affect, measured by Center for Epidemiologic Studies Depression Scale (95% Confidence Interval [CI] 0.97—4.26). In contrast, conventional linear mixed effects models with g-computation estimated a larger effect (2.94; 95% CI 1.34—4.54).

ANALYSIS OF LONGITUDINAL DATA OF OLDER ADULTS WITH ATTRITION AND MORTALITY

O. Harel, *University of Connecticut, Storrs, Connecticut*

Participant attrition and differential mortality within longitudinal studies pose serious problems for obtaining inferences about a population of aging individuals. Attrition and mortality are often highly related to aging-related outcomes. Inferences regarding aging-related changes are better defined as conditional on the probability of surviving and/or remaining in the study. Current state-of-the-art approaches rely on statistical assumptions of missing at random (MAR) where the probability of missing information is related to covariates and/or previously measured outcomes. However, death causes an individual to leave the population of interest whereas attrition from a study does not (though these are not unrelated processes). Recent statistical methods focus on deriving estimates of aging-related changes that are conditional on the mortality and attrition-related processes. We use two-stage multiple imputation and demonstrate some approaches for dealing with the incomplete data, attrition and mortality on cognitive outcomes in longitudinal studies of aging.

SESSION 80 (SYMPOSIUM)

GAIT REHABILITATION PROGRAMS AND AGING: NEW ADVANCES FROM THE CANADIAN GAIT CONSORTIUM

Chair: O. Beauchet, *McGill University, Montreal, Quebec, Canada*

Co-Chair: L. Bherer, *University of Montreal, Montréal, Quebec, Canada*

Discussant: J. Barden, *University of Regina, Regina, Saskatchewan, Canada*

This symposium will present recent advances in gait rehabilitation (GR) programs in older adults. Gait is the medical

term use to describe human bipedal locomotion. Gait impairment leads to unsafe gait and several adverse consequences such as falls.

GR is the act of restoring safe gait. It is a key component of preventive, symptomatic and curative interventions of gait impairment. Physical activity and exercises are the main component of GR. Several trials have suggested that physical exercises also protect against cognitive decline. But the question of the best outcome to determine the GR effects remains to determine.

Recent advances in the understanding of mechanisms of age-related gait impairment, like interaction between gait and cognition or the key role of vitamin D deficiency, raise the development of innovative and creative GR programs not only based on physical activity. An improvement of physical performance and fall reduction have been reported with vitamin D supplementation. It has also been reported that motor imagery, defined as mentally simulating a given action without actual execution, combined with physical exercises resulted in a more significant improvement of motor performance than physical exercises alone. New GR programs based on merging mental tasks, physical exercises and vitamin D supplementation are developed. In addition, new technology like software on electronic devices playing the role of virtual coach or corresponding to interactive video games has now been used to promote physical activity and change exercise behavior.

OUTCOME FOR GAIT REHABILITATION PROGRAM: BIDIRECTIONAL ASSOCIATION BETWEEN GAIT SPEED AND COGNITION

J. Best, *University of British Columbia, Vancouver, British Columbia, Canada*

Few cohort studies examined longitudinal associations between age-related changes in cognition and physical performance. Over 9-year period 2876 participants, who were initially well-functioning community-dwelling older adults (aged 70–79 years at baseline; 52% female; 39% black), were followed. Usual gait speed, Digit Symbol Substitution Test (DSST) and Mini-Modified Mental State examination (3MS) scores were assessed years 0, 4, and 9. Early decline between years 0–4 in gait speed predicted later decline between years 4–9 in performance on the 3MS ($P=.004$) and on the DSST ($P<.001$). The associations between early decline in cognition and later decline in gait speed were weaker and were non-significant after correcting for multiple comparisons ($P=.019$ for 3MS and $P=.051$ for DSST). The results indicate declining gait speed as a precursor to declining cognitive functioning, and suggest a weaker reciprocal process among older adults confirming that improvement of gait speed if a good outcome for gait rehabilitation program.

HYPOVITAMINOSIS D, VITAMIN D SUPPLEMENTATION, AND CHANGES IN GAIT: WHAT HAVE WE LEARNED?

O. Beauchet, *Medicine, McGill University, Montreal, Quebec, Canada*

Gait disorders are caused by physiological system impairments that depend in part on vitamin D-related metabolic processes. The association between hypovitaminosis D and gait instability may be explained by adverse effects on the

neuromuscular system as well as on central nervous systems, and in particular by impairment of the highest levels of gait control. However, the association between hypovitaminosis D and gait instability still needs to be investigated. Indeed, observational studies show mixed results, as some studies reported a significant association between low serum 25OHD concentration and poor muscle performance, while other not. Like observation studies, intervention studies have demonstrated discordant results. Some clinical trials found a significant vitamin D-related improvement in physical performance, while others failed to show any effect of supplementation. The results suggest that vitamin D supplementation alone is not sufficient to improve gait performance, and thus should be combined with physical or mental exercises.

DUAL-TASK TRAINING PROGRAM FOR OLDER ADULTS: BLENDING GAIT, VISUOMOTOR AND COGNITIVE TRAINING

T. Szturm, *University of Manitoba, Winnipeg, Manitoba, Canada*

Gait and cognitive impairments, which are common with ageing often coexist, causing a reduction in the levels of physical and mental activity and are prognostic of future adverse health events and falls. Multi-task training that simultaneously addresses both mobility and cognition benefit healthy ageing are important to consider in gait rehabilitation. An exploratory Randomized Control Trial was conducted to describe the feasibility and acceptability of a dual-task treadmill walking programs delivered in the community, and to obtain preliminary data on the effectiveness of the Multi-task training intervention. Twenty-four community-dwelling older participants aged 70–85 and with history of falls were recruited. Outcome included measures of gait under single and dual task conditions. Dual task conditions included computerized visuomotor and visuospatial cognitive activities. Results demonstrated the feasibility of the dual-task treadmill training programs in the community, and the system's ability to improve dual task gait and visuospatial cognitive functions.

SMARTPHONE ACCELEROMETRY FOR GAIT VARIABILITY ASSESSMENT AND REHABILITATION IN OLDER ADULTS

J. Barden, *University of Regina, Regina, Saskatchewan, Canada*

This session will focus on the use of body-fixed sensors (particularly accelerometers) to assess gait variability in older adults. An overview of different gait variability measures and processing methods will be provided (e.g., gait symmetry, stride regularity, fractal structure) including information on the relationship of these measures to diminished gait capacity and fall risk in older adults with and without physical impairments. This session will also present information on the advantages to be gained from using Smartphone technology for the purpose of gait variability assessment and monitoring in and out of the clinic. The potential application of using Smartphone technology as a clinical tool to assess various aspects of gait control and stability for the purpose of evaluating physical activity intervention (i.e., gait rehabilitation programs) will also be discussed.

COGNITIVE TRAINING, PHYSICAL EXERCISE, AND COMBINED INTERVENTION TO IMPROVE GAIT IN OLDER ADULTS

L. Bherer, *Concordia University, Montreal, Quebec, Canada*

A great amount of research in the past decades was oriented towards finding effective ways to enhance cognitive functioning and mobility in older adults. Physical exercise and cognitive training have shown great benefits for cognitive functioning, gait and posture in the older adults population. More recently researchers have investigated the potential synergetic effect of more than one approach for preventing cognitive decline. This talk will present recent findings from cognitive training and exercise intervention on cognitive and gait outcomes. Results from a combined intervention trial will also be presented and discussed in the context of expected synergetic effect of exercise and cognitive intervention to improve gait in older adults.

SESSION 85 (SYMPOSIUM)

PAIN AND RELATED SITUATIONS SURROUNDING OLDER ADULTS: AN INTERNATIONAL PERSPECTIVE

Chair: M. Tse, *The Hong Kong Polytechnic University, Hong Kong*

Co-Chair: A. Budnick, *Charité - Universitätsmedizin Berlin, Berlin, Germany*

Discussant: B.S. Husebø, *University of Bergen, Bergen, Hordaland, Norway*

Chronic pain is common among ageing population. Fifty per cent of older people in the community and up to 80% of nursing home residents experience chronic pain. Chronic pain significantly impairs both physical and psychological well-being. Pain has never been adequately managed. Due to concerns about the side-effects of continuous analgesic use, only 20% of older adults take pain-relief medications. Individuals who suffer from pain is more likely to develop a sense of loneliness, fear, anger, depression and anxiety, which may lead to more severe mental health problems, if not addressed properly and in time. Indeed, unrelieved pain impact on individual and the society, which further increase the burden of medical and social services.

The Gate Control Theory describes pain in sensory, affective and cognitive dimensions; of which pain modulation can be achieved according to these dimensions. Brain region involved in pain perception, the anterior cingulate cortex, is less activated with social attachment, which in turn is associated with more pain, and vice versa. Therefore, creative, innovative and the use of social capital are important features in pain management.

The symposium will present innovative approaches in managing pain among older adults in China, Germany, Norway and Japan, including the use of peer volunteers to lead pain management program for older adults; the use of play activities in managing pain for dementia older adults, and an interdisciplinary approach aiming to reduce pain among nursing home residents.

THE USE OF PEERS IN LEADING PAIN MANAGEMENT PROGRAM FOR NURSING HOME RESIDENTS WITH CHRONIC PAIN

M. Tse, *School of Nursing, The Hong Kong Polytechnic University, Hong Kong*
IAGG 2017 World Congress

To examine the feasibility of a peer-led pain management program among nursing home residents. A quasi-experimental study in two nursing homes (with 50 nursing home residents) joined the study. Experimental group (n=32) was given a 12-week group-based peer-led pain management program. Education in pain and demonstrations of non-pharmacological pain management strategies were provided led by twelve trained peers. Control group (n=18) received pain management program each week over 12 weeks from the research team.

A significant reduction in pain intensity, activities of daily living, increased in happiness level for the experimental group ($p<0.001$), while loneliness level dropped significantly for experimental group ($p<0.001$) and not the control group. Peer volunteers showed a significant increase in self-rated pain management knowledge and self-efficacy in volunteering. Peer-led pain management program was feasible and has potential at relieving the chronic pain and enhancing the physical and psychological health of nursing home residents.

INTERDISCIPLINARY PAIN MANAGEMENT IN GERMAN NURSING HOMES—FINDINGS FROM A CRCT

A. Budnick¹, R. Kreutz², D. Draeger¹, 1. *Charité - Universitätsmedizin Berlin, Institute of Medical Sociology and Rehabilitation Science, Berlin, Germany*, 2. *Charité - Universitätsmedizin Berlin, Institute of Clinical Pharmacology and Toxicology, Berlin, Germany*

Pain management for nursing home residents (NHR) is important and needs more than a mono-disciplinary perspective. At least one in two German NHR suffer from pain. The extent of non-pharmacological therapies (NPT) used for pain management in NHR is rather low. Moreover, pharmacological pain management is often inappropriate. Scientists from six disciplines developed an intervention aiming to improve pain management skills in nursing staff and physicians. We performed a cluster-randomized controlled trial in twelve nursing homes. Pain management was analyzed before (T0, n=239) and after the intervention (T1, n=206; T2, n=177) in NHR aged ≥ 65 years. At baseline, 82.6% of NHR (mean age 82.9 ± 8.1 years) were affected by pain. At follow-up, the intervention resulted in an increase in prescribed NPT and a decrease ($p=0.03$) in the proportion of NHR without pain medication. The observed benefits of and methodological challenges in this interdisciplinary trial will be critically discussed.

THE RESPONSE OF AGITATED BEHAVIOR TO PAIN MANAGEMENT IN PERSONS WITH DEMENTIA. RCT TRIAL

B.S. Husebø¹, C. Ballard², J. Cohen-Mansfield³, D. Aarsland², 1. *Global Public Health and Primary Care, University of Bergen, Bergen, Hordaland, Norway*, 2. *Kings College, London, United Kingdom*, 3. *University of Tel-Aviv, Tel-Aviv, Israel*

Behavioral disturbances and pain are common in nursing home (NH) patients with dementia. Reduction of agitation by pain treatment was demonstrated. It is, however, unclear which specific agitated behaviors respond to analgesics. 352 patients with advanced dementia and behavioral disturbances were included from 60 clusters of 18 Norwegian NHs. According to a pre-defined scheme for 8 weeks,

intervention groups received individual pain treatment with acetaminophen, morphine, buprenorphine patch, and/or pregabalin. Control groups received usual care. We used linear random intercept mixed model in two-way repeated measure with adjustment for heteroscedasticity. Assessed by Cohen-Mansfield Agitation Inventory (CMAI), verbally agitated behaviors (factor 3), such as complaining, negativism, and/or cursing or verbal aggression, showed largest significant difference ($p < 0.001$), followed by physically non-aggressive behaviors (Factor 2) ($p = 0.008$), and aggressive behaviour (Factor 1) ($p = 0.037$) after 8 weeks. Especially, restlessness and pacing were sensible to analgesics, and should lead to assessment and treatment of pain.

IMPROVING FUTURE INTERDISCIPLINARY PAIN MANAGEMENT FOR OLDER ADULTS FROM STUDENTS' PERSPECTIVE

Y. Kodama^{1,4}, H. Fukahori¹, N. Yamamoto-Mitani², A. Ishii³, M. Tse³, 1. *Graduate School of Health Care Science, Tokyo Medical and Dental University, Tokyo, Japan*, 2. *School of Integrated Health Sciences, Faculty of Medicine, Tokyo University, Tokyo, Japan*, 3. *School of Nursing, The Hong Kong Polytechnic University, Kowloon, Hong Kong*, 4. *School of Nursing and Rehabilitation Sciences, Showa University, Yokohama, Japan*

Pain management for older adults should be provided through both pharmacological and non-pharmacological interdisciplinary methods. Healthcare students' perspectives regarding pain management might influence the quality of future care they provide to older adults. This study explored pain management strategies, knowledge, and education by surveying Japanese university students specializing in the healthcare sciences. We obtained 661 (44.4%) responses. The preferable strategy was a combination of pharmacological and non-pharmacological care (38.7%), particularly among nursing students (51.5%). A total of 563 (87.7%) students had not received pain management education during the past two years, and 404 (63.7%) desired more education. Pain medication knowledge was low to moderate; it was higher among medical students ($p < 0.05$). Poor pain management knowledge may affect the quality of care students provide to older adults after graduation. Support for older adults should be improved by further developing pain management education by considering the differences among disciplines.

EFFICACY OF PLAY ACTIVITY PROGRAM TO ALLEVIATE CHRONIC PAIN IN OLDER ADULTS WITH DEMENTIA

J.L. Lau, M. Tse, *The Hong Kong Polytechnic University, Kowloon, Hong Kong*

Dementia is known to be one of the leading causes of diminished quality of life in older adults. Pain is the leading contributor to disability in older adults with dementia. However, attention given to non pharmacological pain management of older adults with dementia is limited.

This study aims to investigate the efficacy of play activity program to relieve chronic pain among the older adults with dementia.

It is a pre and post interventional study. A total of 10 clients, included 5 males and 5 female joined the study. Their mean age was 79.1 and diagnosed mild (MMSE mean score

22.1) to moderate dementia (MMSE mean score 17). Mean pain score was 8.3 (moderate pain) as measured by Abbey pain scale. A play activity program was given 2 sessions per week for 3 weeks. Each session includes 25 minutes of physical exercises, 15 minutes of artworks and 5 minutes wrap up activities.

At the post-intervention assessment, the mean pain score of the dementia clients was decreased from 8.3 to 7.6. An improvement on the behavior, an increased socialization and eye contact between the dementia clients were observed. The program has promoted better health outcomes for dementia clients which will be discussed critically.

SESSION 90 (PAPER)

DETECTING AND MEASURING FRAILTY II

SIMPLE RESPIRATORY MEASUREMENTS FOR THE SCREENING OF FRAILTY IN LOW-MIDDLE INCOME COUNTRIES

E.O. Hoogendijk³, T. Flores Ruano⁴, P. Kowal², U. Perez-Zepeda⁵, E. Dent¹, 1. *School of Medicine, The University of Queensland, Woolloongabba, Queensland, Australia*, 2. *World Health Organisation, Geneva, Switzerland*, 3. *VU University Medical Center, Amsterdam, Netherlands*, 4. *Department of Geriatrics, Albacete University Hospital, Albacete, Spain*, 5. *Geriatric Epidemiology Research Department, Instituto Nacional de Geriatria, Mexico City, Mexico*

Frailty in older adults is characterised by a reduced capacity to cope with external stressors across multiple physiological systems. The respiratory system is particularly vulnerable to external stressors (respiratory infections, allergies, and smoking) and in turn, an individual's respiratory capacity may provide a simple means for the identification of frailty. This study assessed the ability of spirometry measurements to screen for frailty in the World Health Organisation (WHO)'s global Study of AGEing (SAGE). The SAGE database provided data on 42,487 people aged over 50 years across six low-middle income countries: China, Ghana, South Africa, India, Russia and Mexico (Wave 1: 2013 – 2015). Frailty was classified using Fried's frailty criteria. Spirometry measurements included Forced Expiratory Volume in 1 second (FEV1), Forced Vital Capacity (FVC), and FEV1/FVC. The ability of spirometry measurements to accurately identify frailty was determined by several efficacy measurements: area under receiver operator characteristic (ROC) curves (auROC), sensitivity and specificity, positive and negative predictive values (PPV and NPVs), and Youden Index (YI) score. We found that FEV1, FVC and an FEV1/FVC ratio $< 80\%$ all showed high discriminatory ability in accurately identifying frailty, independent of chronic respiratory conditions. Results from this study indicate that spirometry measurements can be used to screen for frailty in older adults residing in the community.

EVIDENCE FOR THE LATENT FACTOR STRUCTURE OF FRAILTY

L. Young, D. Sheets, B. Gali, S.W. MacDonald, *Nursing, University of Victoria, Victoria, British Columbia, Canada*

Despite increasing demand to support ‘aging in community’ for frail seniors, there is no gold standard frailty measure to guide frailty assessments by health professionals. Current frailty measures are not sensitive enough to support effective screening and thus negatively impact health professional decision-making during their care of seniors living in the community. The aim of this study is to investigate the latent structure of frailty to inform refinement of existing frailty measures for seniors living in the community to develop a robust measurement tool. Using data from Canadians ≥ 65 who were participants in the national Canadian Longitudinal Study on Aging (CLSA) (2012–2015), we assessed factors for the latent structure of three frailty scales (Rockwood’s Frailty Index, Fried’s Frailty Criteria and the Edmonton Frailty Scale). Using structural equation modelling we explored the relationship between frailty and factors across physical, psychological, social, and clinical domains. Structural equation models were developed to identify factors for the latent structure of frailty. Our models ($n=30,111$) highlight several key factors common among the three frailty scales including: age, sex, dementia, Activities of Daily Living (ADL), Instrumental ADL’s (IADL), and cognition. Robust frailty assessments are key to effective health professional decision-making in support of ‘aging in community’ initiatives.

FRAILITY AND THE BLOOD PRESSURE RESPONSE TO THE STRESSOR OF HEMODIALYSIS AMONG OLDER PATIENTS

M. McAdams De Marco¹, H. Ying², I. Olorundare², A. Gross¹, Q. Xue¹, J.D. Walston², K.J. Bandeen-Roche¹, D. Segev², 1. *Johns Hopkins University School of Public Health, Baltimore, Maryland*, 2. *Johns Hopkins School of Medicine, Baltimore, Maryland*

Frailty is a multi-system dysregulation resulting in a vulnerability to stressors; yet evidence for this hypothesis is lacking. Hemodialysis represents a great stressor for older adults with ESRD. Sympathetic nervous system (SNS) activation is an essential compensatory mechanism for intradialytic blood pressure (iSBP/iDBP) maintenance. Frailty was measured on 163 older hemodialysis patients and pre- and post-dialysis BP measures were collected. We used adjusted linear and logistic regression to test for a difference in the pre- and post-dialysis change in SBP and DBP by frailty status. In a separate cohort, frailty was measured on 15 hemodialysis older patients who had 10 intradialytic BP measures and we used an adjusted linear growth curve model to test the association between frailty and iSBP as well as iDBP. Frail dialysis patients had a greater change in their SBP (-4mmHg ; $p=0.24$) and DBP (-7mmHg ; $p=0.001$) while on dialysis. In adjusted analyses, those who were frail had a 1.95-fold (95%CI:1.01–3.76; $p=0.047$) increased odds of a 15mmHg decline in SBP and 3.7-fold (95%CI:1.89–7.33; $p<0.001$) increased odds of a 5mmHG decline in DBP while on dialysis. For those who were frail, the rate of iSBP change was $-2.93\text{mmHG}/30\text{minutes}$ ($p=0.05$) compared to $-1.23\text{mmHG}/30\text{minutes}$ ($p=0.22$) for those who were nonfrail. Similar results were observed for iDBP (frail: $-2.15\text{mmHG}/30\text{minutes}$ [$p=0.01$] vs. $-0.68\text{mmHG}/30\text{minutes}$ [$p=0.21$]). Frailty represents a state of SNS dysregulation for patients in which adults undergoing the stressor of hemodialysis have a poor SBP and DBP response. This is the first

evidence of SNS dysregulation among frail patients with ESRD.

CIRCULATING BIOMARKERS PREDICT INCIDENT FRAILITY: THE IRISH LONGITUDINAL STUDY ON AGEING (TILDA)

A.M. O’Halloran¹, E.A. Laird¹, M. Healy², R. Moran³, J. Nolan³, S. Beatty³, A. Molloy¹, R. Kenny^{1,2}, 1. *Trinity College Dublin, Dublin, Ireland*, 2. *St. James’s Hospital, Dublin, Ireland*, 3. *Waterford Institute of Technology, Waterford, Ireland*

Blood biomarkers have been linked to phenotype frailty in several cross-sectional and fewer longitudinal studies. We examined whether blood biomarkers were associated with incident frailty at two years using three frailty instruments. Secondary data analyses were performed in adults aged 50+ years ($n=3,379$) from the Irish Longitudinal Study on Ageing (TILDA). Biomarkers of micronutrient status (vitamin B12, vitamin D, lutein and zeaxanthin), inflammatory stress (CRP), metabolic function (HbA1c, Total, HDL and LDL cholesterol) and renal function (creatinine and cystatin c) were measured at baseline. Pre-frailty and frailty were measured at baseline and two year follow-up using the Phenotype Frailty, Frailty Index and FRAIL Scale instruments. Logistic regressions computed associations between baseline biomarkers and combined incident prefrailty/frailty using the three frailty instruments at follow-up. Incident prefrailty/frailty was 21.1%, 15.6% and 13.8% for the Phenotype, Frailty Index and FRAIL Scale respectively. Lower vitamin D at baseline correlated with incident prefrailty/frailty for the phenotype (OR:0.99, $p<0.05$) and FRAIL Scale (OR:0.99, $p<0.05$) instruments. Higher CRP at baseline correlated with incident prefrailty/frailty for the phenotype (OR:1.01, $p<0.01$) and FRAIL Scale (OR:1.01, $p<0.05$) instruments. All analyses were adjusted for age, age², sex, education, smoking status, BMI, and the number of medications and supplements taken regularly. Only vitamin D and CRP were significantly associated with increased risk of transitioning into prefrailty/frailty over two years, for more than one frailty instrument. This highlights the importance of vitamin D sufficiency in this at risk group, and the importance of how we chose to measure frailty in older adults.

VALIDITY OF FRAILITY PHENOTYPE CRITERIA USING QUADRICEPS STRENGTH TO REPRESENT MUSCLE POWER

P. Assantachai, S. Intalapaporn, W. Muangpaisan, D. Pisarnsakul, S. Udompanturak, *Preventive & Social Medicine, Faculty of Medicine Siriraj Hospital, Bangkok, Thailand*

Frailty detection among older people is needed to prevent subsequent disability or premature death. Although hand-grip strength is used in frailty phenotype criteria, some older people cannot perform the measurement. Since quadriceps strength has been proposed as an alternative indicator to represent muscle power in sarcopenia diagnosis. So, we have investigated the validity of frailty phenotype criteria using quadriceps strength.

During the first year of study, a total of 3,122 subjects aged 50 years old or more were recruited. The mean age was 64.8 ± 8.2 years. By using the modified criteria, 1490 cases

(47.7%), 1448 (46.4%) and 184 (5.9%) were robust group, pre-frail group and frail group, respectively. Among the frail group, 19.6% and 80.4% were men and women, respectively. With multiple logistic regression analysis, deformity (OR 1.96, 95%CI: 1.28–3.01), diabetes mellitus (OR 1.88, 95%CI:1.19–2.97), increasing age (OR 1.09, 95%CI:1.06–1.12), decreasing body weight (OR 0.94, 95%CI:0.91–0.97), increasing hip circumference (OR 1.05, 95%CI: 1.01–1.09), lower bone stiffness (OR 0.98, 95%CI:0.96–0.998), lower albumin (OR 0.46, 95%CI:0.22–0.95), longer 5-chair stand test (OR 1.05, 95%CI:1.02–1.07), poor ADL(OR 1.11, 95%CI:1.08–1.14) and poor quality of life (OR 0.93, 95%CI:0.91–0.95) were independent factors that determined frailty. When we measured the outcomes and characteristics of the frail group on the second year of follow-up, various adverse indicators and outcomes including death were found more frequent within frail group with statistical significance.

In conclusion, the frailty phenotype criteria using quadriceps strength was also an effective tool to identify those who were frail and not able to do handgrip strength measurement.

SESSION 95 (PAPER)

INTERNATIONAL PERSPECTIVES IN HOME CARE

HOSPITAL-AT-HOME INTEGRATED CARE PROGRAMME FOR DISABLING HEALTH CRISES IN CATALAN OLDER ADULTS

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In older patients with health crises, complex interventions are needed not only to provide acute treatments but also for post-acute care. In vulnerable patients, usual care includes acute hospitalisation and admission to geriatric rehabilitation units. Evidence supports hospital-at-home acute care but little is known about its use on acute disability. Based on a review of international experiences, we created a community resource as alternative to acute and post-acute inpatient care, for older patients living in the urban area of Barcelona.

We present data of a cohort of 244 hospital-at-home patients, comparing it with 605 matched inpatient care patients of a post-acute care unit. Clinical characteristics were similar between groups (home vs. inpatient, mean [95% IC] or %) including: age (83.8 [82.9–84.6] vs. 83 [82.4–83.6], $p=0.160$), Barthel Index at admission (41.5 [38.4–44.6] vs. 42.6 [40.7–44.5], $p=0.527$), delirium (16.8% vs. 13.4%, $p=0.197$), with differences in length of acute stay (6.1 [5.3–6.9] vs. 11.2 [10.5–11.9] days, $p<0.001$). Main outcomes included: a. Health Crisis Resolution (patient at home at the end of intervention); b. Functional Resolution: Relative Functional Gain (functional gain/functional loss) $\geq 35\%$; c. Health Crisis Resolution with Functional Resolution. In the matched analysis, there were non significant differences in Health Crisis Resolution (home vs. inpatient) groups, OR [95% IC] 1.159, [0.777–1.729]. Hospital-at-home obtained

significant better outcomes on Functional Resolution (1.586 [1.067–2.358]) and Health Crisis Resolution with Functional Resolution (1.486 [1.029–2.147]), with shorter length of intervention (mean difference [95% IC], days) -5.813 [-9–849 to -1.778]. In conclusion, the new model obtained more efficient clinical outcomes.

DERIVATION OF FRAILTY INDEX FROM THE RAI—HOME CARE ADAPTED FOR SWITZERLAND

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Since 2006, Swiss home care services have been advised to use RAI-HC adapted for Switzerland for defining individualized care plans. This instrument surveys a wide array of health domains that can be considered for the derivation an index of frailty (IF) according to the accumulation of deficit perspective. The data were collected in Geneva, Switzerland by the Genevese institution for homecare (imad) during the year 2015. Over this period, 3'839 individuals aged ≥ 65 years received the RAI-HC at admission. Among them 97.3% had no missing data and were considered for the analysis. The sample consisted in 3'736 individuals (67.8% females) aged 82.7 (± 7.7) years. The IF was derived from a set of 52 variables for which deficits were scored and computed according to the published guidelines (Searle et al. 2008). Results show that the IF is distributed normally, with a mean of .24 ($\pm .13$), an interquartile range of .16 and values of .04 at percentile 1 and .63 at percentile 99. Age effect was significant ($R^2=0.12$, $p<.001$), yet with a slope of .002 (95% CI of .001 to .002). The result supports the feasibility of deriving a frailty index from data collected with the Swiss RAI-HC and replicate previous findings using inter-RAI Home Care (Armstrong et al. 2010) and Acute Care (Hubbard et al. 2015) instruments. This procedure allows implementing a frailty estimation directly from the patients' assessment done in clinical routine, thus offering a frailty estimate without additional time of assessment.

THERAPEUTIC SELF-CARE IS AN ENABLING FACTOR THAT PROMOTES THE SAFETY OF OLDER ADULTS IN HOME CARE

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The purpose of this mixed methods study was to examine the concept of therapeutic self-care in the context of home care safety, as well as its influence on the safety of older adults and their informal caregivers in home care.

The quantitative approach used a retrospective cohort design and utilized secondary databases for Ontario home care clients from the years 2012 to 2014. Logistic regression was used to examine the association between therapeutic self-care and adverse events. Qualitative interviews were conducted with the clients and their informal caregivers to generate themes about their perspectives of home care safety in relation to therapeutic self-care and informal caregiving.

Quantitative findings indicated that low therapeutic self-care ability was associated with an increase in the odds of clients experiencing: (1) unplanned hospital visits; (2) decline

in activities of daily living; (3) falls; (4) unintended weight loss, and (5) non-compliance with medication. Qualitative interviews revealed four over-arching themes: (1) Struggling through multiple aspects of safety challenges; (2) Managing therapeutic self-care by developing knowledge, competency and self-confidence; (3) Coping with informal caregiving through problem-solving, stress management and caregiver relief; (4) Seeking education, support and collaboration from home care.

This mixed methods study points to the importance of therapeutic self-care ability as an enabling factor in promoting the safety of older adults in home care. This knowledge is vital to the quality improvement in home care services that focuses on the enablement of therapeutic self-care to reduce the safety related risks and burden for home care recipients.

TEAM-MANAGED HOME-BASED PRIMARY CARE IN SINGAPORE: A CASE SERIES THAT DEMONSTRATES COST SAVING

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Home-based care is commonly perceived as costly and limited in reach. This paper investigates cost savings (or the lack of it) generated from a Singapore-based medical home-care called 'Hua Mei Mobile Clinic' (HMMC), which has been in operation since 1993. HMMC is an initiative from Tsao Foundation, an non-governmental organization that has a vision for assisting the elders 'to be a master of one's destiny and 'to have meaning in life even when one is near the end of it'. Elders recruited to HMMC are generally of advanced age, having multiple comorbidities and needing intensive health and social interventions. The core features of HMMC are: Primary Care Approach; Comprehensive Needs Assessment; Interdisciplinary Team care processes; Regular Team Communication; and 24/7 Access. **Method:** Pre- and post-HMMC enrolment health utilization data were studied for elders who fulfilled the following the criteria: 1) enrolled to HMMC from 1st January 2013 to 31st December 2015 for six months or more; 2) health utilization data were accessible from HMMC electronic medical records. Pre- and post-enrolment data were then compared. **Results:** 62 elders were included in the study. There was a reduction in Emergency Department attendance by 62%; reduction in acute hospital admissions by 54%; as well as reduction in length of hospital stay 83%. **Conclusion:** HMMC had demonstrated cost savings in terms of the reduction in the use of tertiary health care resources. This study would be developed into a cost-benefit analysis to compare such cost saving with the cost of operating HMMC.

24-HOUR CARE: WORK AND SLEEP CONDITIONS AMONG FILIPINO LIVE-IN CAREGIVERS IN LOS ANGELES

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Live-in formal caregivers spend consecutive days in patients' homes, raising questions about their ability to secure adequate sleep while on duty. Few studies have examined

sleeping conditions and outcomes for this growing workforce. We collected weeklong sleep logs and interview data from 32 Filipino caregivers in Los Angeles who provide live-in services at least three consecutive days per week. We also utilized the Upworth Sleepiness Scale (ESS). Respondents recorded an average of 6.4 hours of sleep during workdays divided over 2.5 sleep periods. Caregivers reported significantly lower quality sleep while at work; more than 40% indicated excessive daytime sleepiness based on ESS scores. Female caregivers reported worse sleep outcomes than their male counterparts; some variations in sleep outcomes were also found by employment arrangements. Live-in caregivers experience frequent sleep interruptions at all hours of the day and night to attend to patients' needs. The resulting impacts on sleep quality pose risks for both work-related injury and errors in patient care.

SESSION 100 (PAPER)

FUNCTIONAL AND INTELLECTUAL DISABILITIES IN OLDER ADULTS

COHORT EFFECTS IN DISABILITY: IMPLICATIONS FOR MORE DISABILITY IN OLD AGE AND IN RECENT GENERATIONS?

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The goal of this study was to determine a) if the age-trajectory (life course) of disability differs by birth cohort and b) whether any cohort differences are explained by changes in socio-economic status (SES), lifestyle factors, and the presence of chronic conditions. We used biannually collected data from the 1994–2010 Canadian Longitudinal National Population Health Survey: 10,330 participants born from 1925 to 1974 grouped in five 10-year birth cohorts. The outcome was reported disability (needing help with daily living activities or reporting long-term disability). We used multi-level logistic growth models to examine cohort effects in the age-trajectory of disability adjusting for sex, SES (education, income), lifestyle factors (BMI, physical activity, sedentary behavior, smoking status) and multimorbidity (2+ conditions up to 17). We found significant cohort differences in the age-trajectory of disability ($p < 0.0001$): when compared at the same age, each succeeding recent cohort had higher odds of disability than those in the earlier cohort. The age-trajectories were similar for men and women, although women had higher prevalence of disability. Low SES (education and/or income), being smoker, obesity, and multimorbidity were associated with increased odds of having disability. Though attenuated, cohort differences remained significant after accounting for differences in SES, lifestyle factors, and multimorbidity. The results suggest that more recent cohorts of Canadian adults are more likely to have disability and that they report disability earlier than previous generations. This finding has important implications for the organization and planning of healthcare and social services for the disabled population.

A CROSS-SECTIONAL STUDY EXAMINING IMPACT FACTORS OF DISABILITY AMONG THE ELDERLY IN DIFFERENT AREA

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Introduction: Elderly with disability need more care due to the decline in physical function. As the most populous country of disability, the pressure what China faces is far greater than any country in the world. There are lack of the evidence of the impact factors of disability among the elderly and no guidebook help doctors how to prevent and intervene it. In this study, we aim to examine the difference of impact factors of disability among the Chinese elderly in rural and urban area.

Methods: Cross-sectional study. Establishing the database of disability among the elderly in rural and urban area. Analyze the difference of impact factors of disability among the elderly in rural and urban area.

Results: 1387 elderly were included, 751 were from rural area and the rest were from urban area. The impact factors disability among the elderly in rural area were: age, sexuality, scores of GDS, quality of sleep, chronic diseases, height, weight, smoking, educational level; The impact factors disability among the elderly in urban area were: age, scores of GDS, quality of sleep, physical exercise.

Conclusion: the impact factors of disability among the Chinese elderly in rural and urban area are very different. The doctors should use different methods to prevent and intervene it.

OLDER PEOPLE WITH INTELLECTUAL DISABILITY: AN 11-YEAR REGISTER STUDY OF HEALTHCARE USE PATTERNS

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The population of older people with intellectual disabilities (ID) is growing. People with ID are known to have more diseases and are believed to start aging earlier than the general population, but knowledge about their healthcare use is limited. This study aimed to explore somatic healthcare utilization patterns among people with ID in Sweden, compared to the general population 2002–2012. The sample consisted of people with ID, aged 55 years and older in 2012 ($n=7936$), and an equal-sized birth- and sex matched general population sample ($n=7936$). The sample was divided into 5-year intervals age groups. In- and outpatient data were collected from the Swedish National Patient Register. The result revealed that in younger age groups, the ID group had higher utilization compared with the general population sample, with higher risks for planned and unplanned in- and outpatient care, particularly for unplanned inpatient registrations. Decreasing patterns were seen with age; with lower risks in the ID group for the oldest age groups. This was most evident in planned in- and outpatient care. In those with at least one registration the ID group had, compared with the general population sample, fewer planned outpatient visits, and in the younger age groups longer unplanned length of stay. In conclusion this study shows that in younger people with ID utilize more healthcare than the general population, that utilization decreases with age and fewer people with ID use

healthcare in old age. The barriers for older people with ID to accessing planned healthcare need more investigation.

SESSION 105 (SYMPOSIUM)

BIOPSYCHOSOCIAL APPROACH TO INTERVENTION FOR COGNITIVE IMPAIRMENT IN WESTERNIZED CHINESE CULTURES

Chair: T. Liu, *The University of Hong Kong, Hong Kong*
Co-Chair: G. Wong, *The University of Hong Kong, Hong Kong, Hong Kong*

The effectiveness of biopsychosocial approach to dementia care and intervention is culturally sensitive. The bulk of these models have been developed in Western cultures; when applied to Asian countries, issues such as psychological processes, moral standards, and services delivery often determine their applicability. In this symposium, four papers are presented about applications of Western dementia care concepts in Hong Kong and Guangzhou, two Chinese cities sharing the same dialect with slightly different degrees of Westernization. **Wong et al** present a formative research on the cultural adaptation of cognitive stimulation therapy, an evidence-based non-pharmacological intervention originated from the UK, in the Hong Kong context. Issues such as more reserved and collective personality, attitudes towards authorities, and family roles are found to be important considerations in intervention design. **Wang et al** find different roles of self-efficacy in caregiver burden among Chinese adult children and spouses of people with dementia in Guangzhou and Hong Kong. The results are discussed in the context of family role and filial piety. While subjective memory complaint and depression are related to development of dementia, self-evaluative criterion and symptom attribution differ across culture and introduces variability in these parameters. **Liu et al** follow up 2,081 community-dwelling elders in Hong Kong, and find that depression but not subjective cognitive complaints predicted changes in cognition. The model of memory clinics has been adopted in Hong Kong, and **Chan** elaborated on the development and preliminary findings of a collaborative service among memory clinics, community-based dementia care services, and families.

CULTURAL ADAPTATION OF COGNITIVE STIMULATION THERAPY IN A CHINESE POPULATION: A FORMATIVE RESEARCH

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Cognitive stimulation therapy (CST) has been recommended as an effective intervention for improving cognitive symptoms and quality of life in people with mild-to-moderate dementia. Evidence-based protocols originally developed in Western countries may not be directly applicable in Chinese population due to different cultural and societal factors. Following the formative method for adapting psychotherapy guidelines, we investigated the feasibility of applying CST in Hong Kong Chinese, and consolidated opinions of

stakeholders on necessary modifications for local adaptation. Focus groups and individual interviews were conducted in day care centres and nursing homes with CST group facilitators, CST group participants, family caregivers and formal caregivers before and after the intervention. Some key areas for modifications are related to the reserved personality, which require alternating the content of some activities (e.g., public expression of personal opinion), and possible role conflicts for family caregivers to continue delivering CST at home, which require alternating delivery format.

DIFFERENT ROLE OF SELF-EFFICACY IN THE EXPERIENCE OF BURDEN BETWEEN DIFFERENT CAREGIVERS

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Self-efficacy is an individual's assessment of his/her ability to successfully master a specific task. This study investigated the different mediating effect of three domains of self-efficacy between stressors and caregiving burden among adult child and spousal dementia caregivers. We interviewed 195 caregivers of people with dementia (123 adult children, and 72 spouses) recruited from memory clinics, community primary care and day care centers in two cities, mainland China. Series of multiple regressions were conducted to test the mediating effect. The results showed self-efficacy for controlling upsetting thoughts greatly mediate the effect of the stressors on caregivers' burden for both groups. Self-efficacy for responding to disruptive behaviors functioned as a mediator for adult children; whereas self-efficacy for obtaining respite functioned as a mediator for spouses. These results provided insight of mediating role of self-efficacy to inform different effective intervene methods for the two caregiver groups.

RELATIONSHIP BETWEEN SUBJECTIVE MEMORY COMPLAINT, DEPRESSION, AND COGNITION IN HONG KONG CHINESE

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Subjective memory complaint (SMC) is common in older people and has been found to associate with depressive symptoms and future cognitive decline. However, the relationship between them is complex and still inconclusive. Understanding the respective extent SMC and depression explain and predict changes in cognitive function may provide insight. Our study followed 2,081 community-dwelling older persons aged 65 or above in Hong Kong for one year, and measured their SMC with a dichotomous question, depression with Geriatric Depression Scale (GDS), and cognition with Cantonese Montreal Cognitive Assessment (MoCA). Baseline SMC and GDS scores were moderately correlated ($r = .42, p < .001$), and they were associated with

poorer cognition after controlling for age, gender and education at baseline (R^2 change = .03, $p < .001$), and at follow-up (R^2 change = .03, $p < .001$). However, only depression was predictive of changes in cognition, not age, gender, education, or SMC.

TRIPARTITE COLLABORATION ON DEMENTIA CARE BETWEEN HOSPITAL, COMMUNITY, AND FAMILY

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Living with dementia is a great challenge to both patients and their caregivers due to the debilitating conditions that affect them progressively. In line with the Hong Kong Government's strategic direction on elderly services, an exploratory study was carried out to examine a tripartite collaboration model on dementia care among hospital-based memory clinic, community-based non-governmental organizations (NGOs), and families affected by dementia. Patients diagnosed with mild to moderate dementia and their caregivers were identified in memory clinics and referred to an empowerment program consisting of educational talks and workshops. They were later triaged to appropriate NGOs for cognitive training and social care. A designated Linked Person was responsible for care coordination. A feedback and support system was in place between the clinical teams and community partners. Attendance in the empowerment program and community care services was the main outcome measurement. Implications and findings of the care model will be discussed.

SESSION 110 (SYMPOSIUM)

BIOMARKERS OF HUMAN AGING

Chair: R.A. Kohanski, *National Institute on Aging, Division of Aging Bio, Bethesda, Maryland*

The Geroscience hypothesis states that slowing the rate of aging will delay the onset and/or reduce severity of aging-related diseases without necessarily altering life span, thus improving health at older ages. This is based on the observation that aging is a major risk factor for development of chronic diseases and degenerative conditions. The rate of aging can be understood as the losses of function coupled with the advent of chronic diseases with the passage of time. It is often represented as physiological or biological age versus chronological age or years. From this simple picture three questions emerge: What are the metrics used to measure physiological aging? Do these metrics – or biomarkers of aging – explain the “risk factor” aspect of aging that underlies the geroscience hypothesis? Do these biomarkers of aging account for the variation in health for each age group in a population?

QUANTIFICATION OF BIOLOGICAL AGING FOR TESTING GEROPROTECTIVE INTERVENTIONS

D. Belsky^{1,2}, 1. *Duke University School of Medicine, Durham, North Carolina*, 2. *Social Science Research Institute, Duke University, Durham, North Carolina*

Quantification of biological aging is contentious. Many methods are being put forward, but these have not been compared to one another in the same humans. We conducted comparative analysis of 7 measures of biological aging based on telomere length, epigenetic marks, and clinical biomarker algorithms in a 1972–3 birth cohort (N=1,037) followed prospectively through midlife, the Dunedin Study. We focused on a midlife cohort because this life course stage is little-studied in geroscience even though geroprotective interventions may be most effective if administered early, before disease processes become established. We evaluated correlations among biological ages estimated via different methods, tested within-person change over time, and compared predictions of healthspan-related characteristics (physical functioning, cognitive decline, subjective signs of aging). Results shed light on different strategies for uncovering markers of biological aging and highlight the utility of comparatively young cohorts for advancing geroscience research.

AGING AND HEALTH BIOMARKER DISCOVERY—TRANSLATIONAL INSIGHTS FROM NONHUMAN PRIMATES

R. Anderson^{1,2}, 1. *William S. Middleton Memorial Veterans Hospital, Madison, Wisconsin*, 2. *University of Washington School of Medicine and Public Health, Madison, Wisconsin*

An emerging paradigm in aging research identifies metabolic dysfunction as a root cause in the age-related increase in disease vulnerability. Several diseases of aging, including diabetes, cancer, and neurodegeneration, have an established metabolic component. Our studies in nonhuman primates have focused on links between metabolic status and disease vulnerability. Caloric restriction (CR) delays aging and the onset of age related disease in diverse species, including nonhuman primates. Our work demonstrates that CR animals are metabolically distinct from their control counterparts. Molecular profiling identifies CR responsive elements in the transcriptome, proteome, and metabolome that are highly enriched for metabolic pathways and in particular mitochondrial processes. These data show that improvements in health and survival are associated with changes in energy metabolism in nonhuman primates, a highly translational model for human aging. Metabolic biomarkers identified in these studies may be clinically relevant for the early identification of elevated disease risk in humans.

GROWTH DIFFERENTIATION FACTORS AND SENESCENCE-RELATED PROTEINS AS MODIFIERS OF AGING

N. LeBrasseur, *Mayo Clinic, Rochester, Minnesota*

Advances in geroscience include the identification of proteins that both accelerate and delay the emergence of aging-related phenotypes, at least in preclinical models. Translation of this work to humans is critical to determine whether these potential modifiers of aging associate with or predict important clinical outcomes and, ultimately, represent targets for novel and transformative therapeutic interventions to improve health among older people. Our laboratory has been particularly interested in 1) members of the transforming growth factor- β superfamily; growth differentiation factor 8 (GDF8, or myostatin), and GDF11, and 2) factors produced and secreted by senescent cells, collectively referred

to as the senescence-associated secretory phenotype (SASP). The objectives of this lecture are to provide the rationale for the selection of GDF8, GDF11, and SASP proteins as “geronic factors”, and to share findings from our recent studies that have examined their associations with aging-associated diseases and conditions.

GENERIC BIOMARKERS IN AGEING: TOOLS TO STUDY METABOLIC HEALTH AND RESPONSE TO INTERVENTIONS

E. Slagboom, *Leiden University Medical Centre, Leiden, Netherlands*

There is enormous diversity in health span with age, ranging from unhealthy 60- to vital 90-year-olds. This diversity is poorly understood and obscures the effect of interventions (rarely tested in elderly subjects). Underlying this diversity may be energy metabolism and immunity – understood as drivers of health in ageing. Biomarkers based on this knowledge could improve evidence-based medicine among the elderly, but will require coordinated efforts in longitudinal and intervention studies. Ageing-related changes in omics may have greater predictive power than traditional metrics of metabolic health (e.g. metabolites, glycosylations, transcripts, epigenetics and gut microbiome versus serum insulin, lipids, BP and BMI), especially in the fastest growing population of elderly humans. In our ongoing research on omics as biomarker in ageing, we witness signatures of early development in addition to age-related dys-differentiation, revealing both generic and disease-specific signatures. We will discuss the insights obtained from linking intervention and epidemiological studies.

SESSION 115 (SYMPOSIUM)

DYADIC ASSOCIATIONS IN LATER LIFE: EXPLORING THE INTERDEPENDENT NATURE OF HEALTH AND MARRIAGE

Chair: J.B. Yorgason, *Brigham Young University, Provo, Utah*

Discussant: C.A. Berg, *University of Utah*

Age-related changes in health often necessitate spousal caregiving among older married couples. Such caregiving can impact relationship functioning and satisfaction. Likewise, positive and negative marital interactions may also be linked with mental and physical health. Indeed, marriage provides the context for illness management and caregiving for health problems among later life couples. Although published literature points to these associations generally, advances in dyadic research continues to elaborate and provide nuanced details of how and when health and marriage are linked. This symposium advances understanding of interdependent associations between health and marriage, with five presentations using dyadic data. The first and second papers address links between illness and relationship satisfaction, with the first paper examining ADLs and IADLs among caregivers, and the latter addressing specific severe illnesses among a large Korean sample. The third and fourth papers explore spousal support during and in relation to diabetes treatment, using quantitative and qualitative approaches, respectively. The fifth paper uses a daily diary design to explore actor and partner reciprocal

lagged associations between health and marital interactions. The session discussant, Cyndi Berg, has expert knowledge of theory and research linking health and marriage in later life and during spousal caregiving. Together, the papers of this symposium present a unique dyadic examination of ways that health and marriage intersect for many older couples.

PHYSICAL AND COGNITIVE HEALTH RELATED TO MARITAL INTERACTIONS: A DAILY DIARY CROSS-LAG EXAMINATION

J.B. Yorgason¹, H. Choi², 1. *School of Family Life, Brigham Young University, Provo, Utah*, 2. *Sungkyunkwan University, Seoul, Korea (the Republic of)*

Marital processes have been linked with physical health. Physical health challenges, sometimes due to aging, have also been associated with marital outcomes. Literature has established interrelations between health and marriage, and that connections vary for husbands and wives. Studies examining reciprocal pathways between health and marriage have used panel data across years. The current study examined such pathways within a daily diary framework among couples across 14 days. Multivariate multilevel models were used to model cross-lag, actor/partner associations between daily physical and cognitive health and daily positive and negative marital events for 191 older couples. Findings suggest that daily health limitations are predictive of next-day higher positive marital events for husbands and fewer negative marital events for wives. Daily cognitive challenges in husbands were linked to fewer next-day negative marital events for wives. Also, daily negative marital events were linked to greater next-day cognitive challenges for both husbands and wives.

SPOUSES' HEALTH AND RELATIONSHIP SATISFACTION IN THE CAREGIVER HEALTH EFFECTS STUDY

J. Monin, *Yale University, New Haven, Connecticut*

Within spousal caregiving dyads, both partners' health and relationship satisfaction are inextricably linked. Drawing from interdependence theory, we tested the hypothesis that each spouse's health relates to their own and their partner's relationship satisfaction. Two hundred thirty three spousal dyads in the Caregiver Health Effects Study (CHES), ancillary to the Cardiovascular Health Study (CHS), reported relationship satisfaction at CHES baseline. Depressive symptoms, activities of daily living (ADLs), instrumental ADLs (IADLs), and self-reported health were obtained at the corresponding CHS wave. Using the Actor-Partner Interdependence Model we found that for both partners, greater depressive symptoms and lower self-reported health related to lower relationship satisfaction (actor effects). Caregivers' greater IADL needs were associated with lower relationship satisfaction (actor effect). When care recipients' depressive symptoms were high, caregivers had lower relationship satisfaction (partner effect). For both partners, having a spouse with greater ADL needs was associated with lower relationship satisfaction.

FOLLOWING YOUR LEAD: PATIENTS' DIET ADHERENCE, SPOUSE AWARENESS AND INVOLVEMENT IN MANAGING DIABETES

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Spouses often are involved in the day-to-day management of chronic illnesses by supporting their partners' adherence to treatment recommendations (health-related social support), or regulating their partners' behaviors when adherence is irregular or absent (health-related social control). Although support and control have implications for both partners, little is known about what prompts spouses' daily involvement. Using daily diary data from 129 patients with type 2 diabetes, we found that on days when patients reported higher adherence to their diabetic diet, spouses were more aware of their partners being on track with their diet, which in turn, was related to more spousal support. On days when patients reported lower adherence, spouses were more aware of their partners being off track with their diet, which in turn, was related to more spousal control (both persuasion and pressure). Findings suggest that spouses may be appropriately calibrating their involvement in response to patients' adherence.

THE IMPACTS OF SPOUSES' HEALTH CONDITIONS ON DEPRESSIVE SYMPTOMS

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Spousal health decline can negatively affect one's mental health outcomes; however, less is known about how the quality of marital relationships and spousal caregiving moderates this association and how this association may be sensitive to the different chronic health conditions considered in this study. To address our research questions, we conducted multilevel analyses using 3487 couples age 45 + at baseline from the 4 waves of the Korean Longitudinal Study on Aging (KLoSA; 2006 -2012).

Results indicated that the husband's cancer and stroke were related to increased depressive symptoms among wives while these associations were not found among husbands. We also found a significant moderating effect of marital satisfaction and caregiving status. The findings suggest that considering gender, relationship quality and caregiving context within couples are important. Health care providers are encouraged to be aware of the possibility that couples are connected in both physical health and mental health.

HE SAID, SHE SAID: SUPPORTIVE INTERACTIONS AMONG MARRIED COUPLES DURING DIABETES APPOINTMENTS

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Given that patients with diabetes who have supportive spouses follow treatment regimens better than patients who do not, we explored indications of spousal support, or lack thereof, during diabetes medical appointments. Data were collected from questionnaires and unscripted, audio-recorded conversations between diabetes patients, their spouses, and their physicians. We found a positive relation

between feelings of support and adhering to diabetes-related health behaviors (e.g. meal plans, testing blood sugars). Additionally, content analysis of conversations compared couples in which the patients reported high versus low levels of support. Healthcare conversations differed between the low support and high support couples in four key areas: spouse involvement in diet-related activities, spouse compliments or criticisms of patients diet-related behaviors, direct discussion about support, and frequency of spouse communication during the medical appointment. Implications may include training physicians to recognize spousal support that is available to patients with diabetes.

SESSION 120 (SYMPOSIUM)

HOW OLD DO YOU FEEL?: CURRENT DIRECTIONS IN SUBJECTIVE AGE RESEARCH

Chair: Y. Stephan, *University of Montpellier, Montpellier, France*

Co-Chair: A. Terracciano, *Florida State University, Tallahassee, Florida*

Discussant: T.M. Hess, *North Carolina State University, Raleigh, North Carolina*

Subjective age, i.e. how old or young individuals feel, is a growing area of research in Gerontology because of its links with important outcomes among older adults. Indeed, cross-sectional and longitudinal research has shown that, independent of chronological age, a younger subjective age is related to health-promoting behaviors, better physical and mental health, and better cognitive performance and slower cognitive decline over time. In addition, recent studies focusing on the determinants of subjective age revealed that the age individuals feel integrates a range of cues about aging, spanning from biological to social. This symposium brings together researchers from Europe and the United States to present new research on the determinants and implications of subjective age. First, David Weiss and Anna Reitz will examine whether variability in individuals' subjective age can be explained by essentialist beliefs about aging. Second, Matthew Hughes and Margie Lachman will test whether functional health and memory predict differential changes in subjective age. Third, Jennifer Bellinger and Shevaun Neupert will report on the link between daily fluctuations in subjective age, affect, and daily Awareness of Age-Related Change. Fourth, Amit Shrira and colleagues will examine whether subjective age and nearness to death moderate emotional complexity among individuals with varying levels of posttraumatic symptoms. Finally, Yannick Stephan and colleagues will present new data on the association between subjective age and longevity from large national longitudinal cohorts followed for almost twenty years. As discussant, Thomas Hess will tie the relevance of these findings to theories of subjective aging.

IS AGE MORE THAN A NUMBER? ESSENTIALIST BELIEFS ABOUT AGING PREDICT HOW YOUNG OR OLD PEOPLE FEEL

D. Weiss¹, A. Reitz², 1. *Columbia University, New York, New York*, 2. *New York University, New York, New York*

Although aging comes with seemingly inevitable changes, there is a great variability in how young or old people feel.

However, little is known about the social-cognitive determinants of this subjective age bias, that is, the discrepancy between chronological age and felt age. Thus, we examined whether variability in individuals' subjective age can be explained by essentialist beliefs about aging. Specifically, we predicted that people who believe that aging is a fixed process, compared to those who think of it as malleable, should report a reduced subjective age bias. In line with predictions, findings demonstrate that people who endorse essentialist beliefs about aging perceived their age as static and unchangeable and reported a significantly smaller subjective age bias. This effect appeared to be even stronger with advancing age. The discussion focuses on social-cognitive and motivational mechanisms of subjective conceptions of aging and older adults' responses to aging-related challenges.

GETTING OLDER FASTER? CHANGES IN SUBJECTIVE AGE ARE TIED TO FUNCTIONAL HEALTH AND MEMORY

M. Hughes, M.E. Lachman, *Brandeis University, Waltham, Massachusetts*

There is interest in understanding what factors contribute to changes in subjective age. With longitudinal data collected in the Midlife in the United States (MIDUS) study, we examined changes in subjective age over 18 years. We assessed whether two domains that typically show aging-related declines, functional health and memory, would predict differential changes in subjective age, controlling for age, sex, and education. Whereas an average of 18 years had passed between the first and third waves, participants on average felt only 14.76 years older, although some felt they had aged more. Worse functioning with regard to health and memory predicted greater increases in subjective age. Additionally, those who reported that their health and memory, relative to their peers, had decreased also demonstrated greater increases in subjective age. This suggests that although most people feel that they are aging slower than they actually are, aging-related declines contribute to faster subjective aging.

DAILY AWARENESS OF AGE-RELATED CHANGE AND WELL-BEING IN OLDER ADULTS

J.A. Bellinger, S.D. Neupert, *North Carolina State University, Raleigh, North Carolina*

Awareness of Age-Related Change (AARC) has emerged as a new dimension of subjective age associated with important well-being outcomes between-people (Brothers et al., 2015). Awareness of aging gains and losses may shift based on a day's experiences, but the implications of daily fluctuations have yet to be investigated. We measured AARC daily over 8 days in a sample of 116 adults ranging in age from 60 to 90. Findings indicate significant within-person variability in AARC. Controlling for age, gender, education, and between-person AARC, daily negative affect was significantly higher on days with a greater perception of AARC losses, whereas daily positive affect was higher on days with greater perceptions of AARC gains. Furthermore, daily AARC gains predicted younger daily felt ages and between-person differences in AARC losses predicted younger daily ideal ages. Findings suggest daily AARC plays an important role in the daily affect and subjective ages of older adults.

SUBJECTIVE AGING AND EMOTIONAL COMPLEXITY OF TRAUMATIZED OLDER ADULTS

A. Shrira¹, E. Bodner¹, Y. Hoffman¹, Y. Palgi², 1. *Bar-Ilan University, Ramat Gan, Israel*, 2. *University of Haifa, Haifa, Israel*

Subjective aging refers amongst other aspects to perceptions of one's age and nearness to death, and appears to be related to resilience. Subjective aging may be especially relevant for older adults coping with traumatic events. The present study examined whether subjective age and nearness to death moderate emotional complexity among individuals with varying levels of posttraumatic symptoms. We used data from two 14-day diary study samples (Sample 1: $N=188$, M age=57.8; Sample 2: $N=140$, M age=67.8). Subjective aging was measured at the between- and within-subject level in Sample 1 and 2, respectively. Emotional complexity was assessed by intraindividual correlations of positive affect and negative affect. In both samples, three-way interactions showed that feeling younger or further away from death was related to increased emotional complexity, especially among those high in posttraumatic symptoms. Findings suggest that favorable perceptions of aging are most relevant to regulating emotional experience of traumatized older adults.

SUBJECTIVE AGE AND LONGEVITY: EVIDENCE FROM THREE LONGITUDINAL SAMPLES

Y. Stephan¹, A. Sutin², A. Terracciano², 1. *UFRSTAPS, University of Montpellier, Montpellier, France*, 2. *Florida State University, Tallahassee, Florida*

The age individuals feel is related to health and well-being. In this study we examined the association between subjective age and mortality using three large longitudinal samples from the United States, the Health and Retirement Study, the National Health and Aging Trends Study and the Midlife in the United States Study (total $N=13455$). Controlling for demographic factors, an older subjective age was predictive of higher mortality risk across the three samples, over a follow-up of four to almost twenty years. Individuals who felt older had about twofold higher risk compared to those with a younger subjective age. The inclusion of depressive symptoms and disease burden partially accounted for these relationships. These findings provide further support to subjective age as a crucial biopsychosocial marker of aging.

SESSION 125 (SYMPOSIUM)

TIME USE AMONG OLDER ADULTS: DIFFERENTIALS AND IMPLICATIONS FOR WELL-BEING

Chair: D. Carr, *Rutgers University, New Brunswick, New Jersey*

Discussant: K. Latham-Mintus, *Indiana University-Purdue University--Indianapolis, Indianapolis, Indiana*

How do older adults spend their time, and what are the implications of daily time use for health and well-being? Drawing on daily diary data from the American Time Use Survey (ATUS) and Supplements on Disability and Use of Time to the Panel Study of Income Dynamics (PSID), these five papers document the correlates and consequences of older adults' time use, with particular attention to the ways that health, caregiving responsibilities and family relationships shape time use. Dukhovnov, Zagheni and Ryan explore

racial and ethnic differences in informal care transfers and the implications for older adults' emotional well-being. Kalenkoski examines how the unpaid caregiving responsibilities of older adults affect their well-being, paying particular attention to gender differences. Lam and Garcia assess whether elder caregivers report time constraints, and compare whether caregivers and non-caregivers vary in the time spent in personal care, social activities and sports, housework and employment. Shandra examines how the presence of a sensory, cognitive, physical, or multiple disability is associated with the likelihood and intensity of participation in six types of leisure activities (passive, exercise, organizational, hobbies, arts, and social), with particular attention to age variation therein. Flood and Genadek investigate the relationship between marital quality and duration and couples' shared time during later adulthood, with particular attention to active versus passive time use. The authors discuss the methodological and theoretical implications of their work, and show how daily diary data provides a unique window on older adults' daily lives and well-being.

ELDERCARE AND TIME CONSTRAINTS: DOES ACCESS OR UTILIZATION OF WORKPLACE LEAVE MATTER?

J. Lam¹, J. Garcia-Roman², 1. *University of Queensland, Indooroopilly, Queensland, Australia*, 2. *Minnesota Population Center, Minneapolis, Minnesota*

Population aging is requiring a re-examination of the role of eldercare. According to the U.S. Census Bureau, nearly one in five U.S. residents will be age 65 or older in 2030. Unpaid caregivers often experience what is called "caregiver strain," defined as psychological, emotional, and/or physical strain through the act of caregiving. This paper will draw on data from the 2011 American Time Use Survey (ATUS), to examine whether elder caregivers may report time constraints, as the act of providing care may take time away from other activities. It will compare whether caregivers and non-caregivers may vary in the amounts of time spent in personal care, social activities and sports, housework and employment. Further, it will investigate whether access and/or utilization of unpaid eldercare leave may modify this relationship, as it may allow worker-caregivers to engage, or perceive the possibility of engaging in various work and family responsibilities.

HOW DO THE ADULT CARE RESPONSIBILITIES OF OLDER AMERICANS AFFECT THEIR WELL-BEING?

C. Kalenkoski, *Texas Tech University, Lubbock, Texas*

This paper will use time-use and well-being data from the 2013 Disability and Use of Time Supplement to the Panel Study of Income Dynamics (DUST) to examine how the unpaid caregiving responsibilities of older adults affect their well-being, paying particular attention to gender differences. Early results using the 2009 DUST show that, controlling for pre-existing levels of reported life satisfaction, providing unpaid physical and medical care for others is associated with reduced levels of tiredness and pain compared to other activities by husbands. Wives do not experience any difference in tiredness or pain while engaging in this type of caregiving compared to other activities. In addition, these caregiving activities are not found to elicit any greater or

lesser amounts of calm, happiness, frustration, worry, or sadness than other activities by either husbands or wives. Other types of caregiving activities (by type of activity and type of recipient) will be examined.

MARITAL CHARACTERISTICS AND COUPLES' SHARED TIME DURING ADULTHOOD

S. Flood, K. Genadek, *Minnesota Population Center, Minneapolis, Minnesota*

This paper leverages unique data from the 2009 and 2013 Supplements on Disability and Use of Time to the Panel Study of Income Dynamics (PSID) to investigate the relationship between marital characteristics and couples' shared time during later adulthood. Previous research indicates that spousal interaction is a key dimension of marital quality. We extend previous research that has been primarily focused on time spent with a spouse for working-age adults and parents by considering couples' shared time during the stage of life after the career- and family-building years, specifically ages 50 and 79. By using the PSID, we make two key contributions to the literature. First, we analyze the quality of time with a spouse by differentiating between active and passive shared time. Second, we examine how marital quality and marital duration are associated with time with a spouse, which has been a major limitation of previous research in this area. Results show that the nature of time with a spouse – active versus passive – varies by levels of marital support and marital strain and that in the cross section, marital duration shows a u-shaped relationship with active shared time.

DISABILITY AND PATTERNS OF LEISURE PARTICIPATION ACROSS THE LIFE COURSE

C. Shandra, *State University of New York at Stony Brook, Stony Brook, New York*

I use nationally representative data from the Well-Being Module of the American Time Use Survey (N = 38,547) to examine: (1) how the presence of a sensory, cognitive, physical, or multiple disability associates with the likelihood and intensity of participation in six types of leisure activities (passive, exercise, organizational, hobbies, arts, and social), and (2) if these patterns vary by age. Overall, people with all types of disability are more likely to engage in passive forms—and less likely to engage in active forms—of leisure activity; however, many of these differences are mediated by health status. These associations persist, net of sociodemographic and health controls, for people with physical or multiple disabilities. Furthermore, greater differences in leisure time by disability status are observed with increasing age. Older adults with disabilities are more susceptible to disengaged leisure time, compared both to those without disability and to younger adults with disability.

SESSION 130 (SYMPOSIUM)

FACILITATING PURPOSE IN LATER LIFE

Chair: J. Nakamura, *Claremont Graduate University, Claremont, California*

Discussant: L.L. Carstensen, *Stanford University*

Across the life course, dedication to a social purpose is associated with both individual and collective well-being. Increasingly, later life is being recognized as a period when

adults may form a purpose goal meaningful to themselves and useful to others and dedicate their energies to pursuing it, for example, by leveraging accrued experience to create new ways of addressing social problems. Three papers will share empirical reports addressing how older adults in the U.S. form and pursue social purpose and the psychosocial and institutional means by which this can be facilitated, summarizing lessons learned from three mixed-methods research projects. A leader in the psychology of aging will provide a discussion. Anne Colby will present results of a study of purpose beyond-the-self and its correlates in adults over 50, based on a survey of a nationally representative sample (n=1,200) and over 100 interviews on the topic. Jeanne Nakamura will present a paper based on 50 in-depth interviews with individuals over 60 who have been honored for successful social innovation, charting the diverse pathways those individuals took to realize their purpose goals. Jim Emerman will discuss results of a survey of organizations helping older individuals find ways to live out their purpose goals, mapping programmatic resources available to this population and analyzing opportunities and gaps in services. Then, Laura Carstensen will provide an integrative discussion of the papers, informed by her extensive body of work. The session will conclude with discussion by the panel and audience of issues that have been raised.

NATIONAL STUDY OF PURPOSE BEYOND THE SELF IN OLDER ADULTS

A. Colby¹, M. Bundick², K. Remington¹, 1. *Stanford University, Palo Alto, California*, 2. *Duquesne University, Pittsburgh, Pennsylvania*

This paper reports on the findings of a study of purpose beyond-the-self (bts) in U.S. adults aged 50–90. Purpose beyond-the-self is defined as active engagement toward goals that are meaningful to the self and contribute to the world beyond the self. The study includes a nationally representative survey of 1,200 respondents, with in-depth interviews of 107. Analyses to date indicate that about 30% of older adults exhibit purpose bts; that purpose is approximately equally prevalent across age, gender, education, income, and health status; and that people of color are more likely to be purposeful than are white respondents. Further analyses will report the significant positive relationships between purpose and other indicators of positive adaptation, including gratitude, prosocialness, generativity, and personal growth initiative. The nature, significance, and dynamics of purpose in later life will be explicated through interview-based case examples, describing highly purposeful individuals from a wide range of life situations.

PATHWAYS TO SOCIAL PURPOSE AND INNOVATION AFTER SIXTY

J. Nakamura, L. Graham, T. Chan, K. Procter, *Psychology, Claremont Graduate University, Claremont, California*

Much attention has been devoted to traditional forms of social contribution in later life such as volunteering. In contrast, little is known about social innovation – the creation of new ways to address persistent social problems. In particular, the pathways leading to social innovation in later life are largely uncharted. In an ongoing mixed-methods research project, we are examining the nature, antecedents,

and correlates of this form of social contribution in later life by studying nominees for the Purpose Prize, a U.S. award that recognizes successful social innovation by individuals over sixty. This presentation will draw on semi-structured interviews conducted with 50 Purpose Prize honorees. Based on systematic coding and analysis, we present the key building blocks of older adults' pathways to social innovation, and distill the features of the most common pathways while documenting the diversity of pathways taken. Implications for facilitating later-life expression of creative prosocial energies are discussed.

MAPPING RESOURCES FOR OLDER ADULTS SEEKING PURPOSE BEYOND THE SELF

J. Emerman, *Encore.org, San Francisco, California*

This paper will present findings from a survey of organizations serving the needs of individuals aged 50+ who identify one or more expressions of purpose beyond-the-self as a major life goal. We will discuss the types of services these programs offer, the range of populations and geographies served and some of the major opportunities and challenges these organizations face. Additionally, we will analyze where there are needs that the current configuration of organizations is not meeting and populations that are currently underserved. Finally, we will discuss opportunities for professionals and institutional sectors not currently engaged in this work to fill these unmet needs.

SESSION 135 (PAPER)

DEPRESSION: CORRELATES AND CONSEQUENCES

GAIT SPEED PREDICTS ENGAGEMENT IN PROBLEM SOLVING THERAPY IN OLDER ADULTS WITH DEPRESSION

S.T. Stahl, S.M. Albert, M. Dew, S. Anderson, M. Butters, A. Gildengers, J. Karp, C. Reynolds, *Psychiatry, University of Pittsburgh, Pittsburgh*

To determine the acceptability of clinical interventions for depression prevention, identifying clinical characteristics associated with its engagement is needed. The purpose of this study is to describe baseline correlates of engagement in Problem Solving Therapy (PST) in adults 60 and older who reported subthreshold depression and high disability burden. PST involved 6–8 sessions in which participants learn skills to solve self-selected problems that are contributing to stress and reduced quality of life. During PST, interventionists completed 3 rating scales that asked about patients' level of participation in problem solving activities, understanding of the process, and session homework effort in order to measure patients' engagement with PST. Using multivariate regression, we tested associations among demographics (age, sex, race, education), mental health (depression), physical health (medical illness, gait speed), and cognitive function as correlates of engagement in the PST intervention of our depression prevention trial (n=50). Faster gait speed was significantly associated with more effort and motivation during intervention sessions and greater understanding of PST concepts. Faster gait speed was also significantly associated with more effort in completing homework material, as rated by

interventionists. These findings suggest that healthier older adults may be more likely to engage in PST. These findings raise questions about whether therapists should consider gait speed when deciding to offer therapy like PST. Discussion will focus on the role of reporting intervention engagement in the clinical trial literature and whether an indicator of intervention engagement should serve a moderator or a mediator in trial outcome analyses.

THINKING, FEELING AND MOVING IN AGING: THE ROLE OF COGNITION AND DEPRESSION IN BALANCE CONTROL

F. Faria^{1,2,3}, S. Muir-Hunter¹, M. MonteroOdasso^{1,2,3}, 1. *Medicine, University of Western Ontario, London, Ontario, Canada*, 2. *Parkwood Institute, London, Ontario, Canada*, 3. *Lawson Health Research Institute, London, Ontario, Canada*

Emerging evidence shows that motor and balance control in older people is affected by cognitive status and by depressive symptoms. However, how static balance is affected by the presence of both, cognitive and depressive symptoms together, in the same individual is unknown. We hypothesize that balance control will differ in older individuals based on their cognitive status (MCI), presence of depressive symptoms, or both factors combined. Ninety six older participants (mean age =75 ± 6) were stratified by cognitive and depressive status as follows: No cognitive or depressive symptoms (Controls, n=25; 71 years old), Cognitive but no depressive symptoms (MCI, n=36; 75 years old); Cognitive and with depressive symptoms (MCI_ds; n=19; 76 years old); and Cognitive with major depression (MCI_D; n=16; 74 years old). Balance (area of body sway) was assessed while standing during eyes open and eyes closed conditions using an electronic rigid platform (Bertec® Inc.). Balance under eyes open condition did not significantly differ across groups (Mixed RM-ANCOVA) after controlling for age, sex, cognitive performance, physical activity, previous falls, number of medications and antidepressants. Interestingly, participants having cognitive and depressive deficits (MCI_ds and MCI_D) showed a lack of "physiological" increase in balance sway in the challenging condition of eyes closed (p=0.003). Our findings suggest that combination of depressive and cognitive symptoms may reduce flexibility of balance control in older adults, placing them at higher risk of falls. Potential mechanism of these associations including the "hyper" cautious control through cognitive resources will be discussed.

URBANICITY OF RESIDENCE AND DEPRESSION AMONG OLDER ADULTS IN GHANA AND SOUTH AFRICA

D. Adjaye-Gbewonyo, G. Rebok, J.J. Gallo, A. Gross, S. Ahmed, C. Underwood, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

As the primary cause of disability worldwide, depression is a significant contributor to global morbidity and mortality and often disproportionately affects older adults. Several studies have demonstrated a link between urban residence and depression, but few studies have examined this association among older adult populations, and even fewer have studied it within an African context. Given that African societies are aging and urbanizing at rapid rates, this study

aimed to assess the relationship between urbanicity and depression using the Ghana and South Africa samples of the World Health Organization Study on Global AGEing and Adult Health (SAGE) wave 1 (2007–2008). Depression over the past 12 months was measured using self-reported treatment and depressive symptoms based on ICD-10 criteria in 4209 Ghanaian and 3149 South African adults 50 years and older residing in their current location for over one year. The 12-month prevalence of depression was 7.5% and 4.0% in Ghana and South Africa, respectively; and 41.1% and 65.5%, respectively, lived in urban areas. Comparing urban to rural residents, the unadjusted odds ratio (OR) for depression in South Africa was 1.46 (95% CI: 0.94–2.29), with an adjusted OR of 1.08 (95% CI: 0.66–1.76) in multivariable analysis. The unadjusted and adjusted ORs for Ghana were 0.92 (95% CI: 0.61–1.39) and 0.94 (95% CI: 0.60–1.47), respectively. Although these results do not support a significant difference in 12-month depression likelihood between urban and rural SAGE participants in Ghana or South Africa, they suggest that the direction of effects may differ in each setting.

DEPRESSION, CHRONIC DISEASE AND FUNCTIONAL LIMITS: A COMPARISON BETWEEN THE UNITED STATES AND INDIA

D. Eynon Black, J. Parajuli, J. Brown, *Miami University, Oxford, Ohio*

Depression is a substantial global health problem with implications for public health policy, planning of social programs and medical spending. Empirical evidence shows that chronic disease and functional limitation lead to depression among older adults. Few studies have attempted to understand the impact of functional limitations on the association between chronic disease and depression in low-income countries. Our study begins this investigation with a comparison study between India and the US. This study examines the effects of chronic disease conditions and functional limitations on depressive symptoms controlling for other measures including age, race, education and marital status. These associations are investigated with data from the 2012 wave of the Health and Retirement Study for the United States (HRS) and 2010 Longitudinal Aging Studies of India (LASI), harmonized for comparability. Preliminary findings suggest the association between chronic disease and depression is partially mediated by functional limitations in the United States. However, different results are present within the LASI dataset. The presence of chronic disease conditions does not predict depression, whereas there is a positive association between functional limitations and depressive symptoms ($p < .0001$) that does not alter the relationship between chronic conditions and depressive symptoms. We discuss the cultural and policy differences that are likely behind this observed difference and further discuss the implications of our findings for future research.

WHO'S SINGING THE BLUES? DEPRESSIVE SYMPTOMS AMONG OLDER ADULTS ACROSS THE CONTINUUM OF CARE

E. Neufeld¹, S. Freeman², L. Spigione⁴, U. Horwath³, 1. *Centre for Rural and Northern Health Research, Laurentian University, Sudbury, Ontario, Canada*, 2. *University*

of Northern British Columbia, Prince George, British Columbia, Canada, 3. *Hospital of Bonifratres, Cracow, Poland*, 4. *Lithuanian University of Health Sciences, Kaunas, Lithuania*

Late-life depression is a common mental health issue with a significant burden of illness on a global scale. This study investigated depressive symptoms among older adults across three health sectors in Ontario, Canada to inform a systems-level approach to late-life depression across the care continuum.

interRAI assessment data from the home care (HC), the palliative home care (PHC), and long term care (LTC) sectors were examined (2011–2014). Assessments on older adults aged 60 years+ in HC (N=116,533), PHC (N=19,678), and LTC (N=125,496) were examined. Depression symptoms were measured within each sector using the interRAI Depression Rating Scale (DRS) with a threshold of DRS>3 indicating probable depression. Change in depressive symptoms over time was examined, including predictors of the development of depression.

At baseline, DRS>3 scores were observed in 190.7 cases/1000 HC clients, 118.1 cases/1000 PHC clients, and 242.3 cases/1000 LTC residents. This increased to 206.4 cases/1000 HC clients, 133.2 cases/1000 PHC clients, and 286.5 cases/1000 LTC residents at follow-up. When looking at individual change over time, DRS scores remained the same for the majority of older adults across sectors. However, the proportion of individuals with a worsening of depression symptoms was highest in the LTC sector.

Changes in depressive symptoms are discussed by health sector in relation to demographic and clinical variables, including differences in the main drivers of depression symptoms. Results show that symptoms of depression are significant among older adults and require a multidisciplinary approach to assessment and care.

SESSION 140 (SYMPOSIUM)

ADAPTING A CARE VALUES/PREFERENCES INTERVENTION FOR PEOPLE WITH CHRONIC ILLNESS AND THEIR CARE PARTNER

Chair: D.W. Coon, *Arizona State University, Phoenix, Arizona*

Discussant: K. Maslow, *Gerontological Society of America, Washington, District of Columbia*

This symposium focuses on adapting SHARE (Support, Health, Activities, Resources & Education) into new formats and populations. Grounded in care values clarification/care preferences identification, SHARE is an individualized in-home intervention for people in the early-stage of Alzheimer's disease (AD) and their care partners, and has demonstrated feasibility, acceptability, and impact on key outcomes. Emphasis on early detection and treatment of life-limiting illnesses is growing, but without a corresponding emphasis on interventions that address the mental health/well-being of early-stage people (EPs) and their family care partners (CPs). SHARE, by identifying and intervening with a chronic life-limiting illness through EP-CP involvement in the early stages of an illness, creates advantages beyond early medical intervention alone. For example, EPs and CPs can be educated on the potential

impacts of the illness before crises occur and caregiver burden advances; EPs can be active decision-makers in their care by voicing their care values/preferences directly to CPs; and thus, EP-CP dyads can be coached on how to develop a plan that addresses the care, security, quality of life, and well-being of the EP while supporting the CP. The papers in this symposium provide an overview of SHARE with primarily non-Hispanic white dyads and its adaptation from a focus on AD to other chronic illnesses; a translation of SHARE into EPIC (Early-stage Partners in Care), a group-based format for AD dyads embedded into Alzheimer's Association Chapters; and additional insights into tailoring EPIC to meet the needs of Spanish-speaking Latinos in the US Southwest.

THE SHARE PROGRAM: FROM DEMENTIA CARE TO BROADER CHRONIC ILLNESS CARE

C.J. Whitlatch, S. Orsulich-Jeras, *Benjamin Rose Institute on Aging, Cleveland, Ohio*

Alzheimer's disease and other dementias are being diagnosed earlier in the disease progression thanks to advances in medical procedures and technologies. For the person receiving the diagnosis and their family carer, few programs exist which help care dyads plan for the future and discuss preferences for care. Likewise, for cognitively intact persons with chronic conditions, few programs exist which provide support as the care dyad works to create a manageable plan of care that addresses each person's concerns and fears. The SHARE Intervention, originally developed for early-stage dementia families, has shown positive outcomes for both members of the care dyad. This presentation first describes the development of the six-session SHARE intervention and its use in community settings. Next, discussion will focus on current efforts to adapt "SHARE for dementia" for use with families facing the challenges of chronic illnesses. Discussion will highlight revisions to program procedures, materials, recruitment, and evaluation.

EPIC (EARLY-STAGE PARTNERS IN CARE): TRANSLATING SHARE INTO A GROUP-BASED INTERVENTION

D.W. Coon, M. Todd, D. Kapp, *Arizona State University, Phoenix, Arizona*

This presentation focuses on the translation of SHARE into a group- and coach-call based intervention for people with early-stage dementia (EPs) and their care partners (CPs) that was delivered by Alzheimer's Association Chapter staff in urban and rural settings across Arizona. Sessions included activities for the entire group together, separate EP or CP groups, and one individualized session. EPIC provides skills-training, and care values clarification, planning, and support that honors the EPs' care values and future care preferences. EPIC participants reported significant changes in mood (e.g., depression and other negative affect) and quality of life indicators (e.g., quality of life, self-efficacy, care preparedness), as well as high levels of overall benefit; increased understanding of memory loss and its effects; increased confidence in dealing with memory problems, and that EPIC made their lives easier. One hundred percent (100%) of dyads reported that EPIC enhanced their ability to care for one another.

TAILORING EPIC, A GROUP-BASED SHARE INTERVENTION, TO MEET THE NEEDS OF SPANISH SPEAKERS

B.V. Carbajal, V. Rosas, D.W. Coon, *College of Nursing & Health Innovation, Arizona State University, Phoenix, Arizona*

This presentation provides insights on tailoring EPIC's outreach, assessment, and intervention activities for Spanish Speaking Latinos. EPIC (a group-based intervention protocol derived from SHARE) is designed to reduce stress and enhance well-being of people with early-stage dementia and their care partners. Steps in tailoring included: ongoing community advisory board feedback; conceptual translation of all project material; and incorporation of suggestions from six focus groups with 51 Latino family caregivers, professionals, and direct care staff. Participants regarded the project's revised care values and preferences as critically important for Latino families ("excellent visual aids"; "concepts are simple to understand and manage"; "very useful", "these activities would help to have a conversation and come to agreement"). Feedback also helped to expand Latino outreach efforts by choosing less threatening language to describe dementia, speaking at existing community health classes, conducting *Concerned about Changes in Your Memory?* forums, and using social media across the generations.

SESSION 145 (SYMPOSIUM)

MODELING THE OUTCOME AND COST IMPACTS OF INTERVENTIONS FOR DEMENTIA (MODEM)

Chair: M. Knapp, *London School of Economics and Political Science, London, United Kingdom*

Dementia has enormous impacts on health and quality of life for people with the illness, their families and other people who care for them. With population ageing the number of people with dementia will increase considerably over the coming decades, despite recent evidence that the prevalence and incidence of dementia has reduced in the last 20 years. A big challenge facing countries is how to provide high quality treatment and support to individuals with dementia in ways that are acceptable to them and at a cost considered by society to be affordable.

In this session we present results from the MODEM project which aims to generate new evidence and feed it into policy and practice to improve the lives of people with dementia and their carers. After an overview of MODEM describing the different components and scientific methods (Presentation 1), we describe the Dementia Evidence Toolkit developed from a systematic mapping of the literature on effective and (potentially) cost-effective interventions in dementia care (Presentation 2). MODEM will use both microsimulation and macrosimulation methods and in Presentation 3 we describe results from the microsimulation model MicSIMPOP on the amount of care estimated to be required over the period to 2040 conditional on socioeconomic factors, health behaviours, cognitive impairment and other comorbidities. The macrosimulation model (Presentation 4) integrates results from MicSIMPOP and the Dementia Evidence Toolkit overall to produce projections of future numbers of people with dementia and the cost impacts of making the evidence-based interventions more widely available.

THE MODEM PROJECT

M. Knapp¹, A. Comas-Herrera¹, R. Wittenberg¹, C. Jagger², MODEM Team¹, 1. *London School of Economics and Political Science, London, United Kingdom*, 2. *Newcastle University Institute for Ageing, Newcastle upon Tyne, United Kingdom*

MODEM is an ambitious project that is projecting how future costs, health and quality of life of people living with dementia and their family and other caregivers (carers) could be improved by wider availability of evidence-based interventions. It projects numbers, needs, costs and outcomes for people with dementia and carers over the period to 2040 under current care and support arrangements in England, and then projects what would happen if better treatments, better care services and better support for carers were made available to everyone who could benefit from them. Projections build on both microsimulation (individual-level) and macro-simulation (aggregate) models, a comprehensive review and synthesis of available evidence (as described in other presentations in this session) and the experiences of people with dementia and carers. Projections will feed into discussions of future policy, purchasing and provision. MODEM runs from 2014 to 2018.

MODEM DEMENTIA EVIDENCE TOOLKIT: WEB-BASED RESOURCE OF DEMENTIA CARE, TREATMENT, AND SUPPORT EVIDENCE

A. Comas-Herrera, D. McDaid, A. Park, B. Adelaja, D. Lombard, M. Knapp, MODEM Team, *London School of Economics and Political Science, London, United Kingdom*

The MODEM Dementia Evidence Toolkit is a public resource that gives access, via a website, to scientific evidence gathered as part of a systematic mapping of the literature on evaluations of interventions for treatment, care and support of people with dementia and carers. The Toolkit has two components: a bibliographic database and plain English evidence summaries on what works in dementia care. *The bibliographic database:* The searchable database comprises over 3,000 empirical journal articles and 700 systematic reviews, obtained by searching key bibliographic databases (Medline, Psycinfo, CINAHL, Social Care Online and IBSS) for articles published from 2009 to June 2015. The articles were screened and coded according to type of dementia, care setting, type of outcomes, type of intervention and country. *Evidence summaries:* The evidence summaries are produced using systematic methods. They aim to offer rigorous, yet accessible, digests of the evidence on effectiveness and cost-effectiveness of key dementia interventions.

MICSIMPOP: MODELING HOW LIFESTYLE FACTORS AND CHRONIC DISEASES AFFECT CARE NEEDS WITH DEMENTIA

C. Jagger¹, A. Kingston¹, H. Booth², MODEM Team³, 1. *Institute of Health and Society, Newcastle University, Newcastle upon Tyne, United Kingdom*, 2. *Australian National University, Canberra, Australian Capital Territory, Australia*, 3. *London School of Economics and Political Science, London, United Kingdom*

MicSIMPOP is a microsimulation model aiming to model the health and associated care needs of the English population to 2040 and the impact of interventions for risk factor reduction, disease prevention and treatment. Modelled on a

previous Australian microsimulation model DYNOPTASim, MicSIMPOP uses a discrete time approach with baseline data (and monthly transition probabilities) from three UK longitudinal studies: Understanding Society (ages 35+); the English Longitudinal Study of Ageing (ages 50+); and the Cognitive Function and Ageing Study II (ages 65+). Baseline characteristics generated on individuals include sociodemographic factors, lifestyle behaviours, a range of diseases including cognitive impairment, CHD, stroke, diabetes, and dependency/care needs measured by a time-based measure. This presentation will describe projections of dependency levels for people with different levels of cognitive impairment over the next 25 years as well as numbers with other comorbidity – of importance for appropriateness and effectiveness of interventions.

MACROSIMULATION MODEL: PROJECTIONS OF NUMBERS OF OLDER PEOPLE WITH DEMENTIA AND ASSOCIATED COSTS

R. Wittenberg, B. Hu, A. Comas-Herrera, MODEM Team, *London School of Economics and Political Science, London, United Kingdom*

The macrosimulation model will produce projections to 2040 of the future numbers of older people with dementia in England, associated expenditures on care and outcomes in terms of quality of life for them and their family or other unpaid carers. It will take as inputs the outputs of the microsimulation model and modelling of the impact of specific interventions. A key feature is that this model will differentiate between groups of people with dementia by severity of cognitive impairment and physical disability, and it will assign packages of care to people with dementia based on their needs related characteristics. It will use data from the MRC Cognitive Function and Ageing Study (CFAS), the English Longitudinal Study of Ageing (ELSA), official data from the Health and Social Care Information Centre, baseline data from various trials of interventions for people with dementia and new data collected as part of the MODEM study.

SESSION 150 (PAPER)

AGING-IN-PLACE/TRANSPORTATION

I'D RATHER STAY: DOCUMENTARY VIDEO AS A KNOWLEDGE MOBILIZATION TOOL FOR AGE-SUPPORTIVE NEIGHBORHOODS

C. Ottoni, J. Sims-Gould, H.A. McKay, *University of British Columbia, Vancouver, British Columbia, Canada*

We created "I'd Rather Stay," a 19-minute, evidence-informed documentary video, to engage community and government stakeholders around barriers and facilitators for age-supportive neighborhoods. We used the interaction model of knowledge translation to critically assess two dissemination stages; phase one (societal level): 14 forums with government, policy makers, and older adults, and 7 international film festivals with the general public (N= est. 800); phase two (individual level): screening and focus groups with 10–15 older adults in 6 different geographic locations (average age= 73). During phase one we analyzed video Director and researcher field notes, and post-screening discussion content.

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In phase two we analyzed field notes, focus group transcriptions, and post-screening and 6-month follow-up surveys. In both phases, we found that documentary video effectively educated viewers and initiated discussion. Further, results from our extended data collection and analysis in phase two suggests that individuals were impacted along a scale: education, knowledge diffusion (sharing), and/or action to improve circumstances. We also offer insight on strategies to move research-evidence from discussion to implementation.

EVERYTHING IN MODERATION: INTERACTION EFFECTS AMONG GENDER, RACE, AND DRIVING REDUCTION/CESSATION

J. Vivoda¹, C.M. Connell², A. Schulz², J. Grengs², S. Heeringa², 1. *Sociology and Gerontology, Miami University, Oxford, Ohio*, 2. *University of Michigan, Ann Arbor, Michigan*

This research explored the moderating effect of the transportation environment on the relationships among gender, race, and driving reduction and cessation (DRC). We hypothesized that the higher likelihood of DRC among women and racial minorities may be partially explained by high congestion/roadway density. Models fully interacted by gender and race were also fit to explore whether the relationships among DRC and the other covariates were differentially affected by these demographics.

The transportation environment was operationalized using a measure of roadway density calculated from Geographic Information Systems data, and with congestion data from the Urban Mobility Scorecard. Seven waves of data from the Health and Retirement Study were combined with this environmental data, and discrete time survival analysis techniques were used in the analysis; driving reduction (DR) and driving cessation (DC) were analyzed as separate outcomes.

A significant interaction was observed between roadway density and gender in the model assessing DR (higher density only affected men), but not in the DC model. This was counter to our original hypothesis, and may be related to the decreased likelihood of men to change their driving habits overall. Interactions between the transportation environment and race were not statistically significant in the DR models, but were significant in the models assessing DC (White and Hispanic older adults had higher odds of DC given more congestion). The models fully interacted by gender and race also revealed several additional significant interactions among other covariates in the models and DRC, including relationship status, age, education, and household size.

THE CREATION OF AGE-FRIENDLY ENVIRONMENTS IS ESPECIALLY IMPORTANT TO FRAIL OLDER PEOPLE

H. van Dijk, A.P. Nieboer, J. Cramm, *Institution of Health Policy & Management, Erasmus University Rotterdam, Rotterdam, Zuid-Holland, Netherlands*

Worldwide efforts are being made to reduce reliance on expensive long-term care, resulting in a shift toward deinstitutionalisation and ageing in place. However, we lack insight into whether neighbourhoods are able to meet both frail and non-frail older people's environmental needs. Based on the WHO framework for age-friendly cities, this study aimed

to characterise the relationship between frailty and ageing in place, and to identify differences in neighbourhood characteristics supporting ageing in place missed by frail and non-frail older people. A concurrent nested mixed-methods approach was used. For quantitative evaluation, a sample of 945 independently living older adults residing in four districts of Rotterdam was asked to complete a questionnaire in 2013 [response rate, 62% ($n = 558$)]. In addition, 32 qualitative interviews were conducted with frail and non-frail older people. The results demonstrated that gender, age, and especially frailty were related to missed neighbourhood characteristics. Qualitative data showed that older people display awareness of their increasing frailty and often acknowledge that it increased their needs for neighbourhood characteristics enabling them to age in place. Thus, this study supported our expectation that the person-environment fit is not static. Expectations regarding neighbourhood characteristics seem to dissipate with advanced age and increasing frailty. Diversity in frailty level, gender, and age, but also the interrelatedness of age and frailty, should be accounted for in the identification of social and physical neighbourhood characteristics that community-dwelling older adults need to age in place.

DISCREPANCY OF SELF-ASSESSMENTS AND STANDARDIZED TESTS IN VISION/HEARING ABILITIES IN THE ELDERLY

G.G. Haanes¹, G. Eilertsen², 1. *Nursing, University of Faroe Islands, Tórshavn, Faroe Islands*, 2. *University College of South East Norway, Drammen, Norway*

Aim: To investigate whether answers provided by older home-care recipients to the question "Do you think your vision/hearing is good (0), not so good (1), poor (2), or very poor (3)?" can be used to identify those who have vision and hearing problems, and whether these elderly can provide a valid self-report of their vision and hearing.

Methods: Receiving operating characteristic (ROC) analysis was used to compare self-evaluations of vision and hearing with those yielded by a gold-standard test. The vision and hearing performances of 93 people, aged ≥ 80 years in the home-care setting were screened with a LogMAR chart and a portable pure-tone audiometer and a self-assessment screen.

Results: Comparisons of the findings using the cutoff point on the self-assessment scale with those of the gold-standard tests, yielded 40 false negatives for vision and 18 false negatives for hearing, indicating that a significant proportion of older people report their vision and hearing abilities as being good when standardized tests indicate that they are not.

Conclusion: Area under the ROC curve for self-assessment of vision was 69%, indicating the self-assessment question was a poor test. Area under the ROC curve for self-assessment of hearing was 73%, which may be considered a "fair" test. However, hearing self-evaluations are still insufficient for deciding who should be referred to a specialist for hearing examination.

HOME MODIFICATION PROGRAM CHALLENGES: BALANCING BEHAVIORS, PREFERENCES, NEEDS, AND COST

N. Brossoie, *Center for Gerontology, Virginia Polytechnic Institute & State University, Blacksburg, Virginia*

According to AARP, 90% of older adults in the United States want to remain living in their homes for as long as possible. Yet, housing data suggest that many homes may not be designed to accommodate the needs of older residents, and may need to be modified. In this study data collected from a rural home modification pilot program in Southwest Virginia was analyzed to identify the challenges faced in identifying, prioritizing, and initiating home modification projects. The means-based program served 24 homeowners aged 55+ living at or below 80% of the adjusted median income. A mixed-method approach was used to analyze survey and interview data. Analysis uncovered challenges to program management and sustainability. Residents often sought home modifications in lieu of making changes to their behaviors and preferences that caused problems (e.g., removing throw rugs to reduce falls). Residents frequently miscalculated the need for modifications, the scope of work needing to be done, and the prioritization of changes. Moreover, residents often perceived some upgrades to their homes as essential even though they would not personally utilize the changed space. Program leaders reported struggling with modifying homes in which the value of homes were less than the costs of modifications, and complying with the well-intended demands of non-custodial family members when they conflicted with resident wishes. Findings were used to develop a matrix to guide decision-making in future home modification programs that accounts for the competing demands of residents and their families, contractors, and program resources and sustainability.

SESSION 155 (SYMPOSIUM)

IMPROVING QUALITY AND ACCESS TO PALLIATIVE CARE IN THE UNITED STATES ACROSS CARE SETTINGS

Chair: S. Enguidanos, *University of Southern California, Los Angeles, California*

Co-Chair: N. Dudley, *University of California, San Francisco, Los Altos, California*

Innovative delivery models that provide access to quality palliative care programs across care settings are needed for an aging U.S. population living longer with advanced and serious illness. The 2015 Institute of Medicine report "Dying in America" highlighted the need for primary palliative care for diagnosis of advanced illness that includes basic symptom management, advanced care planning, and referral to specialty palliative care as symptoms progress. In addition, the National Consensus Project (2013) suggests palliative care be delivered according to patient/family values and beliefs. This symposium examines need identification and care provision in the context of advanced illness care for various populations of older adults and discusses the impact on policy and health care transformation. This symposium is composed of four distinct presentations: (1) a national description of older adults with advanced illness in primary care settings who may benefit from primary palliative care; (2) qualitative interviews with a Veteran patient sample with advanced illness and hospital staff regarding the role of religion and spirituality in care delivery; (3) findings from a feasibility study testing an intervention to provide primary palliative care to older adults during the transition

from hospital to home; and (4) lessons learned from a collaboration with a state-wide private insurance company to develop, test, and broadly implement a reimbursement model for the provision of home-based palliative care by primary care providers. These presentations represent efforts across the U.S. to improve access and quality of care in the context of life-limiting illness.

IDENTIFYING OLDER ADULTS IN U.S. PRIMARY CARE SETTINGS TO BENEFIT FROM PRIMARY PALLIATIVE CARE

N. Dudley, C.S. Ritchie, M.I. Wallhagen, B. Cooper, K. Patel, S. Chapman, *University of California, San Francisco, San Francisco, California*

Community-based palliative care is an important component of advanced illness management to address complex care needs of older adults living longer near end of life. There is an urgent need to provide primary palliative care in primary care settings by all clinicians that includes basic pain and symptom management, and discussions about advance care planning. However, a description of older adults in primary care settings with advanced illness and symptom burden who would benefit from primary palliative care is lacking. This study uses data from the National Ambulatory and National Hospital Ambulatory Medical Care Surveys from 2009–2011 to provide a national description of health care utilization of older adults with advanced illness and symptoms in primary care settings who may benefit from primary palliative care.

REGISTERED NURSES PROVIDING PRIMARY PALLIATIVE CARE DURING TRANSITION FROM HOSPITAL TO HOME

S. Izumi, B. Basin, J. McCalmont, M. Presley, J.G. Baggs, *Oregon Health and Science University, Portland, Oregon*

Although inclusion of palliative care throughout the illness trajectory is recommended, the majority of palliative care in the United States is still limited to hospital settings. There is no established program ensuring continuity of palliative care outside of hospitals. We conducted a feasibility study testing an intervention where registered nurses provided primary palliative care (PPC) to older adults with chronic illness during the transition from hospital to home. PPC delivered by nurses included symptom management, advance care planning, and communication with healthcare providers. Compared to 15 patients who received care from non-nurse health coaches, 15 patients who received PPC from nurses in addition to the coaching had fewer symptom-related re-hospitalizations, more conversations about advance care planning, and higher satisfaction with their care. Provision of PPC by nurses through the care transition showed potential as an effective and affordable intervention to ensure continuity of palliative care beyond the hospital setting.

SUSTAINING THE FUTURE OF PRIMARY PALLIATIVE CARE

S. Enguidanos, A.N. Rahman, *Leonard Davis School of Gerontology, University of Southern California, Los Angeles, California*

Despite significant strides in transforming end-of-life care, access to palliative care is limited and palliative care

programs and services remain precariously positioned in the U.S. health care system. Concrete, permanent funding mechanisms are needed to improve and sustain access to palliative care, particularly in primary care settings. This session presents learnings from a pilot study developed in collaboration with a state-wide private insurance company to develop, test, and broadly implement a reimbursement model for the provision of home-based palliative care by primary care providers. We will discuss developing relationships with insurers and present the core components of the care model, adaptations of the model for provision in primary care, and metrics that support widespread implementation across states. Finally, we will discuss the impact of this project on policy and its potential for health care transformation through expanded evidence and market pressures.

SESSION 160 (SYMPOSIUM)

AGE-FRIENDLY COMMUNITY CHANGE: ADVANCING GLOBAL RESEARCH, POLICY, AND PRACTICE

Chair: E.A. Greenfield, *Rutgers, The State University of New Jersey, New Brunswick, New Jersey*

Discussant: J. Barratt, *International Federation on Ageing, Toronto, Ontario, Canada*

The concept of age-friendliness, as well as strategic initiatives to make localities more age-friendly, has captured the attention of various stakeholders worldwide. Age-friendly champions include professional organizations, philanthropies, national governments, local officials, service providers, private citizens, and beyond. Academic research in this area has emerged arguably more slowly over the past 10 years. Accordingly, this symposium aims to serve as a catalyst for the engagement of additional gerontological research to accelerate systematic knowledge development on age-friendly community change processes—not only to enhance the efforts of local communities, but to benefit aging research more broadly. The first paper will introduce “age-friendly” as an emerging international field of research, policy, and practice and will identify opportunities for research to strengthen community change. The subsequent papers will provide examples of such possibilities. One paper will showcase efforts in Manchester, United Kingdom, demonstrating how empowering older adults as co-researchers can enhance the development and evaluation of age-friendly actions. Another paper will highlight work in Shanghai, China, focusing on the role of researchers during the exploratory phases for age-friendly community change through fieldwork and surveys with organizations that facilitate support for older adults. An additional paper will present research conducted in the north-eastern United States, demonstrating the utility of cross-site qualitative research for developing theories of change underlying age-friendly initiative processes. Jane Barratt—Secretary General of the International Federation on Ageing and a global leader in aging policy—will offer insights as discussant.

KNOWLEDGE DEVELOPMENT FOR AGE-FRIENDLY COMMUNITY INITIATIVES

A.J. Lehning¹, E.A. Greenfield², 1. *University of Maryland, Baltimore, Baltimore, Maryland*, 2. *Rutgers, The State University of New Jersey, New Brunswick, New Jersey*

This paper will provide an introduction to “age-friendly” as an emerging international field of research, policy, and practice. The presenters will provide a history of the age-friendly movement, including the World Health Organization’s initiative and how age-friendly efforts have emerged across diverse national contexts over the past decade. The presenters will then describe knowledge development concerning age-friendly community initiatives, noting that much of what has been written in this area has been published in the “gray” literature. While peer-reviewed publications on age-friendly efforts are growing in number, many remain descriptive or theoretical. Based on a review of the literature, this paper will identify opportunities for researchers to employ both qualitative and quantitative research methodologies to deepen systematic knowledge building concerning age-friendly community initiatives. The authors will describe how such knowledge development has the potential to strengthen age-friendly policies and practices, while also making meaningful advances to gerontological research more broadly.

PUBLIC GERONTOLOGY IN ACTION: CO-DEFINING GOALS OF AGE-FRIENDLY EFFORTS WITH OLDER CO-RESEARCHERS

T. Buffel, C. Phillipson, *The University of Manchester, Manchester, United Kingdom*

Age-friendly community initiatives have the potential to empower older people to advocate on their own behalf, yet there has been relatively little scholarly discourse on translating this principle into practice. This paper aims to address this gap by exploring older people as co-researchers in developing age-friendly communities in Manchester, UK. Through the application of a participatory methodology, older people were involved not only as the research target group, but also as experts and actors in the various stages of the research, including the planning, design, and realization of the project. The presentation will reflect on both challenges and opportunities concerning the involvement of older people as co-researchers, and will discuss the research approach as a tool for creating community networks on the one hand and empowerment of older people on the other. The presentation will also consider the implications of the findings for developing age-friendly communities in complex urban environments.

A CASE EXAMPLE OF RESEARCH TO PLAN AGE- FRIENDLY ACTION IN SHANGHAI, CHINA

L. Fang, J. Wang, W. Zhang, *Chinese Academy of Social Sciences, Beijing, China*

Shanghai, China, has been a member of the World Health Organization’s Global Network of Age-Friendly Cities since it was founded in 2006. Although the initiative has inspired government proclamations and some policy reforms over the years, much of the age-friendly action remains at the early stages of exploration. As part of continuing to develop plans for potentially new programs, we conducted fieldwork research and surveys with organizations that provide services to older adults in the greater Shanghai area. A central finding of our research is the availability of older adult mutual assistance programs in many parts of the region, although not all. Moreover, the programs that do exist are operating independently from the city’s age-friendly community initiative.

Additional research to understand why these programs have developed in particular locations is necessary to identify place-based leverage points for age-friendly actions, as well as place-based variation in the outcomes such initiatives.

A FRAMEWORK TO DESCRIBE THE EARLY PLANNING PHASE OF AGE-FRIENDLY COMMUNITY INITIATIVES

E.A. Greenfield, *Rutgers, The State University of New Jersey, New Brunswick, New Jersey*

This study employed a grounded theory approach to develop an empirically grounded framework of age-friendly community initiatives' (AFIC) objectives and resources in the early planning period. I conducted in-depth interviews with leaders of nine newly formed AFCIs in northern New Jersey (U.S.) at two points during the first six months of their projects. Results indicated three inter-related aims of the planning period: (a) building relationships, (b) harnessing data, and (c) raising the visibility of older adults and the AFIC. To achieve these objectives, leaders reported drawing on social and human capital within and among stakeholders, including the lead organization, consultants, organizational partners, municipal leaders, individual volunteers, funders, and web-based resources. The framework can be used to assess organizational and community readiness to begin an AFIC, target areas for resource development, and track AFCIs' early accomplishments. Findings also offer implications for research on the effectiveness and expansion of AFCIs.

SESSION 165 (SYMPOSIUM)

GLOBAL COUNCIL ON BRAIN HEALTH: ADVANCING INTERNATIONAL DIALOGUE TO PROMOTE WELL-BEING

Chair: S. Lock, *AARP, Washington, District of Columbia*

As people live longer, the need for clear, trustworthy information on brain and cognitive health is greater than ever. Launched in 2015, the Global Council on Brain Health is an independent collaborative of scientists, clinicians, scholars and policy experts convened by AARP to provide the foremost thinking on what people and professionals can do to maintain and improve brain health. The goal of the Council is to translate scientific research into actionable recommendations for the public that will help drive behavior change in individuals across communities and cultures. This symposium will feature leading researchers from the UK, US and Canada to highlight recommendations issued by the Council. It will showcase three consensus documents generated by the Council that are based on the latest research advancements. Particular emphasis will be placed on Council recommendations that are aimed at improving brain health in three areas: physical exercise, sleep and social engagement. In sum, this symposium brings together leaders at the forefront of this international effort to discuss the scientific and policy dimensions of brain health.

PHYSICAL ACTIVITY AND BRAIN HEALTH

T. Liu-Ambrose, *University of British Columbia, Vancouver, British Columbia, Canada*

The GCBH convened to examine research focused on the impact of physical activity on brain health. Eight issue specialists representing four continents arrived at consensus

statements to summarize the impact of physical activity on brain health: (1) Follow current public health recommendations of 150 minutes of weekly, moderate-intensity aerobic activity and two or more days a week of moderate-intensity, muscle-strengthening activities. In addition to purposeful exercise, lead a physically active lifestyle throughout the day. (2) Identify meaningful and enjoyable ways to increase and maintain physical activity. (3) Incorporate physical activity as a part of a healthy lifestyle to help reduce the risk of cognitive decline, and (4) When focusing on the impact of physical activity on brain health, stakeholders and policy makers should take into account the breadth of scientific evidence (i.e. animal studies, epidemiological studies, and randomized controlled trials) while recognizing the knowledge gaps.

SLEEP AND BRAIN HEALTH

K. Yaffe, *UCSF, San Francisco, California*

This talk will provide an overview of the consensus document on sleep and cognitive health. Recommendations issued by the Council addressed how sleep patterns change as individuals grown older. Sleep hygiene will also be discussed during this talk as a way of maintaining and improving cognitive health. Particular focus will be placed on the implementation of non-pharmacological methods as a way of improving sleep patterns. A full discussion of the recommendations relating to sleep duration, sleep timing, sleep quality, napping and sleep disorders as we age will be discussed.

SOCIAL ENGAGEMENT AND BRAIN HEALTH

L. Clare, *University of Exeter, Exeter, United Kingdom*

The relationship between social engagement and brain health will be the third topic examined by the GCBH. A broad range of contextual lifestyle factors will be considered in the consensus document and recommendations, including social engagement, social isolation, social networks, social support, living situation, marital status and loneliness. There are structural (e.g. family size), functional (e.g. level of support) and appraisal (e.g. attitudes, beliefs, mood) aspects involved in shaping each person's experience of social engagement or isolation. The relationship between stress, resilience and social engagement will also be discussed. Current evidence indicates a link between isolation and poor health outcomes and mortality; however, more research is needed to assess the impact of loneliness. Although it is widely accepted that supporting social connections is beneficial, there is as yet little robust evidence for the effectiveness of interventions addressing loneliness and isolation.

THE PUBLIC MESSAGING OF SCIENCE: WHAT THE EVIDENCE TELLS US ABOUT GETTING IT RIGHT

J. Goodwin¹, S. Lock², 1. *University of Loughborough, Loughborough, United Kingdom*, 2. *AARP, Washington, District of Columbia*

Although it is often stated that the production of new knowledge is an intrinsically valuable objective, health science research is duty bound to show the public value of its work. However, a common criticism of empirical science is its failure of translation into society-useful outcomes. For example a common perception is that science is expert driven rather than society led, with little interaction between the two in the translation process. No more is this more important

than in brain health, in which the public understanding is parsimonious. Within this context we review the key elements of research-based societal change and will present new models of knowledge transfer and impact, including the WHO knowledge transfer model for ageing and health, its application in real life settings and the example of the Global Council for Brain Health whose remit is the presentation of reliable public messages derived from expert evidence.

SESSION 170 (SYMPOSIUM)

TECHNOLOGY-ENABLED SOLUTIONS FOR IMPROVING HEALTH OF ETHNICALLY DIVERSE OLDER AMERICANS

Chair: S. Levkoff, *University of South Carolina, Columbia, South Carolina*

Co-Chair: H. Chen, *Brigham Women's Hospital, Cambridge, Massachusetts*

Discussant: D.A. Lindeman, *University of California, Berkeley*

Over the past decade, substantial research has identified the role that health information technology (HIT) can play in enhancing health, through assisting with medication compliance, acquisition of information and skills for managing illness, and providing socio-emotional support to enhance retention of positive behavioral change. Despite the emergence of HIT and its evidence in supporting a variety of health outcomes, there has been less penetration of HIT in ethnic minority populations, where cultural values often play a role in mitigating access to HIT. This session provides an overview of four different studies, all of which are focused on developing culturally-competent HIT interventions for ethnic minority older adults with a range of health problems, including dementia, congestive heart failure, and HIV. The studies were all developed through focus groups with the at-risk populations, who identified needs, barriers, and facilitators to overcome barriers identified. In addition, iterative usability testing was conducted during the development of all HIT programs. Each presentation will focus on the unique contributions of the different theories (e.g., social learning, positive psychology, adult education/andragogy, behavioral economics, digital technology, cultural adaptation, and evidence-based care) that went into the development of the HIT program.

SUPPORTING MEDICATION ADHERENCE IN HIV+ OLDER AFRICAN AMERICANS

P. Weitzman¹, M. Pagan-Ortiz¹, J. Xing¹, X. Lu¹, S. Levkoff^{1,2}, 1. *Environment and Health Group, Cambridge, Massachusetts*, 2. *University of South Carolina, Columbia, South Carolina*

African Americans, who account for almost half of people living with an HIV diagnosis, are less likely than white HIV patients to receive antiretroviral therapy (ART), to be adherent to ART, and achieve viral suppression. Neurocognitive changes brought on by both HIV and aging processes, along with greater pill burden in older patients, make medication adherence especially challenging for older African Americans with HIV. This session will present results of a Phase I feasibility study that demonstrated the effectiveness

of a text-messaging program, which included pill reminders with motivational and health educational messages to support a positive outlook and healthy living, in increasing medication adherence among older African Americans with HIV. Qualitative data suggest: a sense of fatalism among newly-diagnosed patients places them at high risk for non-adherence; rapid decline in health post-diagnosis prompts non-adherent patients to become adherent; and, motivational messages are supportive in preventing intentional lapses (drug holidays).

MOBILE HEALTH FOR IMPROVING SELF-CARE FOR AFRICAN AMERICAN ELDERS WITH CONGESTIVE HEART FAILURE

H. Chen^{1,3}, S. Heiney², E. Shi³, S. Levkoff^{2,3}, 1. *Psychiatry, Brigham Women's Hospital, Cambridge, Massachusetts*, 2. *University of South Carolina, Columbia, South Carolina*, 3. *Environment and Health, Cambridge, Massachusetts*

African-Americans (AA) with congestive heart failure (CHF) are typically sicker, poorer, less educated, and have more co-morbid conditions than White older adults with CHF. Despite evidence of benefits of home tele-monitoring on mortality and hospitalizations, few care models have been designed specifically for African-Americans with CHF. This session reports on an intervention program conducted in South Carolina, where rates of hospitalization for CHF are among the highest in the country. The intervention was informed by qualitative research documenting specific needs for improving self-care and treatment compliance as identified by AA patients in a hospital-based Home Care Program. The low-cost intervention utilizes a mobile phone with a software application that: monitors CHF symptoms; improves self care by providing educational and motivational messages to reduce risks for CHF progression; and improves health care navigation by making it easy for patient to connect to health care providers.

USING WEBSITE AND VIDEO FOR SAFE SEX EDUCATION WITH OLDER DIVORCED WOMEN

P. Weitzman¹, M. Pagan-Ortiz¹, J. Xing¹, X. Lu¹, S. Levkoff^{1,2}, 1. *Environment and Health Group, Cambridge, Massachusetts*, 2. *University of South Carolina, Columbia, South Carolina*

HIV is on the rise among American women over age 50. The increase coincides with the rise in gray divorce. Few interventions promote safe sex practices among older divorced women. Access, stigma and privacy concerns make a web-based intervention ideal. This session presents the findings from a Phase I study utilizing a website based on positive psychology and social learning principles to promote wellbeing post-divorce in older divorced women. Safe sex education was embedded in the website, as well as videos of older divorced women talking about real-life experiences with dating and safe sex. Safe sex self-efficacy improved among all users. Perceived HIV risk scores of those who viewed the site with videos significantly improved. Qualitative data revealed strong acceptability and appeal of the videos. The text and graphics only web-based intervention proved effective at promoting HIV/STD prevention; the addition of videos increased both impact and appeal among users.

A SELF-DIRECTED LEARNING (SDL) SYSTEM FOR CHINESE DEMENTIA CAREGIVERS

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Ethnic Chinese dementia caregivers experience significant burden and reduced quality of life, and are not likely to seek skills training due to cultural barriers. To overcome barriers to help seeking, an online self-directed learning (SDL) intervention program to provide both caregiving and self-care skills was developed. The computer software to implement the SDL program has an "engagement design," relying on theories of: adult education/andragogy; behavioral economics; digital technology; cultural adaptation; and evidence-based dementia care skills. The program, in Chinese language, uses brief videos, quizzes, progress tracking, and text message reminders to ensure continual and effective learning. Together with the educational website (www.loveandhelp.com) that provides knowledge information and an online community for increasing socio-emotional support for caregivers, the SDL program is part of the overall strategy of using health information technologies to enhance the overall caregiving capacity for dementia care.

SESSION 175 (SYMPOSIUM)

LONG-TERM CARE POLICY TRENDS IN CHINA, TAIWAN, JAPAN AND KOREA: IMPLICATIONS FOR AGING IN ASIA

Chair: Y.W. Glavin, *Case Western Reserve University/ Taipei Medical University, Mayfield Village, Ohio*

Co-Chair: F.K. Ejaz, *Benjamin Rose Institute on Aging, Ohio*

This Symposium compares LTC policy trends in China, Taiwan, Japan and Korea. Presentations include use of diverse methodologies ranging from analyses of national datasets (Japan and Taiwan), to reviews of public programs (China) and a literature review on the impact of public policies (Korea). Overall, two significant policy issues are covered: 1) Development of health, long term and community-based care; and 2) Impact on caregiving.

Dr. Sun will review China's policies of elderly income support (500 million participants), medical care insurance (95% covered), social services that support facility-based care and policy support for medical and care integration.

Dr. Wakui will examine service utilization and care patterns based on findings from the Comprehensive Survey of Living Conditions in Japan; and discuss policy and practice implications for balancing formal and informal care.

Dr. Nakashima will review Japan's Integrated Community Care, challenges associated with aging-in-place and ways of improving care coordination and promoting preventive care.

Dr. Chee will review the literature on the impact of Korea's Long-Term Care Insurance on older adults and their caregivers. A pilot qualitative study corroborates the research literature and found that people now support elder care through both public programs and traditional family caregiving.

Dr. Glavin will review data from the: 1) National LTC Study that describes Taiwan's disability population (2.89%)

and high public support (89%) for national LTC insurance; and 2) Integrated Health and LTC Study that stresses importance of unified assessment, coordinated financing, and integrated care and capitations.

Dr. Ejaz will serve as a moderator.

STATE POLICIES REGARDING THE CHINESE ELDERLY POPULATION

R. Sun, *Cleveland State University, Cleveland, Ohio*

China's policies to improve the well-being of the elderly are in three major dimensions. There are two major programs in the economic arena: 1) the establishment of old age support insurance in both cities and countryside. There are about 500 million participants and over 130 million elderly currently receiving monthly benefit. 2) The minimum living protection program, which is aimed to cover those in poverty or with low income. There are two parallel programs in medical care: 1) basic health care insurance, which covers 95% of the elderly in both urban and rural areas. 2) medical aid policy, which is aimed to help those in poverty or with low income, or childless, or in other special circumstances. For social services, the state and local governments are promoting to build more facilities, for-profit or non-profit, such as elderly housing, day care, assisted living, and nursing homes.

IMPACTS OF CHANGING FAMILIES ON PUBLIC LONG-TERM CARE INSURANCE PROGRAM IN JAPAN

T. Wakui¹, E.M. Agree², I. Kai³, 1. *Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan*, 2. *Johns Hopkins University, Baltimore, Maryland*, 3. *The University of Tokyo, Tokyo, Japan*

Balancing formal and informal care system is a key to sustaining long-term care programs; however, the interrelated impacts between formal and informal care have been overlooked. In Japan, while women traditionally bear most of the caregiving roles in multigenerational households, trends toward delayed marriage and changes in family structure are leading to a greater variety in caregiving arrangements, such as son caregiving, multiple caregiving or unmarried-child caregiving. Analysis of the Comprehensive Survey of Living Conditions (CSLC; n=2248) national data suggested that patterns of services utilized differed by caregiver type. For example, son caregivers were more likely to use formal services in ADL care, compared to daughter and daughter-in-law caregivers. Findings have important implications for policy and practice and suggest that service utilization is linked to caregiver characteristics. Sustainability of the public long-term care program by balancing formal and informal care is discussed.

REVIEW OF JAPAN'S INTEGRATED COMMUNITY CARE, IMPACTS AND CHALLENGES IN SUPPORTING AGING IN PLACE

T. Nakashima^{1,2}, 1. *Rutgers University, Camden, New Jersey*, 2. *SUNY at Albany, Albany, New York*

The Japanese government implemented a long-term care insurance program called "Integrated Community Care System" to help older adults age in place. Municipal governments and Community General Support Centers are required to establish the Integrated Community Care System through

collaborations with long-term care services, healthcare, prevention programs, housing, and daily life support services.

Administrators, practitioners, researchers and policy makers are struggling with issues related to care coordination and increased efficiency in order to promote a higher quality of care for older adults. In this presentation, three important issues will be discussed to explain the challenges to supporting aging in place. These issues are: 1) how to combine medical and long-term care in the provision of home care, 2) how to enhance the functions of various community-based services, 3) how to promote preventive care and daily life support services involving the members of the community as volunteers.

THE CONCEPTION OF ELDER CARE IN THE CONTEXT OF LONG-TERM CARE POLICY IN KOREA

K. Chee¹, H. Lee², 1. *Sociology, Texas State University, San Marcos, Texas*, 2. *Catholic University of Daegu, Daegu, Korea (the Republic of)*

This study investigated how Korea's Long-Term Care Insurance Program implemented in 2008 has affected the ideas and experiences of elder care. According to the research literature, this program has helped reduce family caregivers' care burden and stress. In addition, elders were found to uphold traditional values of filial piety and preferred family care to institutional care, though family care was still more burdensome for caregivers. Qualitative data from our pilot study with seven adults (aged 23 to 61 years) corroborate these themes, but show that respondents emphasize independence for both young and old, and believe that family and society should be jointly responsible for elder care. We discuss our findings in light of their implications for research and practice. Future research could use the life course framework to examine cohort differences between perspectives of elders and their caregivers regarding what constitutes ideal elder care.

LONG-TERM CARE AND CARE INTEGRATION IN TAIWAN AND MAINLAND CHINA: OPPORTUNITIES AND DIRECTIONS

Y.W. Glavin¹, L. Hu², 1. *School of Medicine, Case Western Reserve University/ Taipei Medical U, Mayfield Village, Ohio*, 2. *School of Public Health Peking Union Medical College, Beijing, China*

National LTC Need Study (NLTCNS) conducted in 2009–2011 and 2015–2016, indicated Taiwan's disability rate in general population is 2.89%; in elderly population is 16.50%; the disabled population is estimated to raise from 740,000 in 2014 to 1,200,000 in 2031. After the implementation of National Health Insurance in 1995, Taiwan is in the process of developing the long term care system. NLTCNS indicated high public support for long term care insurance (87%), although new administration now considers a tax-based financing. Integrated Health and LTC Study (IHLTCS) was funded in 2015 to explore integration strategies and resources needed to support system integration. Presenters will discuss findings from both NLTCNS and IHLTCS to describe Taiwan's disability population, service utilization, issues causing fragmentation and stakeholder opinions. A proposal outlining focus areas to initiate care integrations and tools and external support required will be discussed.

SESSION 180 (SYMPOSIUM)

ADAPTATIONS OF EVIDENCE BASED TRANSITIONAL CARE MODELS IN THE U.S.

Chair: M.D. Naylor, *University of Pennsylvania School of Nursing*

M. Pauly, *Wharton School, University of Pennsylvania, Philadelphia, Pennsylvania*

Derived from rigorous study in well-designed clinical trials, evidence-based interventions (EBI) often are incorporated into health care practices, yet little is known about how they are adapted to local contexts. In this symposium, we will describe a mixed methods study of adaptations of the Transitional Care Model (TCM) funded by the Robert Wood Johnson Foundation. First, we will describe the TCM, a rigorously tested EBI proven to improve care, enhance outcomes and reduce costs among vulnerable chronically ill older adults. Then, we will discuss the rationale for the use of Stirman's "System of Classifying Modifications to Evidence-Based Programs" to explore the potential adaptations of EBIs, including those classified as contextual (e.g., external or internal system factors) or content (e.g., EBI components, frequency and mode of delivery) related. Using data from a national survey of expert practitioners based in diverse health and community-based organizations, we will then describe 344 programs who reported use of the TCM. The presentation will highlight common content adaptations and perceived contextual barriers and facilitators in implementation of EB transitional care interventions. Next, we will summarize findings from our qualitative analysis of interviews with expert practitioners based in 26 unique organizations that reported implementation of the TCM and describe both the nature of content and contextual adaptations of the TCM and the rationale for these adaptations. Practice, policy and research implications of findings related to adaptations of the TCM and other EBIs will be examined.

ADAPTATIONS OF EVIDENCE-BASED INTERVENTIONS: THE CASE OF THE TRANSITIONAL CARE MODEL

M.D. Naylor^{1,2}, K.B. Hirschman^{1,2}, M. Toles^{2,3}, E. Shaid^{1,2}, K. McCauley^{1,2}, M. Pauly⁴, 1. *University of Pennsylvania School of Nursing, Philadelphia, Pennsylvania*, 2. *NewCourtland Center for Transitions and Health, Philadelphia, Pennsylvania*, 3. *University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*, 4. *Wharton School, University of Pennsylvania, Philadelphia, Pennsylvania*

For over 20 years, multiple National Institute of Health funded randomized control trials and comparative effectiveness studies of the TCM have demonstrated enhanced patient experiences with care, improved health and reduced costs for older adults with multiple chronic conditions. Additionally, rigorous translational studies, supported by many foundations, have resulted similar quality and cost benefits for this vulnerable patient group. Similar to other EBIs, however, limited empirical data are available which describe how the TCM has been adapted in "real world" clinical practice. In this session, we will explore the rationale for rigorous examination of adaptations of the TCM and describing the aims of this study, the basis for using Stirman's "System of

Classifying Modifications to Evidence-Based Programs” and the reasoning behind the use of a mixed methods approach. We also will describe how findings contribute to the body of knowledge related to adaptations of EBIs.

PHASE I: A QUANTITATIVE EVALUATION OF ADAPTATIONS OF THE TRANSITIONAL CARE MODEL

K.B. Hirschman^{1,2}, M. Toles^{2,3}, O.F. Jarrin^{1,4}, E. Shaid^{1,2}, M. Pauly⁵, M.D. Naylor^{1,2}, 1. *University of Pennsylvania School of Nursing, Philadelphia, Pennsylvania*, 2. *NewCourtland Center for Transitions and Health, Philadelphia, Pennsylvania*, 3. *University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*, 4. *Rutgers, The State University of New Jersey, School of Nursing, Newark, New Jersey*, 5. *Wharton School, University of Pennsylvania, Philadelphia, Pennsylvania*

This session will summarize findings from a national survey designed to identify common adaptations of the TCM across diverse health and community-based settings. Targeted respondents were expert practitioners (i.e., clinicians or clinical leaders of transitional care programs). A web-based survey was conducted (September 2014 to January 2015). Of the 582 unique respondents who completed the survey, 344 reported use of the TCM alone or in combination with other EB transitional care models. The hospital-to-home design, a key TCM feature, was adapted by 60% of respondents. Two common adaptations of the TCM's nine core components related to staffing and care continuity. Specifically, 55% of respondents reported use of diverse clinicians vs. advanced practices nurses to deliver the TCM (contextual adaptation) and 52% of programs ended TCM services at hospital discharge (content adaptation). Practice and research implications of study findings will be explored.

PHASE II: QUALITATIVE ASSESSMENT OF ADAPTATIONS OF THE TRANSITIONAL CARE MODEL

M. Toles^{2,3}, K.B. Hirschman^{1,3}, E. Shaid¹, O.F. Jarrin^{1,4}, M. Pauly⁵, M.D. Naylor^{1,3}, 1. *University of Pennsylvania School of Nursing, Philadelphia, Pennsylvania*, 2. *University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*, 3. *NewCourtland Center for Transitions and Health, Philadelphia, Pennsylvania*, 4. *Rutgers, The State University of New Jersey, School of Nursing, Newark, New Jersey*, 5. *Wharton School, University of Pennsylvania, Philadelphia, Pennsylvania*

This session will describe findings from the study's qualitative phase designed to explore expert practitioners' perceptions of the rationale for adapting the TCM. Study investigators developed a questionnaire, interviewed 26 purposefully-selected TCM practitioners from the Phase I survey, conducted thematic analysis and described the characteristics and value of common contextual and content adaptations. Contextual adaptations were common. The TCM was commonly delivered by registered nurses and in a variety of settings (e.g., hospitals, integrated health systems, home care, etc.). Content adaptations also were common. Most often, visits were provided for higher-risk patients during hospital to home transitions but separate staff provided hospital and home services. Respondents offered diverse

goals for adapting the TCM including: expanding the reach of services, engaging patients, and collaborating with multiple clinicians. All respondents anticipated future TC program growth. Findings suggest the need to rigorously evaluate the effects of adaptations on health and cost outcomes.

SESSION 185 (SYMPOSIUM)

A NEW LENS ON QUALITATIVE METHODS IN AGING: CHALLENGES IN RECRUITING, ANALYZING, AND MIXED METHODS

Chair: C. Koren, *University of Haifa, Hod Hasharon, Israel*
Co-Chair: M. Roes, *German Center for Neurodegenerative Diseases (DZNE), Witten, Germany*
Discussant: A.J. Schwartz, *East Carolina University, Greenville, North Carolina*

This symposium addresses several challenges qualitative researchers from several countries encountered as they studied varied experiences of older adults in increasingly aging societies. Presenters have investigated interpersonal relationships within institutional settings (Washburn & Williams), the phenomenology of becoming an older person (Washburn & Williams), late-life re-partnering and its influences on intergenerational family relations (Koren), and health beliefs of older Latinos with cancer (Carrion & Nedjst-Haiem). Among the challenges the presenters have faced are addressing the ethical rights of special populations such as older persons living with dementia (Roes & Panke-Kochinke) and how best to approach older members of various ethnic backgrounds to participate in a research study (Carrion & Nedjst-Haiem).

Washburn and Williams will discuss how quantitative data in two mixed methods studies were used to better understand the intended meaning of participants' responses in semi-structured interviews. Recruitment issues are addressed in two presentations. Roes and Panke-Kochinke will explain how to identify the capacity to give consent and conducting an informed/ongoing (here and now) consent process whereas Carrion and Nedjst-Haiem will illustrate how to overcome recruitment barriers with older Latinos with cancer emphasizing how it promotes successful qualitative research by providing rich data. Koren will explain how to analyze data from a study with multi-generational families based on qualitative interviews conducted individually with each family member, discussing this approach in relation to qualitative dyadic analysis and qualitative methods in family research. As discussant, Schwartz will integrate, draw conclusions, and facilitate discussion on challenges using qualitative methods in research on aging.

QUALITATIVE DATA ANALYSIS OF THE MULTIGENERATIONAL FAMILY UNIT: THE CASE OF LATE-LIFE STEPFAMILIES

C. Koren, *University of Haifa, Hod Hasharon, Israel*

With life expectancy rising, families expanding to three, four, even five generations are becoming more common. Thus, new phenomena in aging and family studies are expected to develop requiring qualitative methodology. Along with the perspectives of the older generation those of the other

multigenerational family members will become increasingly important for understanding the meaning of aging.

The aim of this presentation is to illustrate how to conduct a qualitative study with multi-generational families. The emphasis is on the analysis of such units based on qualitative interviews conducted individually with each family member using data from a large qualitative study on the meaning of late-life repartnering from a family intergenerational perspective.

The study included 19 stepfamily-units (38 multigenerational family-units) a total of 107 participants (38 partners, 37 adult children, 32 young and adult grandchildren).

The method will be discussed in relation to qualitative dyadic analysis and qualitative methods in family research.

ADDRESSING RECRUITMENT CHALLENGES IN QUALITATIVE RESEARCH AMONG OLDER LATINOS WITH CANCER

I.V. Carrion¹, F.R. Nedjat-Haiem², 1. *Social Work, University of South Florida, Tampa, Florida*, 2. *New Mexico State University, Las Cruces, New Mexico*

This paper addresses the challenges and presents strategies that facilitate recruitment in qualitative research in a cancer care study with older Latinos. We analyzed factors that influence the recruitment process when conducting qualitative studies using a priori codes and constant comparison within a grounded theory framework.

Recruiting Latinos with cancer in a qualitative study entail understanding their beliefs and knowledge of research studies and the ability to articulate benefits of participating in research studies in the individual's language of preference. In order to ensure successful recruitment approaches, qualitative researchers must develop a research team that reflects the population which is being recruited as well as attend to gender ascribed health beliefs, transportation constraints, immigration issues and language barriers.

Overcoming recruitment barriers with older Latinos with cancer is vital in order to successfully conduct qualitative research studies. The findings will address the gaps in psycho-social care literature and inform evidence-based interventions.

MANAGING ONGOING CONSENT IN RESEARCH WITH PEOPLE LIVING WITH DEMENTIA

B. Panke-Kochinke^{1,3}, J. Serbser¹, J. Dreyer¹, M. Roes^{1,2}, 1. *German Center for Neurodegenerative Diseases (DZNE), Witten, Germany*, 2. *University of Witten/Herdecke, Witten, Germany*, 3. *University of Osnabrueck, Osnabrueck, Germany*

People living with dementia have the right to decide whether or not they want to participate in qualitative research and to give their informed/ongoing consent. How to create participation is also related to the question in what way(s) concepts of autonomy and self-determination are defined. However, as the symptoms of dementia progresses, the cognitive ability to give verbal consent diminishes and finally is lost, and therefore influencing the decision process. Although it seems ethically challenging to (not) let people with dementia participate in research, they must be protected against the risks of research participation. As a result, researchers have tended to seek the consent (assent) of the relatives of persons

with dementia that has progressed beyond the early stages. The aim of this presentation is to exemplify how to identify the capacity to give consent, and how concepts of autonomy and self-determination support an informed/ongoing consent process.

MIXED METHODS APPROACHES TO INCREASING OUR UNDERSTANDING OF THE LIVED EXPERIENCE OF OLDER ADULTS

A.M. Washburn, S. Williams, *National University, La Jolla, California*

This presentation will explain how quantitative data in two studies with a mixed methods design were used to better understand the intended meaning of participants' responses in semi-structured interviews. In the first study, 17 community-dwelling older adults answered questions about their experience of aging in place and completed several quantitative measures. Analysis of the interview transcripts employed a phenomenological-hermeneutic strategy; participants' responses to the quantitative measures were then used to inform further interpretations of their answers. In the second study, 40 nursing home residents answered questions about their interpersonal day-to-day social interactions and interpersonal relationships. A thematic analysis of their responses was followed by additional analyses using data from measures of social cognition, as well as nursing staff's ratings of their social behavior. In both studies, several widely-held assumptions about the nature of older adults' lived experience—for example, that loneliness and boredom are commonplace—are belied by the findings.

SESSION 190 (SYMPOSIUM)

ACCESS TO SERVICES AMONG VULNERABLE ELDERLY: ADDRESSING SOCIAL, ECONOMIC, AND ENVIRONMENTAL BARRIERS

Chair: M.B. Ryvicker, *Visiting Nurse Service of NY, New York, New York*

Co-Chair: K. Ornstein, *Mount Sinai Hospital, New York City, New York*

Discussant: C.M. Murtaugh, *Visiting Nurse Service of NY*

The ability of older adults to access and effectively navigate health and social services may depend on a myriad of factors. Physical disability and mobility issues, social support availability, home and neighborhood environments, access to transportation, and provider factors all form the landscape in which a person navigates and accesses services. This symposium will synthesize recent research that explores a range of social, economic, and environmental barriers to older adults' access to services, identifies unmet service needs that may be linked to these barriers, and examines different approaches to overcoming these barriers in vulnerable populations. The first paper examines the epidemiology of homebound status, focusing on socioeconomic factors, using data from the National Health and Aging Trends Study (NHATS), a nationally representative longitudinal survey of older adults in the United States. The second presentation uses the NHATS to examine demographic, clinical, and functional variations in types of transportation used to get to medical appointments. The third paper describes a pilot study of an in-home assessment tool to identify necessary

home improvements to overcome environmental barriers for homebound older adults. The fourth presentation describes a community-based initiative to identify neighborhood problems and barriers faced by older adults in accessing services. This collection of papers draws on multiple disciplines, including nursing, geriatrics, epidemiology, and the social sciences. The discussion will explore policy and practice implications of a multi-dimensional perspective on access and navigation barriers among vulnerable elders at high risk of unmet needs and poor health-related quality of life.

HOW DO ECONOMIC FACTORS DRIVE HOMEBOUND STATUS?

K. Ornstein, T. Soones, A. Siu, *Icahn School of Medicine at Mount Sinai, New York, New York*

There is a large and growing population of individuals with serious illness living in the community who are poor, homebound, and heavily reliant on caregiver support. Individuals of middle-income who do not qualify for Medicaid and lack the financial cushion of those with greater wealth may be especially vulnerable to becoming homebound. Using data from the National Health and Aging Trends Study, a nationally representative sample of Medicare beneficiaries, we prospectively examine the association between homebound status, caregiving and income. Among community-dwelling non-homebound individuals, those in the highest income brackets are least likely to become homebound or to be in nursing homes over 2 years of follow-up. This work demonstrates the role of economic factors on residence and quality of life and suggests that we need to expand policy initiatives to better serve those income groups most vulnerable to the costs related to living in the community with serious illness.

TRANSPORTATION TO MEDICAL APPOINTMENTS AMONG VULNERABLE ELDER

M.B. Ryvicker¹, K. Ornstein², 1. *Visiting Nurse Service of New York, New York, New York*, 2. *Icahn School of Medicine at Mount Sinai, New York, New York*

Prior research on chronically ill elders has identified substantial subpopulations with unmet needs for outpatient care, even in urban areas fairly saturated with providers. This raises questions about barriers to effective healthcare navigation among vulnerable elders. We examined demographic, clinical, and functional variations in types of transportation used to get to medical appointments. Using data from the National Health and Aging Trends Study, we found that whites were more likely to drive themselves to the doctor (59%), compared to Blacks (42%) and Hispanics (35%). Nonwhites and those with lower education levels relied more heavily on rides from others, shuttles for seniors and public transit. Individuals who relied on rides or other forms of transit within the past year were 50% more likely to visit the ED in the subsequent year, controlling for selected characteristics. Further work is needed to expand transportation options for underserved elders to promote effective healthcare navigation.

A PILOT STUDY ASSESSING IN-HOME ACTIVITY PERFORMANCE AMONG VULNERABLE OLDER ADULTS IN NEW YORK CITY

D. Russell¹, S.L. Szanton², J.L. Feinberg¹, K.H. Bowles¹, 1. *Visiting Nurse Service of New York, New York, New York*,

2. *Johns Hopkins University School of Nursing, New York, New York*

Decreased physical function is a common modifiable risk factor for nursing home admission and increases odds of hospital readmission by 320%. Nearly half of older adults leave the hospital with new difficulty completing activities of daily living, with many adults homebound. A challenging home environment can lead to further functional decline. This presentation will discuss findings from the In-Home Occupational Performance Evaluation (I-HOPE), a measure of in-home activity performance, to identify environmental barriers homebound patients face and identify needed home improvements. It will also include findings from interviews with building staff regarding facilitators and barriers to making needed home improvements. This work will enhance understanding of the functional and home modification needs among a population of vulnerable older adults. This pilot can serve as a catalyst for new models to mitigate environmental barriers and improve functional status for homebound patients, thus improving access to services.

A COMMUNITY-BASED INITIATIVE TO IDENTIFY AND ADDRESS BARRIERS IN OLDER ADULTS' ACCESS TO SERVICES

M. Oberlink, *Visiting Nurse Service of New York, New York, New York*

Older adults living in low-income communities often have difficulties accessing services in their own neighborhoods because: they lack knowledge about what services are available or the services simply don't exist; they lack reliable transportation to access the services or are unaware about transportation alternatives that might be available in their community; or they are fearful of leaving their homes in high-crime areas. The AdvantAge Initiative is a project that has conducted surveys and focus groups with thousands of older adults across the country asking them to identify neighborhood problems and barriers to navigating their communities and accessing services. Findings are communicated to stakeholders who use this information to plan strategies to remove barriers and make their communities more aging-friendly. We will discuss access and navigation barriers—such as misperceptions about services and inconveniently located services—and how communities have addressed these barriers.

SESSION 195 (SYMPOSIUM)

THE SAME OR DIFFERENT? UNDERSTANDING AGEING WELL AND THE TRANSNATIONAL MIGRANT LIFE COURSE

Chair: C. Victor, *Brunel University-London, United Kingdom*

Discussant: S. Torres, *Uppsala University, Uppsala, Sweden*

The 'healthy migrant' effect consistently demonstrates that those who migrate across international borders have lower rates of mortality and morbidity than the destination country, although we do not know if this holds for measures of wellbeing. Do older people with a transnational migratory life course demonstrate better wellbeing outcomes than their peers in their countries of origin

and destination and how do outcomes vary between different migratory pathways? We use 3 domains of wellbeing: loneliness, subjective health status/disability and life satisfaction/quality of life to explore the impact of a life course that involved transnational migration on 'ageing well'. Comparing migrant and non-migrant Turkish families Baykara-Krumme and Fokkema show that family cohesion is stronger in non-transnational migrant families. Klok and colleagues demonstrate how a sense of belonging to either ones 'own group' or the larger society in the country of settlement protects against loneliness but transnational belonging does not. Klokgieters explores whether factors of social participation, religious coping and motivation to migrate help maintain high levels of wellbeing in a context of migration stress among Turkish and Moroccan migrants. Victor and Burholt demonstrate heterogeneity across wellbeing outcomes according to migratory pathway. Those who left India demonstrate wellbeing outcomes comparable with their peers in both country of origin and destination whilst those from China fare worse than either. We conclude by synthesizing variations in 'ageing well' within and between those with migratory life courses, how these compare with peers in countries of destination and origin, and propose an agenda for further research.

THE IMPACT OF MIGRATION ON FAMILY SOLIDARITY TYPES

H. Baykara-Krumme¹, T. Fokkema², 1. *University Duisburg-Essen, Duisberg, Germany*, 2. *Netherlands Interdisciplinary Demographic Institute, The Hague, Netherlands*

This paper aims to expand knowledge on the effects of international migration on parent-adult child relationships. We develop a typology of families, include non-migrant families in the country of origin for comparison, and consider transnational families. Analyses are based on the Turkish 2000 Families Study, using information on adult non-coresident children about their relationships with their parents. Latent class analysis shows four family solidarity types whose prevalence differ across the migrant groups. The proportion of the full-solidarity type is larger and that of the autonomous family type is smaller in first- and second-generation migrant families than in stayer families in Turkey. In transnational families there is less full solidarity and autonomous relationships are more common. All migrant groups display less advice-oriented and more material-oriented support relationships. These results indicate stronger family cohesion in non-transnational migrant families and few changes across migrant generations. Observed differences are not due to composition effects.

LONELINESS AND SENSE OF BELONGING AMONG OLDER TURKISH AND MOROCCAN MIGRANTS TO THE NETHERLANDS

J. Klok, T. Van Tilburg, B. Suanet, M. Huisman, *Vrije Universiteit Amsterdam, Amsterdam, Netherlands*

We examine how sense of belonging functions as a protective mechanism against loneliness. Drawing on Berry's work (1980) on acculturation strategies (i.e. integration, assimilation, separation and marginalization), we expect that more belonging contributes to less loneliness. We add a transnational belonging perspective and argue that this

could also function as a protection against loneliness, as it acknowledges the importance of place attachment. Using LASA data on older migrants aged 55–66, we distinguish Berry's acculturation strategies in our sample. Whether transnational belonging is a separate dimension of belonging, remains unclear. Regression analysis shows that the marginalized are lonelier than those with a stronger sense of belonging but that transnational belonging contributes to greater loneliness not less. We conclude that a transnational sense of belonging among older migrants needs to be explored further. We will do so qualitatively and try to expose the mechanisms through which a transnational belonging is lived.

RELIGIOUS COPING, SOCIAL PARTICIPATION, AND MOTIVATION TO MIGRATE AND THE WELL-BEING OF OLDER MIGRANTS

S. Klokgieters, T. Van Tilburg, D.J. Deeg, M. Huisman, *Vrije Universiteit Amsterdam, Amsterdam, Netherlands*

Stress resulting from the experience of migration is an important risk factor for a low level of wellbeing in older immigrants. Especially with regards to labour immigrants, studies show that they experience a number of stressors throughout their life course, including feelings of loss, and language barriers. However, not all immigrants experience these stresses in similar magnitude. Furthermore, some immigrants may possess resources that help them deal with the stresses associated with the experience of migration. This study examines the buffering resources that may help some immigrants overcome migration stress and maintain high levels of wellbeing while others succumb to these stressors. Data were collected from 255 Turkish and 199 Moroccan respondents in the context of the Longitudinal Aging Study Amsterdam. Linear regression analyses demonstrated that while migration stress is negatively associated with wellbeing, religious coping, motivations to migrate and active participation in organizations do not moderate this relationship.

AGEING WELL: A COMPARATIVE STUDY OF INDIAN AND CHINESE MIGRANTS TO ENGLAND AND WALES

C. Victor¹, V. Burholt², 1. *Brunel University-London, London, United Kingdom*, 2. *Swansea University, Swansea, United Kingdom*

Are older migrants from India and China to the UK ageing better than their peers in the host community or country of origin? We examine 3 dimensions of wellbeing: quality of life, loneliness and self-rated health using data from a survey of older people from minority communities and using the English Longitudinal Study of Ageing and the Indian and Chinese Longitudinal Studies of Ageing for comparison. Our sample of Indian (N=164) and Chinese (N=117) migrants did not present a consistent pattern in levels of wellbeing compared with their peers in their country of origin or majority community. Indian migrants reported loneliness prevalence of 10% in all 3 groups; life satisfaction and health rating were comparable with the majority community but higher than country of origin. Chinese migrants reported higher levels of loneliness and lower levels of self-rated health than their peers in either comparator group.

SESSION 200 (SYMPOSIUM)

IMPLEMENTING COMMUNITY-BASED FALLS PREVENTION RESEARCH INTO PRACTICE: INTERNATIONAL PERSPECTIVES

Chair: C. Meyer, *Royal District Nursing Service Institute, St Kilda, Victoria, Australia*

Co-Chair: K.D. Hill, *Curtin University, Perth, Western Australia, Australia*

Strong evidence exists for falls prevention interventions in community-dwelling older people; yet, the rate of falls, hospitalization rates and injury rates resulting from a fall across the globe are not declining. One in three community-dwelling older people experience a fall within a given year, with this rate increasing substantially for particular clinical groups such as people with dementia (60–80%). Adherence to falls prevention strategies is problematic, being cited as related to lack of personal relevance and appropriate advice; thus, uptake and participation in falls prevention activities is challenging. This symposium draws on international experts to highlight and discuss the issues facing falls prevention practitioners, particularly related to implementing falls prevention evidence into policy and practice.

AUSTRALIAN EXPERIENCES IN SUPPORTING FALLS PREVENTION POLICY TO PRACTICE THROUGH PARTNERSHIPS

K.D. Hill, *Curtin University, Perth, Western Australia, Australia*

This presentation will discuss two approaches in Australian states aiming to support improved falls prevention outcomes. The first approach involved a partnership between the Victorian State Government Department of Health, researchers and practitioners in falls prevention. This four year initiative involved (1) using State hospitalization to inform targeting of falls prevention initiatives, (2) surveying older people relating to preferences/intention/participation in falls prevention activities, (3) reviewing Government departments for gaps/overlap in falls prevention activities, and (4) development of sustainability guidelines to support falls prevention initiatives optimize longer term sustainability.

The second activity involved the development and implementation in Western Australia of a falls prevention Model of Care, providing a framework within the health and care system to support improved falls prevention activity uptake, coordination and outcomes. Broader implications of these approaches will be discussed.

LESSONS LEARNED FROM U.S. INJURY PREVENTION INITIATIVES: IMPLICATIONS FOR INTERNATIONAL EFFORTS

M.G. Ory¹, M. Smith¹, T.E. Shubert², 1. *University of Georgia, Athens, Georgia*, 2. *University of Northern Carolina, Chapel Hill, North Carolina*

As a national leader in falls prevention, the US Centers for Disease Control and Prevention has funded several state-wide initiatives to examine the impact of multi-level approaches to falls prevention for older adults. A 5-year evaluation conducted by Texas A&M and its partners at

the University of Georgia and University of North Carolina has tested the scalability and sustainability of group based community-based programs, home-based individualized programs, and clinical practice changes for increased screening and referral for those with falls risk. Findings from surveys and objective functional assessments demonstrate the success of interventions such as Stepping on and Tai-CHI as well as the American adaptation of Otago in terms of improvements in fall-related functional abilities and mobility. There has also been a growing appreciation of clinic-based approaches and the importance of enhancing linkages to community programs. This presentation will highlight lessons learned and implications for international efforts in falls prevention.

IMPLEMENTING FALLS PREVENTION IN MALAYSIA

M. Tan, *University of Malaya, Kuala Lumpur, Malaysia*

Only 8% of the Malaysian population is aged over 60 years, but this will increase to 15% of by 2025. Malaysia's healthcare system is, however, heavily burdened with ongoing infectious diseases and the rising epidemic of non-communicable diseases. Emerging age-related conditions has, therefore, been given little attention. The burden of falls is already taking its toll, with overcrowded hospitals and oversubscribed care home places. The public receive falls education through one-off articles or talk shows by the media and public awareness sessions organised by non-profit agencies. Regular group exercise programmes organized by non-governmental organizations and individuals are in existence. These are occasionally supported by local government grants. New private sector initiatives are now emerging for secondary falls prevention. Our recently completed randomized-controlled trial evaluating a hospital-based multifaceted intervention programme found that compliance to strength and balance exercises was high. Multi-agency working is now urgently required to address this emerging issue.

COMMUNITY-ENGAGED AND POLICY RELEVANT FALLS PREVENTION RESEARCH IN CANADA AND INDIA

S. Johnson, *University of Regina, Regina, Saskatchewan, Canada*

Falls among seniors are a global issue. While it has been estimated that 70% of the world's older adults are and will be in low and middle income countries (LMIC), most of the research in the area of falls emerge from high income countries (HIC). This presentation will highlight two examples from community-based falls research projects in Canada (intervention study) and in India (epidemiological study). The Canadian example will highlight an integrated partnership which enabled a falls prevention intervention to be embedded within the health system infrastructure to reach older home care clients. The Indian example will highlight the data gaps and an epidemiological study on functional capacity and falls in seniors. The implications of these two examples for the implementation of research into practice and policy, uptake among seniors, sustainability of intervention after the research phase, and scope for global engagement and partnership for translational research will be discussed.

ACTION RESEARCH TO UNDERSTAND FALLS PREVENTION FOR PEOPLE WITH DEMENTIA

C. Meyer^{1,2}, K.D. Hill³, S. Hill², B. Dow⁴, 1. *Royal District Nursing Service Institute, St Kilda, Victoria, Australia*, 2. *LaTrobe University, Bundoora, Victoria, Australia*, 3. *Curtin University, Perth, Western Australia, Australia*, 4. *National Ageing Research Institute, Parkville, Victoria, Australia*

The final presentation addresses a specific population group – people with dementia. In the Australian community care sector care managers and assessment officers are responsible for assessing the needs of older people and co-ordinating service referrals, including for falls prevention; while direct care workers are responsible for day to day personal/domestic care. Health professionals are a source of advice and guidance, yet feel their knowledge and skills may be inadequate. While having differing roles, these workers are all responsible for implementing falls prevention strategies. This paper examines knowledge of falls prevention for people with dementia; and of barriers and opportunities of translating this knowledge into practice. Action research sessions were utilized and thematic analysis undertaken. This study has implications for falls prevention in community-dwelling people with dementia, highlighting limited understanding of evidence-based strategies and broad health system constraints, but small incremental changes impact older people for preventing falls.

SESSION 205 (SYMPOSIUM)

INSIGHTS GAINED FROM THE DEVELOPMENT OF COMMUNITY PARAMEDICINE PROGRAMS IN CANADA

Chair: S. Sinha, *Mt Sinai Hospital, Toronto, Ontario, Canada*

Co-Chair: N. Foster, *Mt Sinai Hospital, Toronto, Ontario, Canada*

Older adults are the highest users of paramedical and ambulance services. These older adults typically struggle with polymorbidity, functional impairments, and social frailty. Most calls received by paramedics from older adults are neither time-sensitive nor immediately life-threatening. Paramedics are increasingly seeing older individuals in pre-crisis situations who need more support to help them age in place.

The need to work differently to meet the needs of older adults has given strength to the community paramedicine movement across Ontario. In 2014, Ontario's Ministry of Health invested \$6 million to support the development of 30 community paramedicine demonstration projects that allow paramedics to fill unique care gaps, and better integrate care for older patients.

Our proposed symposium will highlight insights gained from the community paramedicine demonstration projects through four talks: 1) "First-Year Outcomes of the MOHLTC Funded Community Paramedicine Demonstration Projects" by Dr. Samir Sinha, 2) "Establishing the Effectiveness of the Independence at Home Community Paramedicine Model", by Ms. Nicoda Foster, 3) "Lessons Learned from Renfrew County's Community Paramedic Response Unit Program" by Mr. Michael Nolan and 4) "Evaluating the Effectiveness

of Community Referrals by Emergency Medical Services" by Dr. Amol Verma.

The goal of our symposium is to enhance the awareness of attendees of community paramedicine, the diverse models of care it can represent and their ability to positively impact patients and providers and the health systems. The symposium will conclude with an interactive discussion exploring the facilitators and barriers to the implementation of effective community care models for the elderly.

FIRST-YEAR OUTCOMES OF THE MOHLTC-FUNDED COMMUNITY PARAMEDICINE DEMONSTRATION PROJECTS

S. Sinha^{1,3}, M. Nolan², N. Foster³, 1. *University of Toronto, Toronto, Ontario, Canada*, 2. *County of Renfrew Paramedic Services, Toronto, Ontario, Canada*, 3. *Sinai Health System, Toronto, Ontario, Canada*

In 2014, Ontario's Ministry of Health and Long-Term Care (MOHLTC) invested \$6 million to support the development of 30 Community Paramedicine (CP) Demonstration Projects across the province. This investment supported the development of a variety of locally driven models that could allow paramedics to fill unique care gaps, and better integrate care for vulnerable patients in their communities. The 30 funded projects focused on activities related to conducting assessments and referrals, preventative home visits and Wellness Clinics. In the first 15 months, a total of 19,077 patients were enrolled across the 30 projects that engaged 1865 paramedics and 381 local primary, home and community care providers. Community paramedics completed 32,807 assessments and achieved a 14% overall decrease in the volume of 911 calls from patients enrolled more than six-months in a program. Therefore, community paramedicine activities have the potential to improve patient and system outcomes.

ESTABLISHING THE EFFECTIVENESS OF THE INDEPENDENCE AT HOME COMMUNITY PARAMEDICINE MODEL

S. Sinha^{1,2}, A. Thurston³, J. Klich³, N. Foster², 1. *University of Toronto, Toronto, Ontario, Canada*, 2. *Sinai Health System, Toronto, Ontario, Canada*, 3. *Toronto Paramedic Services, Toronto, Ontario, Canada*

Older adults are the highest users of paramedical services. To improve care integration, the Independence at Home initiative (IAH) was launched to broaden the scope of practice of paramedics to provide proactive home visits for low-income older adults who were high-users of 911 services (i.e. ≥ 5 911 calls 6-months). During the first-year, 908 primary and follow-up visits were conducted with 588 patients where paramedics conducted holistic assessments to ascertain unmet health and social care needs. Outcomes for 111 clients enrolled over a 3-month period for whom 6-months pre and post follow-up data was available showed that pre enrolment this group made 301 911 calls (17% from 10 high-users) resulting in 246 (82%) ED visits. Six-months following the visit there were 154 911 calls (19% from six high-users) resulting in 103 (67%) ED visits. Overall, this program reduced 911 calls by 41% and ED transports by 42% six-months after enrolment.

LESSONS LEARNED FROM RENFREW COUNTY'S COMMUNITY PARAMEDIC RESPONSE UNIT PROGRAM

M. Nolan¹, S. Sinha^{2,3}, 1. *The County of Renfrew Paramedic Service, Pembroke, Ontario, Canada*, 2. *University of Toronto, Toronto, Ontario, Canada*, 3. *Sinai Health System, Toronto, Ontario, Canada*

The County of Renfrew Community Paramedic Response Unit (CPRU) program was designed to improve emergency response times, promote prevention activities and support older adults living in the community. Community Paramedics focus on preventative measures to support clients live independently. In 2015, 222 patients were enrolled in CPRU and received a total of 1186 home visits and 2874 assessments from community paramedics. An evaluation of the CPRU demonstrated following the first year of implementation demonstrated that all enrolled patients remained independent and were still living in their own home. Further, clients had a 35% decrease in hospital admissions one-year after being enrolled in the program. This same cohort experienced an 83% reduction in total hospital readmission rates 30, 60 and 90 days after receiving a visit from the paramedic.

EVALUATING THE EFFECTIVENESS OF COMMUNITY REFERRALS BY EMERGENCY MEDICAL SERVICES

A. Verma¹, J. Klich², A. Thurston², J. Scantlebury¹, A. Kiss³, G. Seddon⁴, S. Sinha^{1,5}, 1. *University of Toronto, Toronto, Ontario, Canada*, 2. *Toronto Paramedic Services, Toronto, Ontario, Canada*, 3. *Institute of Clinical Evaluative Sciences, Toronto, Ontario, Canada*, 4. *Toronto Central Community Care Access Centre, Toronto, Ontario, Canada*, 5. *Sinai Health System, Toronto, Ontario, Canada*

Beginning in 2006, Toronto Emergency Medical Services (EMS) developed the Community Referrals by EMS (CREMS) program in which paramedics directly refer patients for home care and community support services such as meals on wheels. This retrospective cohort study assessed the utilization of home and community support services and EMS services among individuals who received CREMS referral in Toronto, Canada in 2011 and 2012. In all, 2,382 individuals received CREMS referral, with a mean age of 79.0 years (SD 13.6). In the 6 months after CREMS referral, there was an adjusted increase of 17.4 hours of support services per person (95% CI: 1.74, 33.09, $p=0.03$) and an adjusted reduction in calls to EMS by 0.19 fewer mean calls per person (95% CI -0.31, -0.06, $p=0.004$). The CREMS Program may represent a simple and effective way to address unmet needs for community-dwelling elders.

SESSION 210 (SYMPOSIUM)

FOOD INSECURITY IN MEXICAN OLDER ADULTS AND ITS IMPACT IN GERIATRIC CONDITIONS

Chair: R. Castrejn-Prez, *Instituto Nacional de Geriatria, Mexico, DF, Mexico*

Co-Chair: M.U. Perez-Zepeda, *Instituto Nacional de Geriatria, Mexico, DF, Mexico*

Discussant: M. Cesari, *Université de Toulouse III Paul Sabatier, Toulouse, France*

Aged population imposes new challenges for individuals, health systems and society as a whole. A reality that can

overtake Mexico and other countries with low and middle income is the simultaneous existence of additional blocks of priorities such as unequal social development, poverty, hunger, low levels of education, infectious diseases so that aging can be marginalized as a priority. Malnutrition and its both sides, undernutrition and obesity remains as a serious issue in several world regions. Food insecurity (FI) is understood as the access to sufficient, safe and nutritious food that meets the dietary needs and food preferences of people at all times, and under all conditions (physical, social and economic). FI may promote malnutrition which has been recognized as important for developing children, as well as to the health of older adults. It is known that undernutrition is a common problem of older adults. Mexico face the dilemma of a double burden of health-related problems, along with the continuously growing group of older adults there are still unresolved issues of poverty such as the availability of food for the population. Because of these, it is relevant to generate new information on how food insecurity may have a deleterious effect on aging. In this symposium, two common problems for the geriatric population will be covered in order to describe its association with food security: frailty and sarcopenia. Presented results could be used in order to design tailored programs to those older adults in risk for food insecurity.

FOOD INSECURITY AND FRAILTY: A SECONDARY ANALYSIS OF THE MEXICAN HEALTH AND NUTRITION SURVEY 2012

C. Garcia-Pena, M.U. Perez-Zepeda, *Geriatric Epidemiology Research, Instituto Nacional de Geriatria, Mexico, DF, Mexico*

Objectives: To determine the association between food insecurity and frailty in older adults of a middle-income country. **Methods:** Cross-sectional analysis of a representative nation-wide survey on health and nutrition. Descriptive analyses of food insecurity and frailty, and multivariate regressions were performed. **Results:** From a total of 7,108 60-year or older adults with a mean age of 70.7 a 54.7% were women. Food security categories were: 26.3% food security, 40.3% mild food insecurity, 20.5% moderate food insecurity and 12.9% severe food insecurity. Food insecurity categories were associated with frailty, being the severe category the highest coefficient of 0.465 (95% CI 0.387–0.542) after adjustment for confounding. **Conclusions:** Food insecurity may play a major role in aging by its association with frailty, which is in turn a condition that render the older adult in a higher risk to develop adverse outcomes.

FOOD INSECURITY AND ITS ASSOCIATION WITH SARCOPENIA ELEMENTS

M.U. Perez-Zepeda, *Geriatric Epidemiology Research, Instituto Nacional de Geriatria, Mexico, DF, Mexico*

Objectives: To describe the association between sarcopenia elements and food insecurity in a group of community-dwelling older adults. **Methods:** Cross-sectional analysis of 60-year or older community-dwelling adults from Mexico City. Food insecurity was measured by the ELCSA survey, and considered components of sarcopenia were: muscle mass, gait speed and handgrip strength. **Results:** From a total of 168 older adults with a mean of age of

76.7 (SD 10.1) and 76.8% were women, 22.9% had food insecurity. Appendicular muscle mass had a mean of 6.3kg (SD 1.08), gait speed of 0.87m/s (SD 0.27) and handgrip strength of 15.4 (SD 8.43). A multiple linear regression was performed for each of the variables of sarcopenia, adjusted for age, sex and comorbidity; only appendicular muscle mass had a marginal significance (-0.35 [95% CI -0.75 to 0.03], $p=0.078$). **Conclusions:** According to our data, there is a lack of association between sarcopenia and food insecurity.

SESSION 215 (PAPER)

ISSUES AFFECTING ACUTE HOSPITALIZATION OF OLDER ADULTS

THE IMPACT OF MULTIMORBIDITY, RACE, AND GENDER ON OUTCOMES AFTER ACUTE HOSPITALIZATION IN NHATS

O. Sheehan¹, H. Amjad¹, J. Huang¹, C. Boyd¹, J. Prvu Bettger², D.L. Roth¹, 1. *Johns Hopkins University School of Medicine, Baltimore, Maryland*, 2. *Duke University, Durham, North Carolina*

Many disparities exist in access and quality of health-care among minority populations. The National Health and Aging Trends Study (NHATS) is a nationally representative and racially diverse sample of 8245 older Americans receiving federal Medicare health insurance. We linked the survey with administrative claims data to investigate potential disparities in outcomes (discharge destination, mortality and Emergency Department (ED) visits) after acute hospitalization. We also examined whether the impact of multimorbidity on outcomes differed by race or gender groups.

Of the 7609 community dwelling older adults in NHATS, 1842 were hospitalized at least once in the 2 years after baseline interview and 1584 had continuous fee for service Medicare insurance coverage. Over half of the population ($n=929$, 57.3%) had 4 or more chronic conditions. The presence of ≥ 4 chronic conditions was strongly associated with repeat hospitalizations (odd ratio (OR) 1.78; 95% confidence interval (CI) 1.48 - 2.14), ED visits (OR 1.84; CI 1.38 - 2.46) and mortality 1 year after hospitalization (OR 1.46; CI 1.06 - 2.01).

Race and gender effects were identified in outcomes including discharge destination with men less likely than women to be discharged to a Skilled Nursing Facility or rehabilitation hospital and Blacks and Hispanics more likely than Whites to receive skilled Home Health Care. The effect of multimorbidity, however, remained consistent across race and gender groups. NHATS provides a unique opportunity to study the complex relationship between multimorbidity, disparities and acute medical events and allows us to better understand where interventions should be targeted.

RE-ENGINEERING ON-DEMAND CARE IN SENIOR LIVING AND HOME HEALTH

K. Riddleberger, M. Prather, *DispatchHealth, Denver, Colorado*

In 2013, DispatchHealth was founded by clinical leaders who saw a need to decrease the number of lower acuity

emergency room and 911 visits. DispatchHealth is a Denver, CO based healthcare company that provides mobile, onsite medical assessment and treatment for patients with acute care needs. Our model provides a high tech, low cost care delivery option that extends the capabilities of the patient's care team. The vehicles are staffed by board-certified Emergency Medicine clinicians, equipped with advanced treatment capabilities, and connectivity to the health information exchange that allows for state-of-the art care in the convenience of the home, office or senior care facility. Our goal is to provide patients quality, convenient care in their time of need with the goal of breaking the cycle of acute care and returning that patient to their primary care provider.

DispatchHealth was created with the Triple Aim in mind. To date, we have saved over \$2 million dollars in acute care delivery costs. Our average cost for a visit is \$250 and the average cost for an emergency room visit is \$2400. We track the savings related to ER diversion for all of our patients. Patients that have bounced back to the ER within 30 days for the same complaint are removed from our savings calculation and therefore, negatively affect the overall savings number.

IDENTIFYING COMPLEX HIGH NEEDS PATIENT POPULATIONS FOR PERFORMANCE MEASUREMENT STRATIFICATION

M. Henry, D. Roman, D. Bardach, J. Puhek, B. Rehm, M. Barton, P. Lighter, *NCQA, Washington, District of Columbia*

Performance measurement targeting the needs of vulnerable patient populations, including older adults and adults with disabilities, requires a strategy for identifying patients with complex needs. Using cost and utilization as a proxy for complex needs, we evaluated a data set representing 2.4 million Medicare Advantage enrollees for the years 2012–2013. Using established value sets of ICD codes used in HEDIS® to define 17 common chronic conditions, we identified six conditions associated with the highest rates of emergency department use, in-patient admissions and readmissions, per patient cost, and physician visits. We also evaluated the relationship between these variables and number of chronic conditions. We found that psychotic disorders, substance abuse, pulmonary conditions (excluding asthma), heart failure, stroke, and major neuromuscular disease were associated with the highest cost and utilization. Patients with one or more of these conditions comprised 16% of the population. When compared to the rest of the population, these patients accounted for 3.5 times the ED visits, 7.2 times the in-patient admissions, and 3.9 times the cost. Results were similar for 17% of patients with three or more of the seventeen conditions considered. When compared to the rest of the population, these patients had 3.7 times the number of ED visits, 8.3 times the number of in-patient admissions, and 3.9 times the cost when compared to patients without one of the conditions. We concluded that the presence of high burden conditions or multiple chronic conditions can be used to identify a population of patients associated with high cost and utilization variables for the purposes of measurement.

EFFECTIVENESS OF AN INTERVENTIONAL PROGRAM TO REDUCE RE-ADMISSION RATES ACUTE CARE OF THE ELDERLY

M. Schapira, M.B. Outumuro, F. Giber, C. Pino, M. Mattiussi, G. Perman, M. Montero Odasso, L. Garfi, *Hospital Italiano de Buenos Aires, Buenos Aires, Argentina*

Care for older adults in hospitals requires to combine comprehensive and multidisciplinary approach to both, their health and social status. Acute diseases and inadequate management and complications in the period of transition from the hospital to the home, often causes the onset of disability or its aggravation. Transitional care model provides the possibility of continuity of care, to improve communication of the treating team with the patient and family and make more efficient plan of care implementation.

Objectives: To assess whether comprehensive, multidisciplinary intervention would reduce the re-hospitalization within 30 days, emergency consultations and mortality within 6 months.

Material and Methods: randomized single blinded controlled clinical trial. Two hundred forty participants were randomly allocated in two arms: usual care and intervention. Population: Older adults aged 75 years or more, which were discharged from one internal medicine ward.

The team is coordinated by a geriatrician who acts as case manager. The general functions of the multidisciplinary team are management protocols to reduce risk of falls, delirium and immobility, adequacy of treatment and care, family support, early discharge planning and joint monitoring post hospital discharge.

Results: The 30 days re-hospitalization rate was 35% in the control group and 18.3% in the intervention group ($p = 0.003$). Emergency consultations within 6 months were 60% in the control group and 43.3% in the intervention group ($p = 0.009$). Mortality rate decreased in the intervention group although was not statistical significant.

Conclusions: The co-management of elderly vulnerable patients in internal medicine with geriatricians, assisted by a multidisciplinary team proved to reduce hospitalizations and emergency visits during the 6 months follow up.

ARTIFICIAL INTELLIGENCE AND PREDICTION OF PROLONGED LENGTH OF HOSPITAL STAY AMONG OLDER ADULTS

C. Launay¹, H. Rivière³, G. Duval³, O. Beauchet², C. Annweiler³, 1. *CHUV Lausanne, Lausanne, Switzerland*, 2. *Mc Gill University, Montréal, Quebec, Canada*, 3. *CHU Angers, Angers, France*

Background. With the rapid growth of elderly patients visiting the Emergency Department (ED), it is expected that there will be even more hospitalisations following ED visits in the future. The aim of this study was to examine the age effect on the performance criteria of the 10-item brief geriatric assessment (BGA) for the prolonged length of hospital stay (LHS) using artificial neural networks (ANNs) analysis.

Methods: Based on an observational prospective cohort study, 1117 older patients (i.e., aged >65years) ED visitors hospitalized in acute care wards in a University Hospital (France) were recruited. The 10-items of BGA were recorded during the ED visit and prior to discharge to acute care

wards. The top third of LHS (i.e., >13 days) defined the prolonged LHS. Analysis was successively performed on participants categorized in 4 age groups: aged >70, >75, >80 and >85 years. Performance criteria of 10-item BGA for the prolonged LHS were sensitivity, specificity, positive predictive value [PPV], negative predictive value [NPV], likelihood ratios [LR], area under receiver operating characteristic curve [AUROC]). The ANNs analysis method was conducted using the modified multilayer perceptron (MLP).

Results. Values of criteria performance were high (sensitivity>89%, specificity>96%, PPV>87%, NPV>96%, LR+>22; LR-<0.1 and AUROC>93), regardless of the age group.

Conclusions. Age effect on the performance criteria of the 10-item BGA for the prediction of prolonged LHS using MLP was minimal with a good balance between criteria, suggesting that this tool may be used as a screening as well as a predictive tool for prolonged LHS.

SESSION 220 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: LONG-TERM OUTCOMES OF MILITARY SERVICE ON AGING: INTERNATIONAL PERSPECTIVES

Co-Chair: C.M. Aldwin, *Oregon State University, Corvallis, Oregon*

Discussant: R.A. Settersten, *Oregon State University*

Many studies of aging have been conducted on samples that include WWII and Korea-era veterans; thus, military service a “hidden variable” in aging research. The impact of service on later life development and aging is poorly understood, yet its effects are often broad and long-ranging, and can alter lives in positive as well as negative ways. This symposium considers the long-term effects of military service on health and well-being of veterans who served in the armed forces. Presenters are from several nations (Israel, Canada, Vietnam, Korea, and United States), and use a lifespan/life course perspective to examine the impact of service on later-life outcomes in veterans from various conflicts. Solomon and colleagues examine long-term effects of being a POW among Israeli veterans. Pedlar examines changes in Canadian veterans after service, and compares them to non-veterans. Korinek examines older Vietnamese war survivors, and the impact of wartime exposure on intergenerational relations. Kang and colleagues provide a lifespan examination of the long-term effects of combat exposure in Korean Vietnam War Veterans, while Lee and colleagues examine possible pathways for positive outcomes of combat exposure among US veterans from WWII and Korea. Dr. Settersten will be our discussant, focusing on common themes among studies, and the implications of military service for changing lives across countries.

PREMATURE AGING AMONG FORMER PRISONERS OF WAR: RESULTS OF A THREE DECADE LONGITUDINAL STUDY

Z. Solomon^{1,2}, S. Avidor^{1,2}, A. Ohry³, 1. *I-Core Research Center for Mass Trauma, Tel Aviv, Israel*, 2. *Tel Aviv University, School of Social Work, Tel Aviv, Israel*, 3. *Tel Aviv University, Sackler Faculty of Medicine, Tel Aviv, Israel*

Research suggests that trauma experienced at an earlier stage of life may be implicated in premature or accelerated

aging in later stages. Premature aging, in this respect, evinces in various domains, particularly in health impediments and mortality. The current study prospectively assessed the long term impact of war and war captivity on mortality, medical assessments of morbidity and self-rated health among Israeli combat veterans and former prisoners of war (POWs). Participants were evaluated at four points in time over three decades. Results revealed that war captivity was implicated in premature aging in all domains. Ex-POWs exhibited mortality rates four times higher than comparable veterans who were not held captive. Ex POWs' health outcomes were worse than those of controls when assessed both by medical professionals and via self-report measures. Differential post-traumatic stress disorder (PTSD) trajectories mediated the relationship between captivity and health. Theoretical and clinical implications will be discussed.

WELL-BEING IN THE LIFE AFTER SERVICE OF CANADIAN MILITARY VETERANS

D. Pedlar, *Veterans Affairs Canada, Charlottetown, Prince Edward Island, Canada*

This presentation reports on the well-being of Canadian military Veterans based on findings from three cycles (2010, 2013, 2016) of the large-scale population-based Life After Service program of research. A partnership between Veterans Affairs Canada, the Department of National Defense, and Statistics Canada, this national study uses cross sectional and longitudinal survey and data linkage methodologies to report on the well being of regular force and reserve Veterans across key domains of well-being (e.g., adjustment to civilian life, health, finances, employment, social integration). Compared to other Canadians, Veterans have higher levels of chronic mental and physical health conditions, much higher levels of functional impairment in the community and workplace, comparable levels of unemployment, higher levels of suicide, and are about half as likely to experience low income. Challenges facing Veterans in the transition to civilian life and links between military service and well being in later life will be discussed.

INTERGENERATIONAL RELATIONSHIPS IN FAMILIES INFLUENCED BY WAR: A STUDY OF VIETNAMESE WAR SURVIVORS

K. Korinek¹, B.P. Teerawichitchainan², 1. *Sociology, University of Utah, Salt Lake City, Utah*, 2. *School of Social Sciences, Singapore Management University, Singapore, Singapore*

Research conducted among U.S. veterans demonstrates that war exposure and PTSD can strain the very family relationships that lend support for post-conflict readjustment, but can also generate uniquely supportive service-based friendships. We need to better understand how military service and war exposure influence intergenerational relationships in less developed, post-conflict settings where war's violence has concentrated, and where family systems are central to old-age support. We contribute to scholarship on military service and older adult wellbeing by assessing structures and quality of family relationships among Vietnamese older adult war survivors, a population whose widely diverse war exposures has received scant scholarly attention. Our analyses of 405 older adults surveyed in the Vietnam Health and

Aging Study (2010), provide evidence to suggest that particularly stressful war exposures tend to visit lasting strain upon intergenerational relationships, especially in less-developed countries that have experienced war.

A LIFESPAN PERSPECTIVE ON COMBAT EXPOSURE AMONG KOREAN VIETNAM WAR VETERANS

S. Kang², H. Lee^{1,2}, S. Choun¹, C.M. Aldwin¹, A. Spiro^{3,4}, 1. *Oregon State University, Corvallis, Oregon*, 2. *Korea Military Academy, Seoul, Korea (the Republic of)*, 3. *Boston University Schools of Public Health and Medicine, Boston, Massachusetts*, 4. *VA Boston Health Care System, Boston, Massachusetts*

Although 320,000 South Korean army troops fought in the Vietnam War, few studies of Korean Vietnam War veterans exist. We used a lifespan developmental perspective to predict PTSD symptoms in later life among 450 male Korean Vietnam War veterans ($Mage = 66.98$, $SD = 3.04$). They completed mail surveys about prewar (prior stressors, childhood family environment), warzone (combat exposure, perceived control, unit cohesion, appraisals of military service), and postwar experiences (post-deployment stressors, social support, and PTSD symptoms). PTSD symptoms in later life were independently predicted by warzone (29.6%) and postwar factors (11.0%); some were protective (desirable appraisals and social support), but most were risk factors (combat exposure, unit cohesion, undesirable appraisals, and postdeployment stressors). While prewar variables accounted for 3.7% of the variance, they moderated the relationship between combat exposure and PTSD symptoms. The findings highlight the importance of a lifespan perspective on understanding the long-term impacts of combat exposure.

DOES COMBAT EXPOSURE HAVE POSITIVE LONG-TERM EFFECTS? FINDINGS FROM THE VA NORMATIVE AGING STUDY

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While research has documented long-term negative effects of combat exposure, we focused on possible long-term positive effects via positive appraisals of military service. We also assessed the effects of optimism and education using 1,006 male veterans from the VA Normative Aging Study surveyed in 1990 and 1991 ($Mage = 62$, $SD = 7$, $range = 44-89$). We assessed their combat exposure, desirable appraisals of and unit cohesion during military service, dispositional optimism, and psychological well-being. Structural equation models showed that combat exposure had direct effects on positive appraisals of military service and unit cohesion, even controlling for optimism, but only indirect effects on psychological well-being through the positive appraisals. While optimism also predicted well-being in late life, it did not moderate the effect of combat experience on positive appraisals but did mediate the effects of education. Thus, combat exposure had only indirect effects on psychological well-being in later life.

SESSION 225 (PAPER)

HEALTH CARE ISSUES AND POLICY

COMORBIDITY, DISABILITY, AND FRAILTY PROFILES AS DETERMINANTS OF HOSPITALIZATION AMONG OLDER ADULTS

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Population aging increases the need to better understand the determinants of hospitalization in order to improve the quality of services. However, usual health measures often prove to be poorly predictive of hospitalization. The aim of this research is to determine whether physiological health measures designed for older adults, namely the Short Physical Performance Battery (SPPB) (Guralnik et al., 1994), frailty phenotypes (Fried et al., 2001), and profiles of functional decline (Lunney et al., 2003), are better predictors of hospital use. We use longitudinal data from the International Mobility in Aging Study (IMIAS), carried out between 2012 and 2014 in four countries (Canada, Brazil, Colombia, Albania) among individuals aged 65–74 at baseline (n=1724). Differences between health systems provide additional insights into the determinants of hospitalization. Health profiles from 2012, besides other confounders, are used to explain hospitalization in 2014. SPPB scores are computed using objective measures of gait speed, chair-stands, and balance. Frailty phenotype variables are created according to Fried's classification into robust, pre-frail, and frail. Four profiles of functional decline are created: (1) terminal illness – cancer and at least one ADL disability; (2) organ failure – heart or lung disease and at least 2 ADL disabilities, (3) low reserve – stroke or more than 2 ADL disabilities, and (4) other respondents. Sample attrition is corrected by means of a Heckman selection Probit model. Our results indicate that a score below 8 on SPPB, the pre-frailty phenotype, and a profile of organ failure are significantly associated with hospitalization. Cross-country differences are discussed.

OBSTACLES TO DISCHARGING ELDERLY HOSPITAL PATIENTS IN THAILAND

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In Thailand, the current increase of chronic illnesses from non-communicable diseases poses limitations for both the patient and caregiver for continuing care at home. This study investigated the obstacles to discharging elderly patients in general hospitals under the Ministry of Public Health in Thailand. A multi-stage sampling technique was employed to obtain a sample of 1,186 patients who were waiting to be discharged from the hospital. Data were based upon interviews with patients and family caregivers. Of the patients who were interviewed, a quarter of them had returned to the hospital due to inadequate care at home and the large majority (90%) were elderly patients. Descriptive analyses indicated that there were some key obstacles to discharge.

The most common obstacles included: 24.5 % of patients reported that they did not have family members who could provide the necessary care and 11.5 % lacked necessary assistive devices at home.

ADVANCE CARE PLANNING CONVERSATIONS BY MD OR NP/PA YIELD SIMILAR LIFE-SUSTAINING TREATMENT CHOICES

E. Chen¹, C.T. Pu², J. Ragland², J. Schwartz², M. Fairbanks², J.E. Mutchler¹, 1. *University of Massachusetts, Boston, Massachusetts*, 2. *Partners HealthCare, Boston, Massachusetts*

Recent changes in Medicare payment policy authorized reimbursement to clinicians for conducting advance care planning conversations with seriously ill individuals. This study examined whether end-of-life care preferences differed when advanced practice clinicians (nurse practitioners or physician assistants) vs. physicians conducted advance care planning conversations.

Medical Orders for Life-Sustaining Treatment (MOLST) and electronic health records data were collected from 600 patients at 3 hospitals in Eastern Massachusetts. Aggressive care was defined as a preference for *All Treatment* compared to a preference to *Limit Any Treatment* on the MOLST. Logistic regression analyses estimated the odds for aggressive treatment taking into account patient age, sex, race/ethnicity, severity of illness (Charlson Score), patient vs. proxy decision-maker, and palliative vs. non-palliative care clinician.

Nearly one-half (48%) of the patients were under the care of advanced practice clinicians. Proxy decision-makers signed 43% of the MOLST forms. Overall, 1:3 (36%) patients or proxy decision-makers chose All Treatment. Mean Charlson Score was 8 (SD=3). Mean patient age was 71 (SD=15); 49% were male; and 83% were non-Hispanic White. Patients were evenly divided between palliative and non-palliative care settings.

A highly significant model accounting for 42% of the variation in the outcome (pseudo R²=0.421; p<0.001) showed no difference in the odds for preferring aggressive life-sustaining treatments between patients under the care of advanced practice clinicians vs. physicians (OR=0.83; p=0.46).

These results are consistent with other studies showing no difference in clinical outcomes between patients under the care of advanced practice clinicians compared to physicians in intensive care settings.

PROXY DECISION-MAKERS CHOOSE LESS AGGRESSIVE END-OF-LIFE INTERVENTIONS THAN PATIENTS

E. Chen¹, C.T. Pu², J. Ragland², J. Schwartz², M. Fairbanks², J.E. Mutchler¹, 1. *University of Massachusetts, Boston, Massachusetts*, 2. *Partners HealthCare, Boston, Massachusetts*

Proxy decision-makers are needed for an estimated one-third of older Americans approaching death. Prior research used hypothetical illness scenarios to examine concordance between principals and their proxy decision-makers' treatment choices, and found high disagreement and a tendency for proxy decision-makers to err toward aggressive intervention.

This study used primary data collected from a severely ill patient population (N=593) at three hospitals in Massachusetts. Responses (from July 2012-January 2014) on the Physician (or Medical) Orders for Life-Sustaining Treatment (MOLST) were categorized into All Treatment (aggressive) vs. Limit Treatment (non-aggressive). Logistic regression analyses estimated the odds for aggressive treatment taking into consideration patient age, sex, race/ethnicity, severity of illness (Charlson Score), MD vs. Advanced Practice Clinician (MD vs. NP/PA), and palliative vs. non-palliative care clinicians.

Over one-third (36%) chose All Treatment. Proxy decision-makers signed 43% of the forms. Mean Charlson Score was 8 (SD=3). Mean age was 71 (SD=15); 49% were male; and 83% were non-Hispanic White. Palliative care clinicians administered 50% of the MOLSTs and 48% were signed by non-MDs.

A highly significant model (pseudo $R^2=0.421$; $p\leq 0.001$) revealed that proxy decision-makers were nearly 60% less likely to choose All Treatment compared to patient decision-makers (OR=0.43; $p\leq 0.001$).

This is the first known study to compare the aggressiveness of proxy vs. patient end-of-life care decisions using actual clinical choices rather than hypothetical scenarios. Hospital policy makers may wish to ensure that preferences for life-sustaining treatments are documented for patients who need proxy decision-makers to reduce the likelihood of administering unwanted treatment.

SENIOR HIGH COST HEALTHCARE USERS: HOW DO THEY DIFFER?

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High cost users (HCUs) are a small proportion of the population that use disproportionate healthcare resources. In 2011, 5% of the population in Ontario, Canada accounted for 65% (\$19.8 billion) of provincial health expenditures. Understanding HCU multi-morbidity and drug use is required to target interventions to improve clinical outcomes and contain healthcare costs. This study aimed to compare senior HCUs to non-HCUs based on demographics, co-morbidities, medication use, health service utilization, clinical outcomes and costs. We conducted a retrospective population-based matched cohort analysis of incident senior HCUs defined as Ontarians age ≥ 66 years in the top 5% of total healthcare costs in FY2013. Healthcare and prescription drug utilization data were obtained from health administrative

databases. The primary outcomes were annual total healthcare expenditures per patient, total drug costs per patient and drug-to-total healthcare expenditure ratio. Secondary outcomes were one-year mortality and hospitalization rate. Senior HCUs (n=176,604) accounted for \$4.9 billion in total healthcare expenditures and \$433 million in medication costs in FY2013. Compared to non-HCUs (n=529,812) on a per patient basis, HCUs incurred higher total healthcare costs (\$27,697 vs. \$2233) and higher medication costs (\$2453 vs. \$842). HCUs were characterized by greater polypharmacy (>5 medications, 87.7% vs. 47.6%) and multi-morbidity (median John Hopkins Expanded Diagnosis Clusters [EDCs], 14 vs. 10). HCUs had higher annual mortality (10.39% vs. 0.72%) and hospitalization rates (3.20 vs. 0.06 hospitalizations per 1000 person-years). Compared to non-HCUs, senior HCUs are frail, multi-morbid and vulnerable. The contribution of prescribing and medication utilization quality deserves further study.

SESSION 230 (SYMPOSIUM)

DOES ASPIRIN HAVE A ROLE IN FALLS, FRACTURES, AND FRAILITY?

Chair: G. Peeters, Monash University, Melbourne, Victoria, Australia

Co-Chair: A. Barker, Monash University, Melbourne, Victoria, Australia

Discussant: A. Newman, University of Pittsburgh, Pittsburgh, Pennsylvania

Aspirin is among the most frequently prescribed and used drugs globally. Its use for the secondary prevention of cardiovascular events is well established, but there is increasing interest for its potential use for the prevention of ageing-related conditions. This symposium will provide an overview of the existing evidence regarding the effects of aspirin on inflammatory and bone remodeling pathways, the adverse effects of aspirin, and the findings of prior studies that have investigated aspirin use and fracture and frailty outcomes. The first presentation will discuss how aspirin may influence fracture risk via its effects on low-grade inflammation. The presented work is based on a comprehensive review of the literature including evidence from biomedical, clinical and epidemiological studies. The second presentation includes new data and builds on the first presentation by demonstrating the potential cost savings and improved quality of life if aspirin would be prescribed for the prevention of fractures. During the third presentation, original work will be presented demonstrating the positive and negative associations of antiplatelet agents (i.e. aspirin and/or clopidogrel) with risk of falls and cardiovascular events in older women with ischemic heart disease. In the fourth presentation, a theoretical overview will be given of how aspirin may affect frailty based on existing evidence. Finally, the findings will be summarized by the discussant, who will discuss the presented findings in terms of clinical implications and impact.

ASPIRIN FOR THE PREVENTION OF FRACTURES IN OLDER ADULTS—A REVIEW OF THE LITERATURE

A. Barker, G. Peeters, J. Talevski, A. Investigator Team, School of Public Health and Preventive Medicine, Monash University, Melbourne, Victoria, Australia

Despite several osteoporosis therapies being available, fractures remain a persistent source of pain, disability and healthcare utilization worldwide. In 2012, 140,822 low-trauma fractures occurred in Australia at a cost of \$2.75 billion. By 2022 the number of fractures is projected to increase 30%. The World Health Organization has identified fracture prevention as a public health priority. Aspirin—a widely available, simple and inexpensive drug—may provide a novel adjunct to current fracture prevention therapies. Aspirin is regularly taken by 19% of adults—mostly for preventing cardiovascular events. Cardiovascular benefits largely arise from anti-platelet effects. Anti-inflammatory effects may confer other benefits. Epidemiological studies suggest low-grade inflammation is associated with increased bone loss and fracture risk. Aspirin may effect fracture risk via anti-inflammatory pathways. This review summarizes existing evidence regarding inflammation and bone, anti-inflammatory and adverse effects of aspirin, findings of prior studies of aspirin and fracture outcomes and future research directions.

REDUCED FRACTURE RISK IN OLDER ADULTS TAKING LOW DOSE ASPIRIN: MODELING COSTS AND QUALITY OF LIFE

K. Sanders^{1,2}, J. Watts³, J. Abimanyi-Ochom³, A. Barker⁴,
1. *Australian Catholic University, Melbourne, Victoria, Australia*, 2. *The University of Melbourne, Melbourne, Victoria, Australia*, 3. *Deakin University, Melbourne, Victoria, Australia*, 4. *Monash University, Melbourne, Victoria, Australia*

Aspirin is generally associated with prevention of cardiovascular events. However, observational studies report associations between low grade inflammation, bone remodelling and fracture risk¹.

Modelled Australian data showed cost savings and improved quality of life associated with a 12% reduction in fracture risk in adults aged 70+ years taking 100mg aspirin daily. The model assumed uniform fracture risk reduction across gender and fracture sites, and included quality adjusted life years (QALYs) and costs specific to fracture site for age and gender.

The model predicts nine fractures per annum are averted per 1,000 older adults on daily low-dose aspirin. Fractures averted in women and men, respectively: hip 1.65, 0.92; vertebral 5.77, 2.12; wrist 4.10, 0.70; 'other' sites 8.26, 5.59. The predicted savings are AUD\$148,993 and 1.59 QALYs. Daily low-dose aspirin costs AUD\$10,000 - \$30,000/1,000 person-years.

If RCT findings confirm reduced fracture risk, daily aspirin may substantially reduce fracture burden in older adults.

¹Barker et al, 2015; ²Watts et al, 2013.

ANTI-PLATELET AGENT USE; FALL RISK VERSUS CARDIOVASCULAR RISK IN OLDER WOMEN

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5. *Global Brain Health Institute, University of California San Francisco* | *Trinity College Dublin, Dublin, Ireland*

Patients with acute coronary syndrome are prescribed anti-platelet agents to prevent new cardiovascular events. Associations between anti-platelet agents and fall-related hospitalizations and cardiovascular events were examined in older women with ischemic heart disease (IHD). 2002–2011 surveys from the Australian Longitudinal Study on Women's Health linked with administrative hospital, pharmaceutical and death registry data were used. 885 women (82.7±2.7 years) had prior admission for IHD. There were 636 anti-platelet agent users (36.0% aspirins, 27.8% clopidogrel and 36.2% combination), 192 fall-related hospitalizations and 314 cardiovascular events including 82 deaths. Compared with non-users, users had higher risks of cardiovascular events (hazard ratio [HR]=1.32, 95% confidence interval [CI]=1.04–1.68) and cardiovascular deaths (HR=1.64, CI=1.00–2.68), but not falls (HR=1.17, CI=0.83–1.64). In the context of other recommended medications, anti-platelet agent use was not associated with fall risk, but was associated with an increased risk of cardiovascular events in older women with IHD.

EVIDENCE FOR THE POTENTIAL ROLE OF ASPIRIN IN THE PREVENTION OF FRAILITY

S. Ward¹, A. Newman², A.M. Murray^{3,4}, R. Woods¹, J. McNeil¹, 1. *Monash University, Melbourne, Victoria, Australia*, 2. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 3. *Hennepin County Medical Center, Minneapolis, Minnesota*, 4. *University of Minnesota, Minneapolis, Minnesota*

The interaction between aspirin and frailty is of interest, in particular because of growing use of aspirin by older populations. Aspirin may dampen systemic inflammation associated with frailty development, as well as reduce the incidence, and thus cumulative burden, of age-related diseases. Conversely frailty may increase the risk of aspirin-associated adverse events. The ASPREE primary prevention trial measures self-reported physical activity, and weight annually, and grip strength and 3 meter gait speed at baseline and even years post randomization to low dose aspirin or placebo. At baseline, average gait speed and grip strength were respectively 1.0±0.3m/s and 28.5±10.2kg in 65–74 age group (n=11163), 0.9±0.3m/s and 24.9±9.3kg in 75–84 age group (n=7219) and 0.8±0.3m/s and 21.0±8.4kg in the 85+ age group (n=732). These combined measures will facilitate an analysis of a differential effect of aspirin in frail participants, as well as measurement of the effects of aspirin on frailty outcomes.

SESSION 235 (SYMPOSIUM)

QUANTIFICATION AND ANALYSIS OF BIOLOGICAL AGING: GENETIC, GENOMIC, AND BIOMARKER GEROSCIENCE TOOLS

Chair: D.W. Belsky, *Duke University School of Medicine, Durham, North Carolina*

Discussant: T.T. Perls, *Boston University Medical Campus, Boston, Massachusetts*

Quantification of biological aging is a major frontier for translational geroscience. Aging is recognized as a leading

cause of disease and disability. It is hypothesized that intervention to slow the biological process of aging can simultaneously prevent/delay many different chronic diseases, extending healthspan. To develop such interventions methods are needed to quantify the biological process of aging in humans. The symposium participants use several promising approaches to quantify biological aging, including genetic, genomic, and physiologic-index-based methods. Key applications of these tools are in identifying novel therapeutic targets to slow aging and extend healthspan, and in measuring effectiveness of such therapies. With the aim of advancing those applications, our symposium focuses on (1) genetic research to identify molecular mechanisms of biological aging; and (2) linkages between biological aging measurements and age-related disease, with an eye toward intervention evaluation. The overarching goal of this year's symposium is to provide an update on several ongoing programs of biological aging research and to position research on biological aging within the broader field of geroscience. We view biological aging research as a bridge connecting clinical and basic-biology investigations of aging mechanisms with demographic/epidemiologic studies of aging populations. In sum, our symposium will integrate bioinformatic, clinical, and population research on biological aging and report on recent advances in the geroscience research agenda.

MOLECULAR SIGNATURES OF BIOLOGICAL AGING

P. Sebastiani, T.T. Perls, *Boston University, Boston, Massachusetts*

Many blood biomarkers correlate with physical function, anabolic response and healthy aging but their joint signature on aging phenotypes is unknown. We measured nineteen blood biomarkers that include some tests from total blood counts, lipid biomarkers, markers of inflammation and frailty in 4,704 participants of the Long Life Family Study (LLFS) and analyzed them using an agglomerative algorithm to group LLFS participants into clusters characterized by different biomarker signatures. The analysis identified 26 biomarker signatures that correlated with different aging phenotypes and predict morbidity and mortality. The predictive value of some of these signatures was replicated in the Framingham Heart Study. The analysis shows that various molecular signatures of circulating biomarkers exist and their significant association with morbidity and mortality suggest that these patterns represent different forms of biological aging. We will describe ongoing analyses that extend this work to include genetics and genomic data to better characterize the biological mechanisms underlying different signatures. A better understanding of the genetics underlying different signatures may identify targets for drug development.

AN OBJECTIVE MEASURE OF INDIVIDUAL HEALTH AND AGING FOR POPULATION SURVEYS

A. Cohen, *University of Sherbrooke, Sherbrooke, Quebec, Canada*

To perform effective surveillance of aging populations and forecast trends in morbidity and mortality, simple, objective measures of individual health states are needed. We used biological principles to develop and validate a robust, flexible biomarker-based health index for use in

population surveillance and economic analysis. Using 28 commonly available biomarkers in two datasets (WHAS and NHANES), we consider individuals as points in biomarker space and measure health as Mahalanobis distance to an "ideal state" of health, defined alternatively with population parameters or clinical thresholds. Surprisingly, population parameters outperform clinical thresholds, implying that clinical thresholds are imprecise and population means may provide a robust metric of healthy aging. Using the index, we show that low economic status is associated with accelerated biological aging in young (aged 20–40) and middle-aged (41–64), but not older adults (aged 65+) in our US datasets. We discuss implications for biological aging quantification in population surveillance.

EPIGENETIC AGE OF THE PRE-FRONTAL CORTEX AND ALZHEIMER'S DISEASE PATHOLOGY

M. Levine, *University of California, Los Angeles, Los Angeles, California*

Molecular biomarkers of brain aging are needed to advance understanding of age-related neurodegeneration. We developed a highly accurate epigenetic biomarker of tissue age, the "epigenetic clock" based on DNA methylation levels. Here, we examine association between epigenetic age and Alzheimer's disease (AD), cognitive decline, and AD-related neuropathology in 700 dorsolateral prefrontal cortex (DLPFC) samples from the Religious Order Study and Rush Memory and Aging Project. Results shows increased epigenetic age acceleration is associated with post-mortem AD diagnosis ($P=0.009$), increased neuropathology--neuritic plaques ($P=0.0002$), diffuse plaques ($P=.046$), Neurofibrillary tangles ($P=0.009$), and amyloid load ($P=0.002$)--and steeper declines in global cognitive functioning in the years leading up to their death ($P=0.004$). Results also suggest neuropathological markers mediate associations between epigenetic age and cognitive decline. Finally, genetic complex trait analysis (GCTA) revealed that epigenetic age acceleration, diffuse plaques ($r=0.24$), and working memory ($r=-0.35$) may share a common genetic profile.

GENETICS OF LATE ONSET ALZHEIMER'S DISEASE: CONNECTION WITH AGING, HEALTH, AND LONGEVITY TRAITS

A.I. Yashin, *Duke University, Durham, North Carolina*

Despite numerous studies confirming importance of genes in the origin of late onset Alzheimer's disease (AD), the details of genetic mechanisms remain elusive. Studying pleiotropic effects of genetic variants associated with AD on other health, and longevity related traits might clarify some fundamental aspects of this pathology and identify key connections with aging related changes. For this purpose we performed genome wide association studies of AD and other traits using case-control (LOADFS) data and longitudinal data (FHS and CHS). In the analyses of these data allowed us to detect pleiotropic associations of AD with other aging, health, and longevity related traits. The use of information on functional roles of detected genes (APOE, TOMM40, APOC1, PVRL2 among others) as well as on corresponding signaling and metabolic pathways provides us with important insights about possible causes of this health disorder.

SESSION 240 (SYMPOSIUM)

TRAUMA-INFORMED INTERVENTIONS FOR OLDER ADULTS WITH PTSD AND TRAUMA-RELATED PROBLEMS

Chair: A. Pless Kaiser, *VA Boston Healthcare System, Boston, Massachusetts*

Co-Chair: E.H. Davison, *VA Boston Healthcare System, Boston, Massachusetts*

Discussant: S. Thorp, *University of California, San Diego and, San Diego, California*

Older adults make up an increasing percentage of the world population, and a majority have been exposed to traumatic events during their lifetime. Posttraumatic stress disorder (PTSD) and other trauma-related problems influence the lives of many older adults, and there is limited research on interventions designed to decrease symptoms and improve functioning and quality of life among older adults who are impacted by trauma. The aim of this symposium is to present findings from several trauma-informed interventions for PTSD and trauma-related problems among older adults developed in various countries, as well as to discuss special considerations for interventions designed to treat older adults with symptoms related to earlier life trauma exposure. The first paper describes results from an RCT comparing the efficacy of Narrative Exposure Therapy with Present Centered Therapy for older adults with PTSD. The next paper presents findings from a study investigating an internet-based cognitive-behavioral writing intervention for older adults with PTSD related to WWII experiences. Third, we include a paper examining an intervention designed to promote successful processing and meaning-making among Veterans with later-adulthood trauma reengagement. Finally, we present epidemiological data on exposure to traumatic events, PTSD, and trauma-related disorders across several countries, present common reactions to trauma among older adults from a lifespan developmental perspective, and discuss implications for interventions designed for older adults. Together, these papers make important contributions to the research and provide strong support for interventions with older adults with trauma-related disorders, as well as provide recommendations for treatment with this special population.

NARRATIVE EXPOSURE THERAPY VS. PRESENT-CENTERED THERAPY WITH OLDER ADULTS: RESULTS FROM AN RCT

J. Lely¹, J. van den Bout², J.J. ter Heide^{1,3}, N. van der Aa^{1,3}, J.W. Knipscheer^{1,3,2}, R.J. Kleber^{3,2}, 1. *Foundation Centrum '45, Arq Research Program, Diemen, Netherlands*, 2. *University Utrecht, Utrecht, Netherlands*, 3. *Arq Psychotrauma Expert Group, Diemen, Netherlands*

Older adults present a growing population in our society and in our mental health system. Among older adults, PTSD is a serious, but frequently hidden psychiatric disorder with various potential trajectories. Elderly patients may have been exposed to multiple traumatic events. Narrative Exposure Therapy (NET) was developed to address cumulative traumatic memories and aims at connecting them to context and meaning within an autobiographic narrative. Present Centered Therapy (PCT) targets current stressors with a solution-focused approach. In an RCT we investigated

the benefits of NET, compared to PCT, for older adults (>55 years, living independently) presenting with PTSD. Preliminary results showed that treatments and assessments were well-tolerated. Challenges were found in recruitment, treatment retention, and treatment interference by comorbid health problems. NET appears to be a safe and feasible outpatient treatment for older adults suffering from PTSD. PCT showed notable treatment effects as well, but NET demonstrated more sustained results.

RESULTS OF AN INTERNET-BASED COGNITIVE-BEHAVIORAL THERAPY FOR PTSD IN OLDER ADULTS

P. Kuwert³, M. Boettche¹, C. Knaevelsrud², 1. *BZFO, Berlin, Germany*, 2. *Freie Universität, Berlin, Germany*, 3. *University Medicine Greifswald, Greifswald, Germany*

In an internet-based manualized cognitive-behavioral writing therapy, older adults ($M = 70.9$ years, $SD = 4.56$) with World War II-related PTSD were examined at four assessment points (pre, post, three- and six-months follow-up). Results revealed a significant decrease in PTSD severity scores (Cohen's $d = 0.43$) and significant improvements on secondary clinical outcomes of quality of life (Cohen's $d = 0.48$), self-efficacy (Cohen's $d = 0.38$), and posttraumatic growth (Cohen's $d = 0.33$) from pre- to posttreatment. All improvements were maintained at follow-ups. Participants reported high working alliance ($M = 6.09$, $SD = .87$, range 1–7). The findings provide promising insights into evidence-based age-specific treatment for PTSD. With regard to demographic change and taking into account the fact that early-lifetime war-associated traumatization has a disabling impact, it is a matter of urgency that clinical routine should effectively reach and address the needs of older adults.

LATER-ADULTHOOD TRAUMA REENGAGEMENT: FINDINGS FROM DISCUSSION GROUPS WITH OLDER COMBAT VETERANS

E.H. Davison^{1,2}, A. Pless Kaiser^{1,2}, J. Wachen^{1,2}, L. King^{1,2}, D. King^{1,2}, J. Moye^{1,3}, 1. *National Center for PTSD, VA Boston Healthcare System, Boston, Massachusetts*, 2. *Boston University School of Medicine, Boston, Massachusetts*, 3. *Harvard Medical School, Boston, Massachusetts*

Later-adulthood trauma reengagement (LATR) is a phenomenon occurring among older Veterans who were exposed to stressful war-zone events in early adult years, functioned relatively successfully into adulthood, but begin to reminisce about combat-related experiences as they confront challenges of aging (e.g., retirement). LATR is conceptualized as a meaning-making process which may lead to growth or increased distress. The purpose of this study was to examine whether Veterans experiencing LATR benefited from a 10-week psychoeducational group presented from a lifespan developmental perspective. Thirteen older ($M = 68$) male combat Veterans completed discussion groups. Assessments of LATR, posttraumatic stress, positive appraisals of military experience, life satisfaction, resilience, and meaning-making were collected at baseline, post-group, and follow-up. Descriptive statistics revealed variability in individual responses on measures of distress, but that positive perceptions (e.g., positive appraisals) tended to

increase. Additionally, the intervention was well-received: retention was high and qualitative responses indicated high satisfaction.

TRAJECTORIES OF TRAUMA-RELATED DISORDERS ACROSS THE LIFE-SPAN: EVIDENCE AND CLINICAL IMPLICATIONS

M. Kaiser, H. Glaesmer, *Medical Psychology and Medical Sociology, Leipzig University, Leipzig, Germany*

Trauma-related disorders in younger people have gained extensive attention in research and clinical work. However, little knowledge exists about long-term consequences of traumatic experiences (TE) across the lifespan. TEs are associated with negative outcomes for mental and physical health. Processing of TEs may take different developmental paths. Symptoms may dissipate over time, become chronic, or be reactivated in association with physical aging and age-specific stressors (e.g. retirement). Collective, or generation-specific TEs may be related to unique reactions in old age. There are no longitudinal epidemiological studies on post-traumatic stress symptomatology in the German population. Therefore, no conclusion can be drawn about incidence or course of PTSD in the older adult German population. Nevertheless, research shows higher prevalence in trauma-related disorders in this group compared to younger adults, thus underlining the long-term impact of TEs in late life. Implications for therapeutic interventions for elderly patients with trauma-related disorders will be discussed.

SESSION 245 (SYMPOSIUM)

CROSS-NATIONAL EXPLORATION OF OLDER ADULTS' ALCOHOL USE

Chair: A.A. Moore, *University of California, San Diego, San Diego, California*

Co-Chair: A. Towers, *Massey University, Palmerston North, New Zealand*

Data on alcohol and older populations will be presented from multiple international studies. The presentations will address the epidemiology of alcohol consumption. Specifically data will be shared on cross national drinking patterns, life-course trajectories and risks of chronic disease, exiting the labor market and its impact on risk for problem drinking, binge drinking and angina in low and middle income countries, and demographic, socioeconomic and health factors associated with alcohol consumption.

CROSS-NATIONAL PATTERNS OF OLDER ADULTS DRINKING: RESULTS FROM AN INTERNATIONAL INVESTIGATION

A. Towers¹, N. Minicuci², I. Rocco², J. Sheridan³, P. Kowal⁴, D. Newcombe³, 1. *School of Public Health, Massey University, Palmerston North, New Zealand*, 2. *Consiglio Nazionale delle Ricerche, Padova, Italy*, 3. *University of Auckland, Auckland, New Zealand*, 4. *World Health Organization, Geneva, Switzerland*

Older adults are at significant risk of harm from alcohol use but there is no consensus as to the general patterns and prevalence of drinking in this population, nor how such trends might differ between countries. A collaboration of international researchers harmonised alcohol use data from

government-funded studies of ageing to investigate drinking patterns in older adults from nine countries around the world: United States, England, China, Ghana, India, Mexico, the Russian Federation, South Africa, and New Zealand. The results show substantial differences across countries in rates of abstinence, frequency of alcohol use, quantity consumed on a typical day, and rates of infrequent and frequent heavy drinking. Substantial gender differences in drinking patterns were evident both between and within countries. These findings suggest that drinking is common in older adult populations in most countries, that typical daily drinking amounts differ substantially between countries but that frequent heavy drinking is rare.

ALCOHOL CONSUMPTION OVER THE ADULT LIFE SPAN AND RISK OF CHRONIC DISEASE IN OLDER AGE

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Alcohol consumption changes over the life span. Analysis of longitudinal data, with repeat alcohol measures, is necessary to reveal changes within the same individuals as they age. Such data are scarce and few studies are able to capture multiple decades of the life course. Therefore we examined alcohol consumption trajectories (volume and frequency) using data from multiple cohorts that cover different and overlapping periods of the life course (combined sample size of over 60,000 men and women). We then explored the importance of taking a life course perspective by analyzing how different trajectories are associated with differing risk of developing several chronic diseases, such as coronary heart disease, stroke and cancer.

THE IMPACT OF FORCED EXIT FROM WORK ON PROBLEMATIC DRINKING IN OLDER EUROPEANS

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Job loss is known to increase alcohol use in the general population. Yet few studies have examined how forced exit from work impacts on the drinking patterns of older adults. This is important as older adults can be at greater risk from alcohol-related harm. Using waves 4 and 5 of the Survey of Health, Ageing and Retirement in Europe we assessed the impact of forced exit on drinking patterns in people aged 50+ from 16 countries (N=15,774). Reason for exiting work did not differentially influence average drinking frequency and quantity. However unforced exit decreased the risk of binge drinking (OR 0.73: 95%CI 0.56-.95) whilst those who were forced out had an increased but non-significant risk of binge frequency compared to those still employed (OR 1.28: 95%CI 0.97–1.70). The results suggest that how one leaves the labour market impacts on the risk of problem drinking in later life.

BINGE DRINKING AND INCIDENT ANGINA PECTORIS AMONG OLDER ADULTS IN LOW-AND MIDDLE-INCOME COUNTRIES

P. Martinez¹, T. Clausen², 1. *Alcohol Research Group, Emeryville, California*, 2. *Norwegian Center for Addiction Research, University of Oslo, Oslo, Norway*

The association between binge drinking and angina pectoris (AP) among older adults remains controversial, and much of the evidence comes from developed countries. This study estimated the effect of binge drinking on incident AP among adults aged 50+ in four low and middle income (LAMI) countries. We used longitudinal data from WHO's Study of Global AGEing and Adult Health on 7,462 individuals from Ghana, India, Mexico, and Russia. We compared binge drinkers (5+ drinks/day for men, 4+ for women) to lifetime abstainers, former drinkers, and light drinkers. We fitted multivariate logistic regression models to estimate risk of incident AP at 5-year follow-up. Binge drinkers were more likely than lifetime abstainers (OR=2.07, $p=0.04$) and former drinkers (OR=2.50, $p=0.02$) to have incident AP, but not compared to light drinkers. Future research and prevention efforts should focus on the risk binge drinking poses for AP among older adults living in LAMI countries.

ALCOHOL CONSUMPTION IN OLDER ADULTS: RESULTS FROM SAGE, ELSA, HRS AND SHARE

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Two waves (2004 and 2010) of four longitudinal studies were included in an *ex-post* harmonization process of nine domains: socio-demographic and economic, health states, self-reported health and mental state, health examinations, physical and mental performance tests, risk factors, chronic conditions, social network, and subjective well-being. Drinking habits varied substantially across studies in older adults. Almost 90% of respondents in ELSA consumed alcohol, compared to 69% in SHARE, 55% in HRS and 34% in SAGE. Heavy drinkers were found to be highest in respondents from HRS and lowest in ELSA. Adjusting for gender and age, multivariable analyses examined the association between drinking profiles, abstainers versus not abstainers, and frequent heavy drinkers versus infrequent heavy drinkers, and other selected factors. Detailed results will be shown. Modifiable factors to address problem drinking in older adults need to be addressed by health systems.

SESSION 250 (SYMPOSIUM)

TAKING LEISURE SERIOUSLY: LEISURE-BASED INTERVENTIONS TO SUPPORT COGNITIVE HEALTH

Chair: S. Belleville, *Institut Universitaire de Geriatrie de Montreal, Montreal, Quebec, Canada*

Discussant: N. Anderson, *Rotman Research Institute, Baycrest, Toronto, Ontario, Canada*

Older adults are looking for ways to increase their cognition and prevent age-related cognitive decline. In this symposium, we will assess whether participation in cognitively stimulating leisure activities improves cognition in older adults. A large number of epidemiological studies have indeed shown that being engaged in such activities is associated with better cognitive health in older adults. Thus, interventions involving leisure activities might help to prevent cognitive

decline while at the same time being ecologically valid and easy to implement in the community. The symposium will present studies that have developed and tested leisure-based interventions meant to stimulate cognition in older adults. It will cover programs that rely on a variety of leisure activities, ranging from crafts, music and artistic production to technological learning and volunteering. Furthermore, the symposium will touch on major issues related to the use of leisure activities as a way to increase cognition. In addition to measuring the potential for these interventions to improve cognition, the symposium will address effects on well-being, the role of family members, the potential for web-based applications, the most effective intervention modalities and their effects on brain function.

EARLY-LIFE AND LATE-LIFE COGNITIVE LIFESTYLE AS A WAY TO PROMOTE COGNITIVE RESERVE IN OLDER ADULTS

S. Belleville, A. Cordière, G. Ducharme-Laliberté, B. Boller, *Research Center, Institut Universitaire de Geriatrie de Montreal, Montreal, Quebec, Canada*

The reserve hypothesis suggests that some individuals develop a form of resilience against the detrimental effects of brain damage. Inter-individual differences in reserve have been related to a range of differences in cognitive lifestyle. This presentation will examine the evidence suggesting that differences in early-life education and late-life engagement in mentally stimulating leisure activities determine differences in baseline cognition and age-related cognitive decline. It will also assess the effects of early-life education and mentally stimulating leisure activities in late life on critical brain parameters, including brain volume, cortical thickness, and task-related activation. Based on these findings, this talk will discuss the potential for leisure-based interventions and present evidence of the impact of those interventions on cognitive and brain function in healthy older adults. It will conclude by presenting ENGAGE, a currently held project developed to increase reserve with enriched leisure activities.

LESS IS MORE: COMPLEX VOLUNTEER JOBS AND MORE VOLUNTEERING ATTENUATE THE BENEFITS OF VOLUNTEERING

N. Anderson¹, M. Binns¹, E. Kröger², T. Damianakis³, L.M. Wagner⁴, D.R. Dawson¹, S. Bernstein¹, 1. Baycrest Health Science, Toronto, Ontario, Canada, 2. Laval University, Québec, Quebec, Canada, 3. University of Windsor, Windsor, Ontario, Canada, 4. University of California, San Francisco, California

Research has identified higher cognitive functioning among seniors who held more cognitively or socially complex occupations. We tested the influence of occupational complexity and number of hours of volunteer work on cognitive, physical, and psychosocial benefits. A group of previously non-working and non-volunteering adults aged 56–86 were assessed prior to ($n = 169$), mid-way ($n = 97$), and after a year ($n = 75$) volunteering. Cognitive, physical, and psychosocial measures were related to demographic variables, time, and job characteristics with random-effects models. Younger and female participants had higher levels of cognition (verbal and visual episodic memory, working memory). Interestingly, cognitive improvement evident in the first six

months was attenuated among volunteers working more hours or in more socially or physically complex roles. No changes were found in physical or psychosocial functioning. Cognitive improvement was found among new post-retirement volunteers – greater if not volunteering too much or in overly challenging roles.

ENGAGEMENT IN MENTALLY CHALLENGING ACTIVITIES ENHANCES NEURAL EFFICIENCY

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1. *The University of Alabama, Tuscaloosa, Alabama*, 2. *University of Texas at Dallas, Dallas, Texas*, 3. *University Hospital Cologne International, Cologne, Germany*

We tested how an intervention aimed to increase challenging leisure activities affected cognition and brain function. Thirty-nine participants engaged in 15 hours of activities per week over 14 weeks in either high-challenge activities (digital photography and quilting) or low-challenge activities (socializing or performing low-challenge cognitive tasks). Brain function was assessed using fMRI during a semantic classification task with two levels of demand pre and post intervention. The High-Challenge group, but not the Low-Challenge group, showed increased modulation of brain activity in regions associated with attention and semantic processing that stemmed from decreases in brain activity during the easy condition (neural efficiency). These effects were greater for those who spent more time committed to the program, who were older, and who gained most in cognition. Mentally challenging activities may be neuroprotective and an important element to maintaining a healthy brain into late adulthood.

LEVERAGING TECHNOLOGY TO PROMOTE ENGAGEMENT IN LEISURE ACTIVITIES IN SENIORS WITH COGNITIVE DECLINE

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1. *Baycrest Health Science, Toronto, Ontario, Canada*, 2. *University of Toronto, Toronto, Ontario, Canada*, 3. *Sheridan Centre for Elder Research, Oakville, Ontario, Canada*, 4. *Coventry University, Coventry, United Kingdom*

Leisure participation is associated with health benefits and withdrawal from leisure is a commonly associated outcome of cognitive decline. We investigated the feasibility of a web-based app 'ArtOnTheBrain' to promote involvement in enjoyable recreation in seniors with cognitive decline. ArtOnTheBrain employs artwork focused activities involving learning, solving puzzles, and socializing with storytelling and discussion. Iterative qualitative feedback interviews were undertaken to drive customizations of the app and establish user acceptability with two groups of 6 participants experiencing mild cognitive impairment, early dementia, and their family members. All participants became independent in navigating the app. Those experiencing cognitive decline commented it made them feel "smart" and their "opinion mattered". Family valued opportunity for enjoyable interactions outside those concerning daily responsibilities. Technology can be leveraged to support engagement with complex recreation to improve well-being with future investigated secondary outcomes examining benefits in social networks, life space, cognition, and health service utilization.

MUSIC PRACTICE AS A MEANS TO PROMOTE RESERVE AND COGNITIVE MAINTENANCE IN AGING

A. Moussard¹, C. Fouquet¹, L. Cuddy², S. Belleville¹, K. Mahalingam³, N. Anderson³, 1. *Research Center, Institut Universitaire de Geriatrie de Montreal, Montreal, Quebec, Canada*, 2. *Queen's University, Kingston, Ontario, Canada*, 3. *Rotman Research Institute, Baycrest, Toronto, Ontario, Canada*

Music practice (playing music or singing) involves many interacting cognitive processes and brain areas. As a consequence, we can speculate that music practice could benefit non-musical activities. Many studies have indeed shown that music practice is associated with enhancement of different aspects of cognition and brain processing in younger adults. More recently, similar observations in older adult musicians, compared to non-musician controls, have suggested that being engaged in musical activities could contribute to the development of some form of cognitive or brain reserve, which may help cognitive and brain maintenance in aging. Moreover, a limited number of intervention studies have shown improved cognitive outcome after short-term music training in non-musician older adults. By presenting an overview of relevant literature and recently collected behavioural and brain data, this presentation aims to provide a better understanding of the effects of short- and long-term music training on older adults' cognition.

SESSION 255 (SYMPOSIUM)

INDIVIDUAL, EMPLOYER, AND JOB-RELATED INFLUENCES ON LATE WORK CAREERS OUTCOMES AND WORK ABILITY

Chair: D. Hochfellner, *New York University, Brooklyn, New York*

Co-Chair: I. Gutierrez, *RAND Corporation*

Discussant: G. Fisher, *Colorado State University*

Workforce trends indicate that many individuals are working until later ages, and that older people want to stay on the labor market even beyond retirement age. At the same time we also have evidence that older workers face barriers trying to pursue their late work careers. From the workers perspective job demands, work ability and motivations change. From a macro perspective technological change and occupational change make it harder for older workers to fulfill job requirements. In turn, employers can provide possibilities to bridge these gaps to enable longer work lives. This session seeks to address older workers careers from the individual, the establishment and macro perspective and discuss how factors such as job training, job motivations, occupational changes mitigate careers. What enables longer work lives by adapting the work environment to suit an aging workforce and what discourages longer careers by incentivizing for example earlier retirements. Dr. Gwenith Fisher will serve as the discussant for the session. In this role she will summarize and integrate the findings across the papers presented in the session and offer recommendations for future research. Dr. Fisher is an expert on aging workforce issues and has published more than 50 peer-reviewed papers and serves on four editorial boards of top psychology journals.

IN-COMPANY TRAINING FOR OLDER EMPLOYED WORKERS: RESULTS FROM A RANDOMIZED CONTROLLED TRIAL

G.J. van den Berg², C. Dauth¹, P. Homrighausen^{1,3}, G. Stephan^{1,4}, 1. *Institute for Employment Research, Nuremberg, Germany*, 2. *University of Bristol, Bristol, United Kingdom*, 3. *University of Mannheim, Mannheim, Germany*, 4. *University of Erlangen-Nuremberg, Nuremberg, Germany*

Even though older workers' labor market participation has increased, their labor market participation remains far below the employment ratios of other age groups. Investments in the human capital of older workers are important to increase and maintain their employability. Nevertheless, older workers' participation in in-company training is comparatively low. We examine governmental subsidized in-company training for older employed workers in Germany applying an experimental information treatment approach. We sent out information brochures on this program to randomly selected eligible workers to investigate to what extent knowledge about the program increases program participation and subsequently their employment probability, wages, and other job characteristics. For this purpose, we use individual register data with daily precision matched with survey data. Furthermore, we analyze to which extent the subsidy produces deadweight losses. The latter occurs if the subsidy induces firms to substitute unsubsidized for subsidized training.

TECHNOLOGICAL CHANGE AND EMPLOYMENT OF OLDER WORKERS

I. Gutierrez², D. Hochfellner¹, 1. *Center of Urban Science and Progress, New York University, Brooklyn, New York*, 2. *RAND Corporation, Santa Monica, California*

The effects of technological change on earnings have been studied widely, showing a bias in favor of skilled workers. Economic models suggest an age bias might also exist: technological change depreciates human capital if it is not paired with trainings, and evidence suggests older workers participate less in training activities. However, still little is known about the extent to which older workers are particularly affected by technological change. In this paper we use more than 10 years of panel information on German employers, including earnings and employment administrative data, and survey information on technological change (including the introduction of new production processes and technologies, innovation of products and reorganization of human resources), to investigate how technological change impact the flows of older workers into and out of employers, the share of older workers in the workforce, and the wage of older workers relative to their younger peers.

JOB CHARACTERISTICS, OCCUPATIONAL TRANSITIONS, AND RETIREMENT IN OLDER WORKERS

A. Sonnega, B. McFall, *University of Michigan, Ann Arbor, Michigan*

A range of sociodemographic and economic characteristics have been shown to predict both earlier and later retirement. Less is known about the role of occupations and

their characteristics on the work choices of older workers. Knowing more about the occupations that workers seem to stay in longer or leave earlier may point the way to policy interventions that are beneficial to both individuals and system finances. This project uses detailed occupational categories and work characteristics in the Health and Retirement Study (HRS) linked to information in the Occupational Information Network (O*NET) to examine compositional changes in occupations held by older workers over time; to provide some basic and interesting information about relationships between occupations and their characteristics and retirement outcomes; and to shed some light on which occupations and associated characteristics might encourage or discourage longer working lives.

WORKING AFTER RETIREMENT AND ITS RELATIONSHIP WITH LIFE SATISFACTION

E. Dingemans, K. Henkens, *Netherlands Interdisciplinary Demographic Institute, The Hague, Netherlands*

This research studies differences in life satisfaction between full retirees and working retirees (bridge employees) and argues that these differences may depend on variations in the income position of retirees. The hypothesis is that especially for those with low pension income, bridge employment is an important tool to supplement income in order to foresee in both material and psychological well-being. This hypothesis is tested using data from the Survey of Health, Aging and Retirement in Europe project (SHARE), waves 2, 4 and 5. The analytical sample consists of about 53000 retirees (aged 60–75) in 17 countries. The results show that life satisfaction differs between full retirees and bridge employees and across countries. Working retirees report higher levels of well-being compared with full retirees, also after controlling for the effects of traditional predictors of well-being such as income, partner status and health.

SESSION 260 (PAPER)

END-OF-LIFE PLANNING AND TRANSITIONS

END-OF-LIFE PLANNING AND DECISION-MAKING: THE IMPORTANCE OF FAMILY TIES

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The critical role offspring play in their parents' later lives is well established; while some assume caregiving responsibilities, others provide companionship, and emotional and instrumental support. Less is known about offspring's contributions to their parents' end-of-life (EOL) decision-making and to care choices during the dying process. We analyzed several waves of data from different modules of the U.S. Health and Retirement Study (HRS) to examine whether relationship quality with offspring predicts aging parents' engagement in EOL planning, and whether parents discuss EOL wishes with offspring, name a child as Durable Power of Attorney (DPA), or whether offspring act as decision-makers in care discussions near parents' end-of-life. We linked

2012 and 2014 HRS Exit Interview data—collected for deceased respondents, with their prior core data from 2008, 2010, or 2012, and self-administered questionnaire data, resulting in 1227 cases who identified as parents. Regression results revealed that parents' engagement in EOL planning was greater for unmarried respondents, and was not associated with relationship quality (i.e., supportiveness, strain, contact) with offspring. But, for parents who discussed EOL wishes, children were more likely to be involved in such discussions if the parent was unmarried, and the children were rated higher on supportiveness. Perceiving their children as supportive also predicted an increased likelihood of parents naming a child as DPA. Regarding cases where treatment decisions were required near the parents' time of death, children were more likely to assume a major decision-making role if their parent had earlier rated them as high on supportiveness.

HOW DOES EDUCATION AFFECT TRANSITIONS BETWEEN CARE SETTINGS IN OLDER ADULTS NEAR THE END OF LIFE?

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High socioeconomic status (SES) is often associated with better resources to organize home care and avoid burdensome transitions between care settings near the end of life. However, high SES is also associated with better resources and greater desire to seek specialist care in the final stages of the disease. Using register data covering all individuals 65 years and older who died in Sweden in 2013 (n=75,722), we aimed to investigate the association between level of education and different transition patterns in the last month of life. Overall, 52% of community-dwelling individuals and 16% of nursing home residents died in hospital facilities. In the community, individuals with tertiary education were more likely to die in hospitals than individuals with only primary education (adjusted OR=1.22, 95% CI=1.15–1.30). No difference was found in the nursing home setting (p=0.115). Among community-dwellers, the association between education and in-hospital death was found for all population sub-groups (e.g. sex, age, number of comorbidities, cause of death). This association was however stronger for individuals who died from cancer compared with organ failure. In addition, older people with tertiary education had more planned hospital admissions and were more often hospitalized over the entire last 2 weeks of life. Our results suggest that education does affect end-of-life transitions (including in-hospital death), especially for old people in ordinary living.

LIFE, DEATH, AND LEGACY: IS TALKING ABOUT DEATH GOOD FOR YOUR HEALTH?

K. Stott, J.J. Benson, S. Kerr, A. Jones, A. Ermer, *Human Development and Family Science, University of Missouri, Columbia, Missouri*

Research has shown that many people are uncomfortable discussing end-of-life care and death. Popular opinion polls have supported these findings as many respondents rank death as their most avoided discussion topic. Findings

have indicated that many have not shared their end-of-life care preferences with even their closest family and friends. However, other research suggests discussions about death can be good for health and well-being. In order to understand this phenomenon better, we conducted a randomized controlled trial to test the efficacy of a death awareness workshop in promoting healthy behaviors and death anxiety.

Data from 89 participants in the Life, Death, and Legacy study were used to address our research focus. Implementing a Pretest-Posttest randomized experimental design, the control group completed an individual writing assignment about a fear-inducing topic (becoming quadriplegic). The treatment group attended a two-hour workshop that included discussion topics such as aging, mortality, and relationships. ANCOVA was used to compare group differences on a number of outcomes measuring health behaviors and anxiety about death. Significant differences were found between groups on post-test scores. The treatment group reported less fear of death, less aversion to the topic of death, and higher scores in healthy nutrition attitudes. These statistically significant differences were detected both within the treatment group and in comparison to the control group. In summary, our findings suggest talking about death can be helpful in terms of assuaging fear and anxiety about death. These findings have important implications for practice in hospice and palliative care settings.

PROVIDER PERSPECTIVES ON ADVANCE CARE PLANNING DOCUMENTATION IN THE ELECTRONIC HEALTH RECORD

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Advance care planning (ACP) is valued by patients and clinicians yet documenting ACP in an accessible manner is problematic. In order to understand how providers incorporate electronic health record (EHR) ACP documentation into clinical practice we interviewed providers in primary care and specialty departments about ACP practices (n=13), and analyzed EHR data on 358 primary care providers (PCPs) and 79 specialists at a large multispecialty group practice. Structured interviews were conducted with thirteen providers with high and low rates of ACP documentation in primary care, oncology, pulmonology, and cardiology departments. EHR problem list data on advance health care directives (AHCD) and physician orders for life-sustaining treatment (POLST) were used to calculate ACP documentation rates. Examining seriously ill patients ≥65 years with no pre-existing ACP documentation seen by providers during 2013–2014, 88.6% (AHCD) and 91.1% (POLST) out of 79 specialists had zero ACP documentations. Of 358 PCPs, 29.1% (AHCD) and 62.3% (POLST) had zero ACP documentations. Interviewed PCPs believed ACP documentation was beneficial and accessible, while specialists more often did not. Specialists expressed more confusion about documenting ACP, whereas PCPs reported standard clinic workflows.

Providers cited lack of interoperability between outpatient and inpatient EHR systems, uncertainty about who should document ACP, lack of a single well-known location for ACP in the EHR, and lack of time and compensation as concerns. Results suggest providers desire standardized workflows for ACP discussion and documentation. New Medicare reimbursement and increasing quality metrics for ACP are incentives for healthcare systems to address barriers to ACP documentation.

A LONGITUDINAL EDUCATIONAL APPROACH TO IMPROVING END-OF-LIFE CARE IN JAPANESE NURSING HOMES

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This study aimed to clarify the effect of a longitudinal educational approach for end-of-life care in nursing homes in Japan. Recently, nursing homes in the Japanese Long-term Insurance system have been required to perform new roles, including providing end-of-life care for residents. The situation brought anxieties to their staffs. Therefore, we conducted an educational approach for six nursing homes in Tokyo, Japan between June 2013 and March 2016. We established two kinds of participants. One group was 10 core members who participated in workshops about end-of-life care. The other group was general staff, who were affected by the core members on the job. The Job Content Questionnaire (JCQ) was used to measure job strain. The questionnaire determined the subjects, ages, gender, types of job, the experiences of end-of-life care, and scores for job strain. In order to promote more and better responses to our questionnaire, we decided not to assign linking identity numbers to the general staff. It obtained 215 (47.5%) responses from the general staffs at the initial research and the second time 245 (54.2%). There were no dropouts among the core members. Approval for this study was obtained through the Tokyo University of Technology Research Board in 2013. Before implementation of this educational approach, participants' average age was 40.28 years, 55.8% were female, average job tenure at current nursing home was 109 months. The score of work environment was significantly improved whereas the emotional demands, quantitative and qualitative job overload did not change.

SESSION 265 (SYMPOSIUM)

TRENDS IN LONGEVITY, HEALTH, AND FUNCTIONING AMONG VERY OLD PEOPLE—THE NORDIC CASE

Chair: M.K. Jylha, *University of Tampere, Tampere, Finland*
Co-Chair: S. Fors, *Aging Research Center*

The unprecedented decline in old age mortality and the consequent increase of very old people are rapidly changing the landscape of aging, and create new challenges for health and social care. In this symposium we take advantage of several representative population-based studies and exhaustive national registers to explore trends in longevity, health and functioning among very old people, as well as trends in

long-term care in the Nordic countries. Denmark, Finland, Iceland, Norway, and Sweden are high-income countries with largely shared egalitarian norms and traditions, and welfare states with universal health care. Since the 1990s, all the Nordic countries have experienced a rapid increase of the very old population and, simultaneously, major reforms in their elderly care. The first paper describes the demographic changes showing remarkable differences between the five countries. The second paper analyses the trends in functioning and health of very old people in Sweden and Finland. The third paper explores whether there are socioeconomic differences in health and functioning of very old people and how these differences have changed over time. The fourth paper analyses the impact of demographic changes and health trends on the use of health and long-term care, using Finland as an example.

THE AGING POPULATION IN FIVE NORTHERN EUROPEAN COUNTRIES: DEMOGRAPHIC CHANGES FROM 1990 TO 2014

T. Høj Jørgensen, C. Nilsson, *Section of Social Medicine, Department of Public Health, Faculty of Health and Medical Sciences, University of Copenhagen, Denmark, Copenhagen, Denmark*

The Northern European countries are known for their similarities, but also differences in longevity. However, demographic differences between the oldest old are less explored. We investigated demographic changes and difference between the oldest old in five Northern European countries from 1990–2014. Demographic information was collected from national statistical databases and the Human Mortality Database. The gender-ratios for 85+ and 90+ year old decreased from 1990–2014 in most of the countries. The proportion of 85+ and 90+ year old, life expectancy at age 85- and 90-years, and the proportion reaching 85- and 90-years increased from 1990–2014 for both genders in all the countries. Yet, there were great differences in the pace of these increases and there were still great differences between the countries in 2014. In conclusion, demographic markers of the oldest old have become more similar in the Nordic European countries, however there still remains remarkable difference between the countries.

CHANGE AND STABILITY: TRENDS IN HEALTH AND FUNCTION AMONG THE OLDEST OLD IN FINLAND AND SWEDEN

S. Fors¹, M.K. Jylha², 1. *Aging Research Center, Karolinska Institutet & Stockholm University, Stockholm, Sweden*, 2. *School of Health Sciences and Gerontology Research Center, University of Tampere, Tampere, Finland*

One of the key tasks of public health research, in the light of population ageing, is the tracking of trends in health and function among older adults. In this study, we have explored trends in health and physical function among the oldest old in Finland and Sweden during the period 1992 – 2014. The study is based on the SWEOLD survey from Sweden, and the Vitality 90+ survey from Tampere, Finland. The results show that, for most measures of health, the prevalence either increased or remained stable throughout the period. For ADL disabilities, on the other hand, there was some indications of a decrease in the prevalence over time in both in

Sweden whereas the prevalence remained stable in Finland. In sum, these results suggest that different health measures may follow different trends and, thus, underscore the importance of using multiple health indicators when monitoring health trends in the older population.

TRENDS IN HEALTH INEQUALITIES AMONG THE OLDEST OLD IN FINLAND AND SWEDEN

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Trends in socioeconomic health differences are largely unexplored for the oldest old. The study examines socioeconomic differences in functioning and health among the oldest old in two Nordic countries. The Vitality 90+ Study is a population based survey of the oldest old (90+) in Tampere, Finland, with comparative data from 2001, 2007 and 2014. The SWEOLD survey is a nationally representative survey of the oldest old (77+) in Sweden with comparable data from 1992, 2002 and 2011. Socioeconomic differences in mobility, activities of daily living and in self-rated health were estimated in cross-sectional setting in three waves and over time. The results suggested better functioning and health for the better off in both countries. The study suggests that despite the increasing survival and positive societal changes, the association between socioeconomic status and health is remarkably stable for the oldest old over the last decades.

LONGER LIVES MEAN HIGHER NEED FOR LONG-TERM CARE AT THE END-OF-LIFE

M. Aaltonen^{1,2}, L. Forma², J. Pulkki², J. Raitanen^{2,3}, P. Rissanen², M.K. Jylha², 1. Institute for Advanced Social Research, University of Tampere, Tampere, Finland, 2. Faculty of Social Sciences (Health Sciences) and Gerontology Research Center, University of Tampere, Tampere, Finland, 3. UKK-Institute for Health Promotion Research, Tampere, Finland

Death is increasingly postponed to a very old age. Both high age and closeness of death are major contributors to use of care. We used nationwide register based data to identify care profiles during the last two years of life among those who died at the age of 70 or older in Finland in 1998 (N=34,116) and 2013 (N=38,087). From 1998 to 2013, the number of those who died at very old age, with dementia, and with multi-morbidity, increased. Most people stayed at home until the last year of life, but nine in ten were in long-term care or in hospital during the last six months. In future, people may have more healthy years, but simultaneously the last years are lived with more severe disability. Postponed death will increase the need for use of long-term care, but also the need for home care in the last years of life.

SESSION 270 (SYMPOSIUM)

INFORMAL CAREGIVER CONTRIBUTIONS TO CARE DURING HEALTHCARE TRANSITIONS

Chair: B. Buurman, University of Amsterdam, Amsterdam, Netherlands

Co-Chair: J. Prvu Bettger, Duke University, Durham, North Carolina

Discussant: H. Buck, The Pennsylvania State University, University Park

A person's social network of family and friends is an important system of support for general health and well-being. When ill and hospitalized acutely, this network of family and friends can become a workforce of informal caregiving with varying degrees of involvement. Although the concept of informal caregiving is not new, the trend of leveraging caregivers as trained and informed participants of a healthcare team is increasing. Informal caregivers can play a key role in addressing the gaps in care continuity that exist globally when patients transition home from the hospital. In resource-limited regions, informal caregivers can be trained as lay health workers or care extenders. Even in developed nations, caregivers can be active contributors in supporting patients with post-discharge recommendations for therapy, self-care, and medication management.

This symposium will discuss three approaches to caregiver involvement in care with examples from ongoing research around the globe. First, we will present an academic-clinical-community collaborative model designed to educate and train caregivers to provide in-home support for older adults transitioning home from the hospital. Second, we will present the assessments used to assess caregiver capacity in a pragmatic trial and the electronic care plan used to facilitate an integrated care model. Third, we present the role of informal caregiving in low and middle income countries and the models of care being tested in different regions to address the lack of healthcare providers. The variation in activities caregivers are engaged with demonstrates great potential for mobilizing caregivers as a valuable healthcare resource.

CAREGIVER SUPPORT AFTER HOSPITAL DISCHARGE: THE DUKE ELDER FAMILY CAREGIVER TRAINING (DEFT) PROGRAM

C.C. Hendrix, 1. Duke University, Durham, North Carolina, 2. Durham Veterans Affairs Medical Center, Durham, North Carolina

The decline in functional reserves and comorbidities complicate the recovery of older adults following a hospital discharge. Consequently, the assistance of family and friends (caregivers) while convalescing at home is particularly needed. The Duke Elder Family Caregiver Training (DEFT) Center offers a model for an academic-medical-community partnership for integrated caregiver support after hospital discharge. Under the leadership of the Duke School of Nursing, caregivers referred by Duke Hospital providers receive education and training in home care from Duke learners in Nursing, Medicine, Physical Therapy programs. Video technology is used for real-time observation of skills and communication at home. The DEFT collaborates with community-based agencies for resources and activation of lay volunteers for instrumental support. The DEFT aims to increase caregiver preparation for home care reduce preventable health care utilization among patients, and increase competence among learners in interprofessional care and care transitions. Preliminary data will be discussed in the presentation.

CAREGIVER ROLE IN COMPREHENSIVE POST-ACUTE CARE STROKE SERVICES

B. Lutz¹, C. Bushnell², P. Duncan², S. Gesell², M. Boynton², A. Kucharska-Newton³, S. Jones³, J. Freburger⁴, 1. *University of North Carolina - Wilmington, Wilmington, North Carolina*, 2. *Wake Forest Baptists Medical Center, Winston-Salem, North Carolina*, 3. *University of North Carolina, Chapel Hill, Chapel Hill, North Carolina*, 4. *University of Pittsburgh, Pittsburgh, Pennsylvania*

Comprehensive Post-Acute Care Stroke Services (COMPASS) is an ongoing pragmatic cluster-randomized controlled trial comparing the effectiveness of a post-acute, transitional care intervention with usual care for stroke patients discharged from hospitals across North Carolina. The innovative intervention combines services from post-acute care coordinators and advanced practice providers with linkages to community-based services to enhance continuity and coordination of stroke post-acute care. The COMPASS intervention is unique in its focus on addressing post-discharge needs of both patients and family caregivers. Assessments of the patient's functional and social status and related post-acute care needs, and the caregiver's capacity for assisting the patient provide the basis for an individualized electronic care plan addressing specific needs; linking patients and caregivers to relevant community-based services (e.g. caregiver support, medication management) and follow-up care. Examples of the COMPASS assessments, and methods for real-time electronic care plan generation and immediate links to community resources will be discussed.

CAREGIVERS AS THE PRIMARY RESOURCE FOR POST-HOSPITAL CARE IN LOW-AND MIDDLE-INCOME COUNTRIES

J. Prvu Bettger, *Duke University, Durham, North Carolina*

Low and middle income countries face numerous challenges in providing efficient and appropriate care to patients after hospital discharge including lack of available community-based providers; healthcare professionals without expertise to address post-acute needs; inability to connect patients to available community-based services; poor provider-to-patient communication, education and training; and inadequate policies for health care access and community reintegration. The ATTEND trial in India and RECOVER trial in China are both completing enrollment in 2016 for studies of models that provide caregiver training in the hospital on key therapeutic areas for stroke patients to support continued therapy at home. ATTEND leverages physiotherapists as the trainers and RECOVER uses nurses. Hospitals in Eastern Africa unable to spare any in-hospital resources for training are adapting manuals and videos to use on the general wards for discharge teaching. Challenges to implementation and measurement and broader applicability of these models will be discussed.

SESSION 275 (SYMPOSIUM)

THE IMPACTS OF LESBIAN, GAY, BISEXUAL AND TRANS (LGBT) LIFE COURSES AND IDENTITIES IN LATER LIFE

Chair: K. Almack, *University of Nottingham, Nottingham, United Kingdom*

Co-Chair: G.M. Gutman, *Simon Fraser University, Vancouver, British Columbia, Canada*

Previous research has shown that older lesbian, gay, bisexual and transgender (LGBT) people have very diverse life courses. Some have lived outwardly conventional lives while others have lived more unconventional ones. It has also been shown that older LGBT people use (and do not use) sexual and gender identity labels very differently in different historical, cultural and geographical locations and at different stages of their lives. The papers in this symposium explore some of the impacts of these diverse life courses and identities in later life, in order to contribute to more nuanced and less homogenised ways of understanding LGBT older people's experiences and needs.

Fredriksen-Goldsen's paper is a systematic review and narrative analysis LGBT ageing studies spanning 25 years, showing the tension between individualized and interconnected identities for LGBT ageing. Kong's paper explores some of the ways in which the identities and lives of older gay men living in Hong Kong were affected by participation in a research project, demonstrating how this become a site for the construction of new collective identities. King's paper examines how the housing experiences, concerns and preferences of older LGBT people are intersected and complicated by questions of identity with significant implications for policy and practice. Meanwhile, Jones' paper compares the experiences of older people with bisexual relationship histories who do and do not identify as bisexual, in order to add to our understanding of the contextually specific way in which identities are used, and the effects this may have in later life.

RESEARCH ON LGBTQ AGING ACROSS THE LIFE COURSE: DECADE IN REVIEW

K.I. Fredriksen-Goldsen, *University of Washington, Seattle, Washington*

Given shifting demographics, the global population of LGBTQ (lesbian, gay, bisexual, transgender, queer) midlife and older adults is rapidly growing. Given increasing research on LGBTQ aging, this paper assesses the existing literature to identify key themes, trends and gaps in the knowledge base. Building upon a previous 25-year review, we use a narrative analysis across more than 60 studies published from 2005 to 2014. Key components of equity and life course theory (Fredriksen-Goldsen et al., 2014) are applied to examine structural, psychological, social, and other factors associated with aging and well-being in later life in these historically disadvantaged communities. The findings highlight the diversity in LGBTQ aging experiences, intersectional considerations in identity and development, and the ways in which lives are both individualized and interconnected across social relationships, communities, and social structures. Next steps for the future of LGBTQ research in later life are identified.

QUEERING PARTICIPATORY ACTION RESEARCH

T.S. Kong, *The University of Hong Kong, Hong Kong, Hong Kong*

This article examines the ways in which a research project transformed into participatory action research (PAR) with the outcome of setting up a self-help group for older (60+) gay men in Hong Kong. The self-help group offers two types

of service: community building and public education. The overall process witnessed a change in the level of participation by both the researcher and researched, as well as the social transformation of the participants and production of local knowledge on Chinese homosexuality. By bridging the gap between gay and lesbian/queer (GL/Q) studies and PAR, this research examines how the group's establishment has transformed individual identities into collective ones which reunites the gay community that queer research has tended to fragment. This article concludes with a critical reflection on the role and significance of the notion of 'community' in contemporary gay life.

A COMPARISON OF THE AGEING EXPERIENCES OF OLDER PEOPLE WHO DO AND DO NOT CLAIM BISEXUAL IDENTITIES

R.L. Jones¹, K. Almack², R. Scicluna³, 1. *School of Health, Wellbeing and Social Care, The Open University, Milton Keynes, United Kingdom*, 2. *University of Hertfordshire, Hatfield, United Kingdom*, 3. *University of Kent, Canterbury, United Kingdom*

Older bisexual people are widely acknowledged to constitute a particularly hard-to-reach group within LGBT+ ageing research. One reason for this lies in differences in the claimability of bisexual identities compared to lesbian and gay identities. This means that reliance on claimed sexual identities to recruit participants has significant analytic effects. The *Looking Both Ways* study therefore recruited a sample composed half of older people who did identify as bisexual and half of those who did not but acknowledged a history of relationships with more than one gender (n=12, ages 51–83, mean 64). Life history interviews enabled nuanced exploration of sexual and gender histories and imagined futures. Comparison between the two groups suggests ways in which life course events and historical cohort influence the claiming of particular sexual identities in earlier and later life, which then have implications for ageing futures.

IDENTITY MATTERS? THE HOUSING CONCERNS, EXPERIENCES, AND PREFERENCES OF OLDER LGBT PEOPLE IN THE UK

A.D. King, *Sociology, University of Surrey, Guildford, Surrey, United Kingdom*

Research has documented the unique experiences and characteristics of older LGBT adults. Yet in the UK there has been a gap in knowledge about older LGBT people and housing. This presentation outlines findings from the SAFE Housing Project, drawing on data from five focus groups with 28 older LGBT people age 50 plus, as well as an extensive online survey completed by 175 older LGBT people in in two areas of England (Greater London and Shropshire). Results showed that housing concerns, preferences and experiences were strongly related to identity, in terms of gender, gender identity and sexuality, as well as geographical location and other social factors. Hence, the research challenges the view that housing for older LGBT people can be perceived of in terms of an individualistic choice and demonstrates why a more nuanced, identity-based understanding of older LGBT people's housing needs to be considered.

SESSION 280 (SYMPOSIUM)

LONG-TERM CARE: INTERNATIONAL IMPERATIVES, LOCAL RESPONSES

Chair: C. Roles, *Age International, London, United Kingdom*

The demographic changes taking place globally mean that long-term care is becoming a policy imperative in every region of the world. There are many challenges that policy-makers and practitioners have to confront: the determinants of demand; the cost of care; who is responsible for provision of care (the state, family or individual); the role of the private sector; and the agency and voice of older people themselves. Global frameworks such as the WHO's Global Action Plan on Ageing and Health and the Sustainable Development Goals help make visible how governments and civil society should respond to these challenges. The varying realities of wealthier countries, lower-income and middle-income countries requires different responses at national and local levels, but there are also commonalities that bridge these differences and allow us to learn from each other. This symposium will examine long-term care challenges across diverse international economic and social contexts and stimulate dialogue on how best to respond.

THE INTERNATIONAL POLICY CONTEXT FOR ACTION ON LONG-TERM CARE

J. Beard¹⁻³, 1. *World Health Organisation, Geneva, Switzerland*, 2. *University of Sydney, Sydney, New South Wales, Australia*, 3. *Southern Cross University, Sydney, New South Wales, Australia*

The World Health Organization has identified ageing as a priority issue and released the first *World report on ageing and health* in 2015. This was followed by the adoption in 2016 of the *Global strategy and action plan on ageing and health* by the World Health Assembly. The report and strategy provide a clear public health framework for action on ageing in 4 strategic areas: developing age-friendly environments; aligning health systems to older populations; building systems of long term care; and improving measurement, monitoring and research. These objectives are framed around a significant reconceptualization of *Healthy Ageing* that is relevant even for those older people who have experienced significant losses of capacity and who require on-going care and support. The *World report* makes clear that in the 21st Century, there is no country that can afford not to have a system that supports long-term care.

LONG-TERM CARE SYSTEMS AND THE IMPORTANCE OF BUILDING THE PAID AND UNPAID WORKFORCE

A. Pot, *World Health Organisation, Geneva, Switzerland*

Building a sustainable paid and unpaid workforce is essential for the development and improvement of long-term care systems worldwide, including care at home, in the community and in institutions. This paper will examine the challenges facing the establishment of long-term care systems, with special attention given to building a sustainable workforce. Questions to be addressed include: What is needed for caregivers like family members, volunteers, peers, migrants,

nursing assistants and others to provide care in the next decades in different parts of the world? How to share the burden of care? The consequences for policy-makers, researchers and service providers will also be discussed.

DEVELOPMENT OF COMPETENCIES IN THE CARE OF OLDER PERSONS: COMPARATIVE PERSPECTIVES

P. Conboy, *HelpAge International, London, United Kingdom*

More people are ageing and, as they age, their health and care needs become more complex. Many are living with more than one long-term condition and single disease approaches to care are failing to meet their needs. One of the keys to the effective care of older people is the assurance that those working for them – doctors, nurses, primary and community care workers, care attendants – have the right knowledge, training, skills and values to deliver the right type of care. In middle and low income countries, access to specialist geriatric care is limited and the challenge is to establish innovative models for the development of competencies in the care of older persons for a range of professional groups and sectors. This presentation will explore the issues and challenges of developing such models by sharing experiences from selected low and middle income countries.

GLOBAL CHALLENGES TO FAMILY CARE

K. Glaser, *Kings College London, London, United Kingdom*

Families are undergoing rapid transformations that are affecting intergenerational care and support around the Globe. While families have proved remarkably adaptable in the face of such change, the ability of families to provide care and support is at risk. Not only are care demands likely to increase given projected rises in complex multi-morbidities and challenging health conditions such as dementia, but social changes such as women's increasing engagement in paid work and migration are influencing care and support within families. Moreover, changes in family behaviour are not distributed uniformly across social groups. This has raised concerns that the need for family assistance among all generations of the already disadvantaged may increase, potentially exacerbating social disparities in intergenerational care and support. This paper will examine evidence on the extent of such disparities around the globe and their consequences for the health and wellbeing of older people and their families.

SESSION 285 (SYMPOSIUM)

THE EFFECT OF FAMILY CAREGIVING ON THE WELL-BEING OF OLDER ADULTS AS CAREGIVERS OR CARE RECIPIENTS

Chair: M. Kim, *Daegu University, Korea (the Republic of)*
Co-Chair: L. Park, *University of Wisconsin-Madison, Madison, Wisconsin, Afghanistan*

Depending on the situation, older adults can be caregivers or care recipients. Also depending on the situation the effect can positively or negatively affect the older adults' well-being. This session focuses on family caregiving on the well-being of older adults in Korean families. The purpose of this session is to highlight different caregiving styles involving older adults in Korea and in the U.S. Two studies from Korea

focus on the well-being of older adults as the caregiver. The first study explores the potential use of narrative therapy to alleviate caregiving burden stemming from stigma and feelings of guilt that older parents struggle with from having an adult child with developmental disabilities. The second study examines the well-being of grandparents helping raise their grandchildren as the nuclear family system changes with an increase in working mothers. The other two studies, using datasets from the US, focus on older adults as recipients of caregiving. The first study using the Wisconsin Longitudinal Study examines whether co-residence of an adult child has a positive or negative effect on the quality of life for their older parents. The second study using a national dataset on Medicare beneficiaries and their caregivers examines various caregiver and care recipient factors influencing the likelihood of older adults, who are vulnerable to chronic illness and dementia, to remain in the community and avoid nursing home placement. Implications of these studies on family caregiving suggest that the status of the older adult as caregiver or care recipient may have differing effects.

RE-AUTHORING THE NARRATIVES OF THE OLDER CAREGIVING MOTHERS

J. Ko¹, S. Lee², J. Park², 1. *Kyung Hee Cyber University, Seoul, Korea (the Republic of)*, 2. *Chung-Ang University, Seoul, Seoul, Korea (the Republic of)*

This presentation is to illustrate the potential use of narrative therapy (NT) for alleviating caregiving burdens of the older parents, whose adult children have developmental disabilities (DDs). Five sessions of group narrative therapy were conducted on participants. As sessions progressed, meanings of their children were changed into something that gives them reason to live; the unilateral nature of their relationship was later described as interdependent. Participants' identity as mothers shifted from an "imperfect" one to someone "striving to improve the situation." The authors pointed out that NT is an effective approach in the Korean cultural context for addressing the multiple hardships of the older mothers, including the image as a sinful daughter-in-law who gave birth to an imperfect child and the lonely journey as a caregiver during a time when resources for children with DDs and their families were limited in Korea. Creating alternative meanings allows them to experience empowerment in their lives.

THE EFFECT OF GRANDPARENTS' CAREGIVING OF GRANDCHILDREN ON WELL-BEING

M. Kim^{1,3}, L. Park², 1. *Daegu University, Daegu, Korea (the Republic of)*, 2. *University of Wisconsin-Madison, Madison, Wisconsin*, 3. *The Institute of Aging Society, Daegu University, Daegu, Korea (the Republic of)*

The changing nuclear family system has created serious child caring issues in Korea. In Korea, half of working mother's children were taken care of by their grandparents. This study used Pearlin et al.(1990)'s stress process model to analyze grandparent's well-being while caregiving grandchildren. The model consists of primary stressors, secondary stressors and coping resources. This study used the 5th and 5th addition wave of KReIS (Korean Retirement and Income Studies) which were collected in 2013 and 2014 respectively. The sample size of this study was 174 who took care of their

grandchildren. As a well-being measure, life satisfaction and subjective health were used. Hierarchical multiple regression was used for data analysis. Caregiving location had a significant effect on both life satisfaction and subjective health. The age of grandchildren had a negative significant effect on subjective health. Emotional and instrumental support affected life satisfaction, and coping affected subjective health.

IS IT BENEFICIAL OR DETRIMENTAL TO WELL-BEING?: CO-RESIDENCE WITH AN ADULT CHILD IN OLD AGE

E. Namkung, *University of Wisconsin-Madison, Madison, Wisconsin*

Increased life expectancy in parent generation and prolonged period of financial instability in child generation have made it more likely for aging parents to live with their adult children. However, little has been known about whether co-residing with an adult child has a positive or negative effect on parental well-being in old age. Using the Wisconsin Longitudinal study, this study examined (1) how co-residence affects well-being of aging parents aged 65 or older ($n=6,537$, $M_{age}=71$), and (2) whether the effects are moderated by limitations in Activities in Daily Living (ADL) and marital status of parents. Co-residence predicted greater depressive symptoms and poorer psychological well-being, and these deleterious effects of co-residence in later life were significant regardless of parents' marital status and ADL limitations. Given the strong effects of co-residence status on parental well-being, practitioners should assess whether or not this living situation is optimal for the well-being of the elders.

FACTORS THAT CONTRIBUTE TO REMAINING IN THE COMMUNITY AMONG OLDER ADULTS

H. Moon, S. Rote, *University of Louisville, Louisville, Kentucky*

The combination of a longer life expectancy and high rates of chronic illness and dementia will lead to a rise in the number of older adults in need of informal or formal care. The majority of older adults, however, prefer to age in place in their community. Using national data on Medicare beneficiaries and their caregivers, we investigated 772 caregiver (CG) and care recipients (CR) factors that influence the likelihood of remaining in the community and avoiding nursing home placement over a 3-year period. The only CG factor (higher CG's education) and CR factors race (being non-White), lower levels of ADL disability, dementia status (no probable or possible dementia), and CR's sense of community was a significant predictor of remaining in the community. Our findings highlight the need to enable CRs to maintain relationships with their neighbors or community members to avoid nursing home placement.

SESSION 290 (SYMPOSIUM)

CHANGE AGENTS: ASSESSING THE HEALTH TRANSITIONAL CARE NEEDS FOR VULNERABLE OLDER ADULTS

Chair: I.C. Williams, *University of Virginia, Charlottesville, Virginia*

Co-Chair: K.M. Rose, *University of Virginia School of Nursing*

Discussant: A. Perez, *University of Pennsylvania, Philadelphia, Pennsylvania*

Racial disparities in health care are well documented, and eliminating them is a national priority. Similarly, the unique needs of sexual and gender minorities are increasingly becoming a high priority. Among older adults, health care transitions, such as a discharge from hospital to home, are one of the most vulnerable times placing patients at risk for poor outcomes. As the proportion of ethnic/racial and sexual/gender minority older adult grows, it is increasingly important to design health care services and tailored interventions that are responsive to this population and their caregivers to ultimately avoid unnecessary re-hospitalizations and reduce poor health outcomes.

This Change AGent qualitative study represents an initial step in developing responsive transitional care services and was designed to identify strategies for navigating transitions in healthcare for ethnic, racial, sexual and gender minorities. This symposium will present findings and recommendations from focus groups, individual interviews, and discussion forum data collected through a Change AGent action community. Results from three papers will focus on (1) the state of the science for transitional care for older adults and the method of the Change AGent action community, (2) unique transitional care needs of older adult racial/ethnic minorities, and (3) the shortages of tailored transitional care services available for older sexual/gender minorities. Findings from these studies are central to understanding the gaps for practice, research, and education for transitional care among vulnerable older adults.

STATE OF SCIENCE: TRANSITIONAL CARE AMONG OLDER VULNERABLE ADULTS

K.M. Rose¹, K.B. Hirschman², A. Perez², R.A. Jablonski-Jaudon³, L. Eastham¹, J. Anderson¹, I.C. Williams¹,

1. *University of Virginia, Charlottesville, Virginia*, 2.

University of Pennsylvania, Philadelphia, Pennsylvania, 3.

University of Alabama, Birmingham, Alabama

Improving transitions of care among chronically ill older adults and their family caregivers, especially for our most vulnerable populations who have been historically stigmatized resulting in poorly managed transitions and likely poorer health outcomes and increased health care costs, is essential. The purpose of this paper is to describe the Change AGent funded project to better understand the state of the science in transitions of care for older adults and their family caregivers with a specific focus on our most vulnerable populations defined as racial/ethnic and sexual/gender minorities. We will describe the methods used for this project which include the assembly of groups of experts in both transitions and vulnerable populations to learn more about disparities. We will summarize the need for practice change and how transition of care services may help better meet the unique medical, emotional, and psychosocial needs of older adults from vulnerable and underserved populations.

EXPLORING TRANSITIONAL CARE CHALLENGES AMONG OLDER RACIAL/ETHNIC MINORITIES

I.C. Williams¹, A. Perez², L. Eastham¹, K.B. Hirschman², R.A. Jablonski-Jaudon³, J. Anderson⁴, K.M. Rose⁴, 1. *School of Nursing, University of Virginia, Charlottesville, Virginia*,

2. *University of Pennsylvania, Philadelphia, Pennsylvania*,
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University of Tennessee at Knoxville College of Nursing,
Knoxville, Tennessee

For minority older adults and their families, being stigmatized has historically resulted in poorly managed transitions and likely poorer health outcomes and increased health care costs. Vulnerable older adult patients and their families are possibly being missed or are not taking advantage of resources available because of their own sense of stigmatization and lack of trust of their health care providers. Our goal was to address these disparate gaps and explore established evidence-based transitional care models to identify the gaps and needs of racial/ethnic older adults and their family members. Results suggest that trust and communication between team members and families, empowerment of patients and families, and culturally tailored coaching will make transitions smoother. The context in which vulnerable families understand the model of care must be developed more effectively, ultimately saving money and improving quality of care. Recommendations for research, education, and practice based on analyses will be discussed.

TRANSITIONS IN CARE FOR SEXUAL AND GENDER MINORITIES: RECOMMENDATIONS FOR RESEARCH AND PRACTICE

J. Anderson¹, R.A. Jablonski-Jaudon², K.B. Hirschman³, A. Perez³, L. Eastham¹, I.C. Williams¹, K.M. Rose¹, 1. *School of Nursing, University of Virginia, Charlottesville, Virginia*, 2. *University of Alabama, Birmingham, Alabama*, 3. *University of Pennsylvania, Philadelphia, Pennsylvania*

The estimated 2 million U.S. older adults who self-identify as members of the LGBTQ community will increase exponentially over the next several years to more than 4 million by 2030. A recent Institute of Medicine report stated that the existing evidence and knowledge regarding the health of LGBT individuals is lacking and requires further research. Consequently, there is a shortage of services that reflect knowledge and understanding on the well-being of LGBT older adults, particularly related to transitions in care. The purpose of this study was to foster discussion among health care professionals and health sciences research to understand the unique medical, emotional, and psychosocial needs of LGBTQ older adults in terms of transitions in care. Focus group and discussion forum data were collected and analyzed using content analysis. Recommendations for research, education, and practice based on the analysis will be discussed.

SESSION 295 (SYMPOSIUM)

INNOVATIVE USES OF TECHNOLOGY FOR TRANSPORTATION AND DRIVING NEEDS OF OLDER PERSONS

Chair: C.C. Quinn, *University of Maryland School of Medicine, Baltimore, Maryland*

The purpose of this symposium is to present how innovative technologies are enabling older persons maintain independence in transportation services and adapt vehicles for older drivers. Previous studies confirm the relationship

of transportation to socialization, loneliness, housing, and access to health care. While 20% of older adults do not drive, 78% of caregivers and friends transport older persons, and driving safety are major issues, focus on older adults has been limited. Using technology to improve the simplicity, efficiency and safety could have a major impact on the use of on demand transportation services and capabilities of older adult drivers.

In this symposium Dr. Charlene Quinn, will provide an overview of the translation of technology to transportation and driving capability of older persons.

Dan Trigub, will describe Lyft Company's curb to curb transportation for older adults, including driver training, impact on increasing access to health appointments, development of services for older persons without smart phones and Lyft's national and international health, housing and non-profit senior programs.

Victoria Kline will discuss on-demand transportation pilot and demonstration programs of the national Village to Village Network, including Sequoia Village, whose members help each other to age in place by providing access to support services and community activities.

Dr. David Eby, Transportation Institute Research of the University of Michigan will discuss advanced in-vehicle technologies, focusing on: use (how older drivers use technologies), perception (what they think about technologies), and outcomes (safety and/or comfort benefits of technologies).

LYFT: USING TECHNOLOGY TO CONNECT AGING PERSONS WITH TRANSPORTATION ON-DEMAND

D. Trigub, *Lyft, San Francisco, California*

Technology applications in the on-demand economy are a novel way to reach older persons. Annually, 3.6 million Americans miss or delay medical care because they lack appropriate transportation. Lyft has created a new mobility option for older adults and caregivers that help make transportation on-demand and accessible. Lyft operates in 200+ cities across the U.S. with over 400,000 drivers giving 3 million rides per week. Lyft and its international partners cover 51% of the world's population. Lyft has developed a platform called "Dispatch" which allows any third party including hospitals, home care providers, Medicaid transportation brokers and others to request rides on behalf of a senior. No smartphones required. A requester simply inputs the passenger's name and pickup and drop-off location, and a Lyft driver is matched instantly. Today there are over 25,000 rides being booked by Dispatch each week with 500,000+ rides completed in just the past few months.

OLDER DRIVERS AND ADVANCED IN-VEHICLE TECHNOLOGIES

D.W. Eby¹, L.J. Molnar², L. Zhang³, R. St. Louis², N. Zanier², L.P. Kostyniuk², 1. *Transportation Research Institute, University of Michigan, Ann Arbor, Michigan*, 2. *Transportation Research Institute, University of Michigan, Ann Arbor, Michigan*, 3. *Tsinghua University, Beijing, China*

Driving is a complex task that involves psychomotor, visual, and cognitive functional abilities. As people age they may experience declines in driving abilities as a result of age-related medical conditions and the medications used to treat these conditions. This study was a detailed synthesis of the

literature that addressed 16 advanced in-vehicle technologies. This synthesis focused on how older drivers use these technologies, what they think about them, and safety and/or comfort benefits of these technologies. This presentation will also report on training, education, and research needs in technology applications for driving.

VILLAGE TO VILLAGE NETWORKS: ACCESSING MOBILE TRANSPORTATION SERVICES TO HELP AGE IN PLACE

V. Kline, *Sequoia Village, San Carlos, California*

Village to Village Network (VtV) is a national peer to peer network to help establish and continuously improve management of their own villages whether in large metropolitan areas, rural towns or suburban settings. The mission of VtV is to enable communities to establish and effectively manage aging in community organizations initiated and inspired by volunteer members. Approximately 190 Villages are operating in the US, Australia and the Netherlands with 185 additional Villages in development. Villages in San Francisco and the Bay Peninsula, both members of VtV, have developed as backups to their existing core of volunteer drivers, an on-demand transportation services meeting a major need of older adults to age in place. This presentation provides use cases and older adult testimonials on use and impact of on-demand transportation services for Village members.

THE RESPECT SHOE INSOLE TO MONITOR FRAILTY PARAMETERS

A. Piau¹, Y. Charlon², E. Campo², F. Nourhashemi¹, B. Vellas¹, 1. *Gérontopôle, Toulouse University Hospital, Toulouse, France*, 2. *CNRS, LAAS, Toulouse, France*

Frailty detection and evaluation is not routinely done when older adults receive health care or social services. Standardized research measures of frailty are available. However, seamless follow-up of frailty parameters or access to information on adherence to lifestyle recommendations from evaluations may prevent or delay frailty. Our European consortium is evaluating a removable shoe insole to measure dynamic characteristics of gait (speed, distance). The insole transmits wireless data to be available for distance consultations by users (i.e., patients or physicians). The first phase of the study determined end user evaluation (technical, clinical, social, ergonomic, and economic), at the Blagnac smart house (n=10). The second evaluation phase involves 60 frail community-dwelling subjects, with 30 of them which will use the smart insoles for 3 months. Comprehensive assessments determined the feasibility, acceptability, interoperability, integration in a healthcare network, and clinical relevance of the technological device in comparison to usual care.

SESSION 300 (SYMPOSIUM)

MEDIA AND AGEISM

Chair: M. Wilinska, *Jönköping University, Jönköping, Sweden*

Co-Chair: S. Mosberg Iversen, *University of Southern Denmark, Odense, Denmark*

It is widely recognized that how we approach old age is conditioned upon culture. Media is undoubtedly the largest cultural arena in which societal images and attitudes towards

old age and older people are formed. The existing research usually discusses the process of underrepresentation and misrepresentation of old age and older people. However, media as an important part of everyday realities among older people are also about creation and active use of media and their content.

It is therefore pertinent to the study of ageism to not only understand how different types of online and offline media represent ageing and old age, but also how people of different ages access and use those media and what types of knowledge about media and old age dominate. The main objective of this symposium is to address these concerns by specifically focusing on a) the processes of knowledge production about media and via media with regards to old age, and b) the ways in which older people's use various types of online and offline media.

The symposium brings together ageing and media studies researchers from several European countries who are active in research promoting anti-ageist knowledge that reflects the growing diversity of people of different ages who are commonly referred to as 'old'.

MEDIA AND HEALTH INFORMATION LITERACY AMONG SENIOR CITIZENS IN ICELAND

Á. Pálsdóttir, *University of Iceland, Reykjavík, Iceland*

The paper explores various aspects of media and health literacy among senior citizens in Iceland by comparing two age groups, those who are 60 to 67 years old and those who are 68 years and older. Health literacy refers to the 'cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health.' It is closely related to a joint definition by UNESCO and of media and information literacy, which allows individuals to '... access, retrieve, understand, evaluate and use, create, as well as share information and media content in all formats...' The term media and health information literacy combines these two concepts. Thus, competency in media and health information literacy is important as a tool for lifelong learning, which provides people with better opportunities to fight age discrimination and make informed decisions.

AGE DISCRIMINATION IN BIG DATA ANALYSIS: THE CASE OF AGE-PREDICTIVE SYSTEMS

A. Rosales, M. Fernández-Ardèvol, *the Universitat Oberta de Catalunya, Barcelona, Spain*

Digital communication systems opened the door for tracking everyday activities. Terabytes of data created by real life users in their daily activities on digital devices. Big data are used among others, to understand human behavior and to model statically to predict human behavior.

However, big data analyses are limited by assumptions, values, and biases. Concretely, older people often constitute a minority group in digital media, both in terms of the number of users and in terms of activities. Also, tracked data often do not have demographic information, do not include older people, or do not make a generational analysis. Thus presumably, big data analysis provide conclusions and influence decisions without taking into account the nuances related to older people, their particular interests and habits leading to structural discrimination.

The paper analyzes this topic within the area of intelligent systems to predict the age of users in social network sites.

FIGHTING AGEISM: OLDER PEOPLE SELF-DEPRECATING HUMOR IN EVERYDAY ONLINE CONVERSATIONS

L. Ivan, I. Schiau, *National University of Political Studies and Public Administration, Bucharest, Romania*

By the means of netnographic techniques we investigate the use of humor in an online community of grandparents from Romania, departing from the distinction between self-deprecating humor and other -deprecated humor (James & Olson, 2000). The two types of humor are described as commonly used regardless the cultural contexts, holding adaptive value in conversations. Our data support the idea found in the literature that self-deprecated humor is used particularly on sexual conversational topics, also when we talk about older people's online conversations. Furthermore, we found that self-deprecating humor is used by participants in approaching other "less comfortable" topics in connection to ageist discourse, for example the use of technology, the frailty and cognitive impairment. The findings suggest the idea that self-deprecated humor could be seen as an adaptive way to fight ageist everyday practices.

SESSION 305 (SYMPOSIUM)

THE BENEFITS OF THE HUMANITIES AND ARTS FOR OLDER ADULTS

Chair: M. Ardel, *University of Florida, Gainesville, Florida*

This symposium draws on diverse research approaches across different disciplines to demonstrate the wide range of benefits of the humanities and arts for older adults.

Using data of 242 older wise and creative nominees and controls, the first presentation shows that emphatic concerns for others partially mediated the positive relations of wise and creative nominees on life satisfaction, indicating possible benefits of programs, which encourage growth in wisdom and/or creativity. The second presentation discusses the role of Vital Involvement (VI) in behavioral interventions that engage older adults in arts participation to foster health and psychosocial growth and help heal the multiple losses and deteriorations of old age. The third presentation analyzes the impact of arts participation on the quality of life of frail older adults by providing a systematic review of the international literature, interviews with older adults and family caregivers, and focus group discussions with health and art professionals, researchers, and policy makers. The fourth presentation draws on interview, focus group, and video data from four qualitative arts-based research projects to demonstrate the power of the arts in addressing relational and social justice issues and reducing the suffering experienced by persons with dementia. The final presentation explores the value of reading novels and short stories for older adults based on a meta-analysis of publications on literature and aging.

Overall, the presentations suggest that the humanities and arts should not be overlooked in models of aging well and might be particularly beneficial for older adults most marginalized in our communities.

WISDOM AND CREATIVITY AS TWO ROUTES TO SATISFACTION IN LATER LIFE: A PERSONAL TRAITS MODEL

W. Shi¹, M. Ardel¹, L. Orwoll², *1. Sociology and Criminology & Law, University of Florida, Gainesville, Florida, 2. Ann Arbor, Michigan*

Wise and creative older people are considered exemplars of successful aging. Indeed, our study of 66 wisdom nominees, 84 nominated visual artists, and 92 controls between the ages of 53 and 92 ($M=71.3$, $SD=8.97$) showed that both wise and creative nominees reported higher life satisfaction than controls, particularly after controlling for subjective health, suggesting that wisdom and creativity are two routes to greater satisfaction in later life. There was no significant difference in stated life satisfaction between wise and creative older nominees. The positive relations of wise and creative nominees on life satisfaction was partially mediated by respondents' emphatic personality traits, assessed by items from the California Personality Inventory. It appears that both wisdom and creativity foster empathic concerns for others, which further contributes to life satisfaction in old age. Hence, older adults are likely to benefit from programs that encourage growth in wisdom and/or creativity.

VITAL INVOLVEMENT IN INTEGRATING HUMANITIES AND ARTS INTO OLDER ADULTHOOD

H.Q. Kivnick, *School of Social Work, University of Minnesota, St. Paul, Minnesota*

The arts and humanities contribute to knowledge through ways of knowing that transcend the verbal, linear, and measurable. This presentation discusses the role of the Vital Involvement (VI) construct in behavioral engagement of elders in H&A activities. Practitioners implement interventions that engage older adults in arts participation, and evaluate individual participation impact in terms of validated outcome variables. The VI construct contextualizes elder arts participation within lifelong psychosocial development. As VI is fundamental to earlier-life healthy development, and arts participation exemplifies the dynamic, reciprocal VI process, so arts participation can help to catalyze the ongoing development that underlies old age as a period of growth and possibility. Such ongoing growth and health promotion have been shown to be "healing" for multiple losses and deteriorations of old age, as well as health promoting for elders who still focus far more on "living a good life" than on "compensating for problems".

LIBERATING THE ARTS FROM THE THERAPY CULTURE IN DEMENTIA CARE

S.L. Dupuis¹, P. Kontos³, G. Mitchell², C. Jonas-Simpson², J. Gray⁴, *1. Recreation and Leisure Studies, University of Waterloo, Waterloo, Ontario, Canada, 2. York University, Toronto, Ontario, Canada, 3. Toronto Rehabilitation Institute, Toronto, Ontario, Canada, 4. University of Toronto, Toronto, Ontario, Canada*

Influenced by biomedical/behavioural models, the arts within dementia care are valued primarily as therapy; arts-based interventions are provided as non-pharmacological means to improve functioning of "patients" and treat misunderstood "behaviours". Informed by theorizing within liberation arts and critical theory, this presentation aims to

liberate the arts in dementia care from the therapy culture and demonstrate the power of the arts to address broader relational and social justice issues connected to aging and elder care. We draw on interview, focus group, and video data from four qualitative research projects using theatre, visual arts, an arts-based learning academy, and elder clowning. Findings demonstrate how the arts: challenge dominant discourses and problematize oppressive policies and practices; ignite personal discovery, growth, and transformation; and nurture relational citizenship. The arts create transformative spaces for relational flourishing and prompt the social change needed to reduce the harm and suffering experienced by older adults living with dementia.

READING NOVELS AND SHORT STORIES: BENEFITS FOR OLDER ADULTS

P. Derkx, *University of Humanistic Studies, Utrecht, Netherlands*

Alain de Botton & John Armstrong argue in *Art as Therapy* (2013) that art has seven functions referred to as remembering, hope, sorrow, rebalancing, self-understanding, growth and appreciation. Rita Felski in her *Uses of Literature* (2008) analyzes the spectrum of reader responses to literature in terms of recognition, enchantment, knowledge and shock. Using these lenses and focusing on novels and short stories this paper will give the results of a meta-analysis of the scattered publications on literature and aging since the first conference on humanities and aging, which took place in Cleveland, Ohio in November 1975. The conclusion will present a carefully considered judgment on what the main value of reading novels and short stories can be for older adults

SESSION 310 (SYMPOSIUM)

SUPPORTING OPTIMAL AGING OF OLDER PERSONS WITH MULTIPLE CHRONIC CONDITIONS AND THEIR FAMILIES

Chair: M. Markle-Reid, *McMaster University, Ontario, Canada*

Co-Chair: J. Ploeg, *McMaster University*

Discussant: V. Boscart, *Conestoga College, Bright, Ontario, Canada*

The prevalence of multiple chronic conditions (MCC) among older persons is increasing worldwide and is associated with poor health status and high rates of healthcare utilization and associated costs. Current health and social services are not addressing the complex needs of this group or their family caregivers who are largely responsible for their care in the community. There is uncertainty in the literature on the effectiveness of interventions for individuals who have MCC. The purpose of this symposium is to describe four studies, funded by the Canadian Institutes of Health Research Signature Initiative on Community Based Primary Healthcare, that contribute to our understanding of future directions for interventions to support optimal aging of older persons with MCC and their families.

The first paper describes the results of a qualitative study of the experiences of managing MCC from the perspectives of 130 older adults with MCC, their caregivers and

healthcare providers. The second study examined the patterns of health services use and associated costs among older adults with MCC using multiple linked administrative databases. The results of these two studies informed the design of two intervention studies. The third paper describes the results of a pragmatic randomized controlled trial of an inter-professional community-based health promotion program to address the needs of older adults with MCC and Type 2 Diabetes Mellitus. The final paper describes the results of a pragmatic randomized controlled trial of an online intervention for family caregivers of older persons with MCC and dementia.

MANAGING MULTIPLE CHRONIC CONDITIONS: EXPERIENCES OF OLDER ADULTS, CAREGIVERS, AND CARE PROVIDERS

J. Ploeg¹, N. Matthew-Maich², K. Fraser³, S. Dufour¹, C.A. McAiney¹, S. Kaasalainen¹, M. Markle-Reid¹, R. Upshur⁴, 1. *McMaster University, Hamilton, Ontario, Canada*, 2. *Mohawk College, Hamilton, Ontario, Canada*, 3. *University of Alberta, Edmonton, Alberta, Canada*, 4. *University of Toronto, Toronto, Ontario, Canada*

The purpose of this study was to explore the experience of managing multiple chronic conditions (MCC) in the community from the perspectives of older adults with MCC, caregivers and healthcare providers. Semi-structured qualitative interviews (n=130) were conducted in two Canadian provinces with 41 community-living older adults (65 years and older) with 3 or more chronic conditions, 47 caregivers and 42 healthcare providers working in community settings. Participants described the experience of managing MCC as: (a) overwhelming, draining and complicated, (b) organizing pills and appointments, (c) being split into pieces, (d) doing what the doctor says, (e) relying on family and friends, and (f) having difficulty getting outside help. The experience of managing MCC was highly complex and significant gaps existed between the perceived needs of older adults and caregivers and the ability of health and social care systems to meet those needs. Study results informed the design of intervention studies.

MY TOOLS 4 CARE: AN ONLINE INTERVENTION SUPPORTING CAREGIVERS OF OLDER PERSONS WITH DEMENTIA

W. Duggleby¹, J. Ploeg², C.A. McAiney², S. Ghosh³, S. Peacock⁴, K. Fisher², 1. *University of Alberta, Edmonton, Ontario, Canada*, 2. *McMaster University, Hamilton, Ontario, Canada*, 3. *Faculty of Medicine and Dentistry University of Alberta, Edmonton, Alberta, Canada*, 4. *College of Nursing University of Saskatchewan, Saskatoon, Saskatchewan, Canada*

Based on Transition theory an online intervention was developed for family caregivers of older persons with dementia with multiple chronic conditions living at home (My Tools 4 Care). The purpose of the study was to evaluate the impact of My Tools 4 Care on caregiver self-efficacy, hope, and quality of life. A mixed methods pragmatic randomized control trial was conducted with 185 participants randomly assigned to a treatment or a control group. Study results indicate that participants perceived My Tools 4 Care helped them

to reflect on their caregiving journey, how far they've come, and what supports they have available to them. Participants appreciated that My Tools 4 Care provided information and education for the caregiver. Some participants also noted that My Tools 4 Care helped them to reflect on the importance of self-care.

ACHRU—COMMUNITY PARTNERSHIP PROGRAM FOR OLDER ADULTS WITH DIABETES AND MULTIMORBIDITY

M. Markle-Reid¹, J. Ploeg¹, K. Fraser², K. Fisher¹, N. Akhtar-Danesh¹, A. Bartholomew¹, A. Gafni¹, 1. *McMaster University, Hamilton, Ontario, Canada*, 2. *University of Alberta, Edmonton, Ontario, Canada*

In response to the complex needs of older adults with Type 2 Diabetes Mellitus and multimorbidity, an inter-professional community-based health promotion program was developed. A pragmatic randomized controlled trial study design was used to conduct the 6-month program comprised of in-home visits, monthly group sessions, and nurse-led coordination of care delivered by Registered Nurses, Dietitians, and fitness leaders from the YMCA or community centre. Compared with the usual care group (n=79), the intervention group (n=80) showed statistically significant and clinically important improvements in the mean SF-12 measured mental health (3.69, p=0.02, 95% CI: 0.60, 6.78), vitality (3.68, p=0.02, 95% CI: 0.57, 6.80) and general health scores (3.56, p=0.02, 95% CI: 0.65, 6.46). These benefits were achieved at no additional cost compared to usual primary care. The results support the effectiveness of the program in improving health related quality of life in older adults with Type 2 Diabetes in community settings.

SIMILARITIES IN SERVICE USE AND COMORBIDITY IN OLDER ADULTS WITH DEMENTIA, DIABETES, OR STROKE

L. Griffith¹, A. Grunier², K. Fisher¹, A. Gafni¹, C. Patterson¹, M. Markle-Reid¹, J. Ploeg¹, 1. *McMaster University, Hamilton, Ontario, Canada*, 2. *University of Alberta, Edmonton, Alberta, Canada*

This study describes the striking similarities seen across three studies examining health service use and associated costs among community-living older adults with comorbidity and one of dementia, diabetes, or stroke, using linked administrative databases from Ontario, Canada.

We identified 376,434 persons with diabetes, 95,399 with dementia, and 29,671 with stroke (2008). Comorbidity prevalence differed, with 75% of the stroke cohort having 3+ comorbidities, compared to 50% for dementia and 46% for diabetes. However, in all three, hypertension and arthritis were most common with a frequency over 75%. Overall utilization increased with comorbidity for the three index conditions. Although per-patient costs differed (highest for stroke, then dementia and diabetes), the relative pattern of costs over time was similar. In each cohort, total service costs increased with comorbidity, with acute care services increasing the most. Although intensity of comorbidity differed among the cohorts, we found similar relationships between comorbidity, utilization and costs.

SESSION 315 (SYMPOSIUM)

IMPORTANCE OF TRAJECTORY ANALYSIS FOR RESEARCH ON COGNITIVE DECLINE, DISABILITY, AND DEMENTIA

Chair: A. Singh-Manoux, *INSERM U1018, Paris, France*

Co-Chair: A. Elbaz, *INSERM U1018, Paris, France*

Populations across the world are becoming older, with the over-65 age group fast approaching one third of the population of rich countries. Prevention efforts to address this unprecedented societal challenge are hindered by lack of knowledge on the principal risk factors for age-related functional decline, disability, and dementia. Much of evidence comes from studies where risk factor levels are measured once, making it difficult to establish their importance for ageing outcomes such as cognitive decline, dementia, and disability. This symposium will present and discuss our research using longitudinal data from the British Whitehall II study and the French Three Cities Study. Specifically, we will show the impact of duration of exposure to atrial fibrillation on cognitive decline and risk of dementia; the importance of hormonal status on functional decline and disability; we will compare the importance of walking speed assessed once and decline in walking speed for dementia; the importance of adverse health behaviours for the risk of disability in two cohorts; and finally the importance of assessment of physical activity and BMI for dementia by modelling their trajectories over 28 years before dementia onset. The underlying theme of this symposium is the use of longitudinal data on risk factors and functional outcomes in identifying trajectories of risk factors for ageing outcomes.

ATRIAL FIBRILLATION AS A RISK FACTOR FOR COGNITIVE DECLINE AND DEMENTIA

A. Singh-Manoux, A. Fayosse, A. Dugravot, *INSERM U1018, Paris, France*

We assessed associations of AF with cognitive decline and dementia in adults followed between 45 and 85 years. A total of 737 incident AF and 323 incident dementia were identified. In analysis adjusted for sociodemographic covariates, AF was associated with an increased risk of dementia (hazard ratio=1.78; 95% CI: 1.28, 2.48). By age 60 years, participants with AF at age 50 and 55 years, compared to AF-free participants, had an excess decline in cognitive functioning corresponding to an age effect of 3.2 and 1.8 years. By age 85, participants with AF at ages 70, 75, and 80 years had an excess decline in cognitive function corresponding to an age effect of 7.0, 4.6, and 2.4 years, respectively. In adults aged 45–85 years AF is associated with accelerated cognitive decline and higher risk of dementia even at ages when AF incidence is low; overt stroke explained only part of the association.

LIFETIME ENDOGENOUS ESTROGEN EXPOSURE AND DECLINE OF GAIT SPEED IN ELDERLY WOMEN

M. Canonico, F. Artaud, A. Singh-Manoux, A. Elbaz, *INSERM U1018, Paris, France*

There is increasing evidence of a role of vascular risk factors and disease in decline of physical function. Lifetime estrogen exposure is associated with cardiovascular disease

among postmenopausal women. Whether reproductive history is related to motor decline remains poorly investigated. Analyses are based on elderly women from the Three-City Study followed over 10y. We examined the cross-sectional and longitudinal associations of age at menopause, oophorectomy, and parity with gait speed (GS, cm/s) and disability. One-year older age at menopause was associated with faster baseline GS (beta: 0.21; 95% CI: 0.01;0.42) and lower disability hazard over the follow-up (HR=0.98; 95%CI:0.97;0.99). Oophorectomy was associated with slower baseline GS (beta:-5.07; 95%CI:-9.07;-1.07). There was no association of parity with GS and disability. Higher endogenous estrogen exposure during reproductive life may be protective for motor function in the elderly. These results are consistent with the hypothesis of a cardiovascular component of motor function.

GAIT SPEED AND DECLINE IN GAIT SPEED AS PREDICTORS OF INCIDENT DEMENTIA

A. Elbaz¹, F. Artaud¹, A. Singh-Manoux¹, J. Dumurgier², 1. INSERM 1018, Paris, France, 2. INSERM U942 and Memory Clinical Center, Saint Louis-Lariboisiere-Fernand Widal Hospital, Paris, France

Previous studies showed that baseline slow gait speed (GS) is associated with an increased risk of incident dementia. It is unknown what is the added value of measuring GS repeatedly in order to identify those at higher risk. We examined the relationship between baseline GS, change in GS, and the hazard of incident dementia in community-dwelling elderly people (N=3,663) dementia-free at baseline (mean age, 73.5y) and followed over 9y, from the prospective French Three-City study cohort. 296 participants developed dementia during the follow-up. Gait was slower up to 7 years prior to the clinical dementia onset. GS decline was more accelerated in those who later developed dementia. Independently of baseline gait speed, those who experienced a steeper decline over the follow-up had an increased dementia risk. Our findings highlight the benefit of using repeated measures in order to identify those with a steeper GS decline and higher dementia risk.

TRAJECTORIES OF UNHEALTHY BEHAVIORS IN MIDLIFE AND RISK OF DISABILITY AT OLDER AGES

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Most evidence on the association between unhealthy behaviors and disability comes from studies in the elderly, where reverse causation and selection bias may distort associations. We examined associations of trajectories of four health behaviors (physical activity, diet, smoking, alcohol), starting in midlife and over 20y, with subsequent disability (range=54-84y) in the Whitehall II cohort study. Disability was assessed three times over 8y, and behavior trajectories were defined using group-based trajectory models. GEE models were used to examine their independent associations with disability. Of 6,825 participants, 19.2% were disabled at least once. Participants with persistent inactivity or declining physical activity, recent ex- or current-smokers, and persistent/recent abstainers or persistent heavy alcohol drinkers

had higher disability risk; fruit/vegetable consumption was not associated with disability. Disability risk increased with the number of unhealthy behaviors trajectories. Unhealthy behavior trajectories in midlife are associated with greater disability risk later in life.

RISK FACTORS TRAJECTORIES PRIOR TO DEMENTIA DIAGNOSIS: BMI AND PHYSICAL ACTIVITY

S. Sabia, A. Dugravot, A. Elbaz, A. Singh-Manoux, INSERM U1018, Paris, France

Dementia is preceded by a preclinical period that unfolds over several years, and affects various processes, including risk factors levels. Thus, the risk factor-dementia association drawn from studies based on older adults may be subject to reverse causation biases. We aim to present trajectories of two risk factors, physical activity and BMI, for which associations with dementia remain unclear, in the 28-year period preceding dementia diagnosis. We will present results from the Whitehall II study where risk factors were assessed up to 7 times over 28 years among 329 dementia cases, assessed via electronic health records, and 1974 controls. We will show that both BMI and physical activity trajectories are modified over the course of 28 years, particularly in the decade preceding dementia. Thus, when these risk factors are measured in the 10 years before diagnosis their associations with dementia are different to that when they are assessed in midlife.

SESSION 320 (PAPER)

PHYSIOLOGICAL FACTORS AND HEALTH OUTCOMES

HIV INFECTION AND OLDER ADULTS IN SOUTH AFRICA

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The number of Human Immunodeficiency Virus (HIV) infected adults aged over 50 years in South Africa is increasing. There is limited knowledge about how this population differs from younger HIV positive adults and whether there are different treatment outcomes.

The study objective was to explore dissimilarities between younger and older HIV positive adults at initiation of Antiretroviral Therapy (ART) with regard to their baseline demographic, clinical and laboratory variables and then compare 12-month ART outcomes.

We did a retrospective record review of a large single site and included treatment-naïve HIV positive adult patients at initiation of ART. Patients aged 18-40 years (n=10726) were

compared to patients aged 50+ years (n=1635). Baseline variables and 12-month outcomes in the two groups were compared using log-binomial regression.

The older cohort had significant differences in baseline demographic, clinical and laboratory data compared to the younger cohort. These included: gender ratios, education and employment levels and BMI and CD4+ count categories. At 12-months of treatment a higher proportion were dead (PR 1.52, 95% CI 1.30–1.76), a lower proportion had a favourable treatment outcome namely viral load suppression and CD4+ increase of $>100\text{cells}/\text{m}^3$ (PR 0.84, 95% CI 0.80–0.90) but there was no difference in treatment complications between the two groups (PR 1.01, 95% CI 0.96–1.07).

HIV positive South African adults aged over 50 years are a unique population. Despite better baseline clinical and laboratory variables, the 12-month outcomes were worse. Contrary to first world studies, there was no difference in treatment complications in our sample.

CALPAIN ACTIVITY MAINTAINS GOOD HEALTH OF CENTENARIAN T CELLS; SUMMARY OF THE CALPACENT PROJECT

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Causes of aging-associated deterioration of human immunity, and the reasons why the immune system of the oldest old individuals (centenarians) is relatively robust, remain moot. Intracellular proteolysis system of two proteases – μ - and m-calpain – and their inhibitor – calpastatin (the calpain-calpastatin system (CCS)) – is active in resting human peripheral blood T cells, participating in maintenance of their readiness to proliferate and secrete cytokines in response to stimulation. The amounts of the CCS proteins decrease in resting T lymphocytes of healthy elderly, only to return in the centenarians to those levels seen in the young individuals. We compared the calpain activities and the levels of transcription of the CCS genes in the resting and stimulated peripheral blood T lymphocyte populations of young, elderly and centenarians, and correlated these activities with the strength of proliferative and cytokine secretion responses to a polyclonal stimulation. Calpain activities significantly decrease in the resting T cells of the elderly compared to the young, and rise again in centenarian lymphocytes, in parallel to the relatively higher proliferative and secretory dynamics and CCS genes' transcription in the centenarian than in elderly T cells. Calpain activity seems to increase the levels of phosphorylation of chosen signal transduction molecules. Concluding, we propose that the CCS activity is essential for the maintenance of adequate level of the T cell responses, that its decrease in the elderly is one of the reasons for the immunosenescence, while its relative preservation may facilitate relative robustness of T cell responses in the centenarians.

PERIPHERAL FATIGUE DOES NOT INFLUENCE THE ONSET OF FATIGUE IN OLDER ADULTS

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Creighton University, Omaha, Nebraska, 3. *A.T. Still University, Kirksville, Missouri*

Muscular fatigue is the decline in ability of a muscle group to produce force following a contraction. Although older adults are less susceptible to fatigue, they have decreased muscle mass, strength, and contractile ability. Peripheral fatigue is attributed to metabolic buildup, while central fatigue is linked to down-regulation of motor unit firing. Decreased oxygen in the tissue and brain is linked to peripheral and central fatigue, respectively. The purpose of this study was to evaluate the onset of fatigue in older adults and assess alterations in oxygenation within the soleus muscle and prefrontal cortex following a plantar-flexor fatigue protocol. Eleven participants (56.3 ± 7.6 years, 169.5 ± 6.5 cm, 75.3 ± 6.7 kg) were assessed before and after a fatigue protocol consisting of repeated maximal concentric contractions completed until $<50\%$ of isometric one-repetition maximum was reached. Peripheral fatigue was assessed via resting twitch (RT) and central fatigue was assessed via electromyography (rEMG) and percent of voluntary muscle activation (ITT). Soleus muscle oxygenation (StO_2) was recorded with an oximeter and central oxygenation (HbO) of the prefrontal cortex was measured via functional near infrared spectroscopy (fNIRS). Significant decreases were found for ITT ($p < 0.01$), rEMG ($p = 0.03$), StO_2 ($p < 0.01$), and prefrontal cortex oxygenation ($p = 0.04$). The results indicated that central fatigue was the primary contributor to the observed fatigue. Fewer type II muscle fibers in older adults would cause less metabolic buildup and less peripheral fatigue. A decrease in oxygenation in either the prefrontal cortex or muscular tissue may be related to the faster onset of fatigue in populations with disease.

CARDIAC TISSUE GLYCATION AND SKIN AUTOFLUORESCENCE IN CORONARY ARTERY DISEASE PATIENTS

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Aim: During ageing, advanced glycation end products (AGEs) accumulate in extracellular matrix proteins like collagen and contribute to a decline in organ function. As skin autofluorescence (sAF) can assess subcutaneous accumulation of fluorescent AGEs, this study aimed to investigate the relationship between AGE-modified cardiac tissue collagen and AGE related sAF in coronary artery bypass surgery patients.

Methods: Between January 2011 and January 2012, data from 72 consecutive male patients undergoing isolated CABG were prospectively recorded. Collagen fractions were isolated from the right atrial auricle of these patients by proteolysis and collagenase digestion. Collagen was quantified by hydroxyproline assay and AGEs by the AGE related intrinsic fluorescence. Skin autofluorescence was measured using an autofluorescence reader.

Results: The biochemical analysis showed that the insoluble cardiac collagen fraction contained the highest amounts of accumulated AGEs; the AGE related intrinsic fluorescence of this fraction increased with age ($p = 0.0001$), blood glucose level ($p = 0.002$), HbA1c level ($p = 0.01$) and the skin autofluorescence ($p = 0.008$).

Conclusion: This study confirmed for the first time a relationship between cardiac tissue glycation and the AGE related skin autofluorescence. In addition, cardiac tissue glycation was associated with age, blood glucose levels and long-term glucose values of the assessed CAD patients.

IMPACT OF TELEMEDICINE ON CARE IMPROVEMENT IN NURSING HOMES

N. Salles, A. Lafargue, M. Barateau, C. Caubet, M. Dupuy, A. Prigent, K. Libert, *University Hospital, Bordeaux, France*

Even if challenges of telemedicine are great in geriatrics, particularly in the monitoring of elderly patients with chronic diseases requiring repeated hospitalizations, literature data concerning the benefits of telemedicine remains poor.

The aim of this study was to describe the impact of teleconsultations on care improvement in nursing homes.

Methods: This study was based on teleconsultations organized by an expert team in the department of clinical gerontology, Bordeaux, France. After obtaining patient and general practitioner (GP) consent, the nursing home care team connected to a virtual room with the expert center. Following each teleconsultation, a report was written and sent via a secure messaging system to the GP.

Results: a total 312 teleconsultations were analyzed and concerned residents with a mean age of 85.2 ± 8.2 years; mean ADL (Katz) score: 2.1 ± 1.1 ; mean MMSE score: 15.7 ± 6.5 ; mean CIRS-G score: 14.4 ± 5.2 ; and mean drugs intake per day: 8.1 ± 3.5 . Reasons for teleconsultations were mainly behavioral problems related to dementia (25.3%); complex chronic ulcers (38.8%), psychiatric disorders (16.3%), and chronic spasticity (11.3%). Teleconsultations permitted the avoidance of specialized consultations in 62.2% of cases; programmed hospitalizations (9.3%), and emergency admission (2.5%). Teleconsultations permitted to avoid the renouncement of care for 81 (26%) nursing home residents. Ninety four (30.1%) therapeutic optimizations were realized and permitted to stop neuroleptic treatment in 36.2% of cases, anticholinergic treatment (23.4%), and psychotropic treatments (18.1%).

In conclusion, global geriatric assessment remains essential during teleconsultations and should permit to decrease return trips to the hospital for nursing home residents.

SESSION 325 (SYMPOSIUM)

GLOBAL TRENDS IN INTERPROFESSIONAL EDUCATION IN AGING AND HEALTH: PROGRAM DEVELOPMENT AND EVALUATION

Chair: P.G. Clark, *University of Rhode Island, Kingston, Rhode Island*

Discussant: M. Formosa, *International Institute on Ageing, Msida, Malta*

Major forces shaping the global development of the health care and social services workforce are: (1) the need for interprofessional education (IPE) and practice (IPP), and (2) the impacts of aging, chronic disease, and disability on healthcare systems. The WHO (2010) *Framework for Action on Interprofessional Education and Collaborative Practice* highlighted the growing importance of health care and social services students and professionals learning how to work together. The WHO (2015) *World Report on Ageing and*

Health called for international action to address the global implications of aging for health care. These two forces merge in the development of educational programs to train students and professionals to work together collaboratively to promote health in older adults. This symposium both (1) reviews the interprofessional health and aging program development and evaluation strategies used in different country contexts, and (2) assesses the factors and forces that have emerged in differing national and educational settings to shape the course of academic programs linked to practice contexts in aging and health. Papers include a discussion of programs developed and evaluated in the Nordic countries, the UK, and the US. Methods of program impact assessment of both interprofessional learning outcomes and knowledge and skills related to practice with older adults will be presented, and the analyses and interpretation of data will be reviewed and critically assessed. Implications for developing programmatic strategies and evaluations will be explored, and recommendations for how to respond to the dual WHO calls for action will be presented.

INTERPROFESSIONAL GERIATRICS EDUCATION IN DENMARK: CLINICAL SUPERVISOR PRACTICAL COMPETENCE PROFILE

T. Kramer^{1,2}, 1. *University of Copenhagen, Copenhagen, Denmark*, 2. *Aarhus University Hospital, Aarhus, Denmark*

InBetween was a pilot project to use the development of a patient pathway through the healthcare system to strengthen patient-centred, interprofessional collaboration skills for health professions students from medicine, nursing, physiotherapy, and occupational therapy. The program evaluation utilized ethnographic studies of interprofessional practice orientation in real learning contexts and investigated clinical supervisors' practical competence profile in geriatrics. The evaluation framework was "multi-site ethnography" involving a mixed methods approach, including participant observations, interviews, videos, audio logbooks, and documents. Major findings of the evaluation were: (1) interprofessional collaboration improves patient-centred practice, (2) clinical supervisors' profession sets the agenda for interprofessional conferences, and (3) professions' preconceptions seem to be maintained by clinical supervisors. Discussion will focus on the continued refinement and dissemination of this model program in both educational and practice settings. Forces supporting and opposing its implementation in the Danish context will be explored.

NORWEGIAN DEMENTIA EDUCATIONAL PROGRAM: DEVELOPING STAFF COMPETENCE IN PERSON-CENTRED DEMENTIA CARE

A. Rokstad^{1,2}, B. Døble¹, J. Stordalen¹, K. Krohne¹, K. Kristiansen¹, 1. *Norwegian National Advisory Unit on Ageing and Health, Tønsberg, Norway*, 2. *Molde University College, Molde, Norway*

The Dementia ABC Educational Program was initiated by the Norwegian Dementia Plan in 2015. It offered high quality, interprofessional, easily available training for care staff in all municipalities. Program evaluation assessed impact on participants' person-centred care competence and job satisfaction level. The program consisted of written booklets and interprofessional reflection groups and workshops.

A longitudinal evaluation followed 1,795 participants from 90 municipalities over a period of 24 months, with a 6-month follow-up after completion. The Person-Centred Care Assessment Tool (P-CAT) evaluated person-centeredness. A significant increase in the mean P-CAT sub-score of person-centred practice and the P-CAT total score was found at 12, 24, and 30 months compared to baseline. A significant increase in satisfaction with workload, personal and professional development, demands balanced with qualifications, and variation in job tasks was reported. Results indicate that the interprofessional, multicomponent training positively impacted the development of person-centred care practice and staff job satisfaction.

INTERPROFESSIONAL GERIATRICS EDUCATION: IMPLEMENTATION AND EVALUATION OF NOVEL SIMULATION DAY IN THE UK

T. McGowan¹, P. Ehlawa¹, A. Blundell¹, A. Gordon², J. Pattinson¹, N. Woodier¹, M. Fores¹, 1. *Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom*, 2. *Royal Derby Hospital, Derby, United Kingdom*

Following the introduction of an Advanced Nurse Practitioner Programme in Geriatric Medicine at a large UK teaching hospital, a pilot regional interprofessional simulation day with medical registrars was designed and held four times over four months. The format included five scenarios involving simulated patients, covering topics on delirium, elder abuse, falls, end of life communication, and polypharmacy. Structured debriefs were held after each scenario with an interprofessional faculty. Ninety percent of the 39 participants would recommend the day to colleagues and stated it was pitched at an appropriate level. Following the day, participants scored 1.1 marks higher on a 10-point knowledge test ($P < 0.001$) and 2.5 points higher on the Readiness for Interprofessional Learning Scale ($P < 0.003$). Discussion will explore impact on clinical practice two months after the simulation and qualitative data from post-simulation focus groups reflecting on the interprofessional learning. Implications for interprofessional education in the UK will be discussed.

EVALUATING AN INTERPROFESSIONAL COURSE IN GERIATRICS TEAMWORK: IMPLICATIONS FOR THE U.S. CONTEXT

P.G. Clark¹, R. Filinson², 1. *Gerontology, University of Rhode Island, Kingston, Rhode Island*, 2. *Rhode Island College, Providence, Rhode Island*

Supported by a federal Health Resources and Services Administration (HRSA) grant, the University of Rhode Island offers a service-learning course on interprofessional teamwork in aging and health for health professions students. Novel adaptations of two validated questionnaires were used to evaluate the course's impacts on attitudes and skills relevant to interprofessional teamwork with older adults: (1) the Attitudes Toward Interdisciplinary Teams, ATIT, Scale and (2) the Team Skills Scale, TSS. Findings showed statistically significant improvement with regard to a positive orientation towards interprofessional teams on 10 of the 21 attitudinal items and on all 17 skills items. All 3 of the ATIT composite subscales showed an increase in support for the tenets of interprofessional training. Implications of this evaluative

methodology will be discussed. The unique educational and practice contexts of the US for developing and evaluating such academic courses will be explored, including the forces supporting and opposing such programs.

GRADUATE EDUCATION INITIATIVES FOR INTERDISCIPLINARY RESEARCH ON AGING AND HEALTH IN SWEDEN

S. Iwarsson, M. Haak, A. Fange, T. Svensson, M.H. Nilsson, G. Ahlström, C. Lofqvist, *Lund University, Lund, Sweden*

Sparked by the development of a Nordic Master's Program in Gerontology, and followed by the establishment of graduate schools integrated with national aging research centers in Sweden, a national Graduate School for Ageing and Health (SWEAH) was established. SWEAH is a partner of the International Summer School on Ageing (ISSA). Program evaluation results show that students appreciate the networking and interdisciplinary ambitions of these programs, but they also display challenges inherent in motivating students to get seriously involved in activities requiring that they leave their disciplinary comfort zones. Based on experiences and evaluation results gained from these programs over the years, we describe and problematize requirements for efficient capacity-building in a national and international context. Spin-off effects in terms of international engagement and collaboration in supervision teams and examination committees serve to strengthen the interdisciplinary competence and capacity for international collaboration of the management teams and teachers involved.

SESSION 330 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: DEVELOPING ACUTE CARE SERVICES FOR OLDER PEOPLE: GLOBAL PERSPECTIVES FOR THE NEXT DECADE

Chair: R.Y. Wong, *University of British Columbia, Vancouver, British Columbia, Canada*

The development of responsive and efficient acute care services for older people remains a high-priority focus around the world and into the next decade. This symposium showcases expertise from North America, Europe, Southeast Asia and Asia to review the latest evidence and experiences that improve the care for older people in hospitals globally, and provide an interactive opportunity for participants to share strategies from their local jurisdictions.

After attending this session, participants will be able to: (a) list the steps of developing a geriatric program that is aligned with innovations (such as personalized medicine and big data analytics) in the future hospital; (b) describe how quality improvement can drive better frailty care; (c) give examples of how to improve delirium care; and (d) identify the characteristics of effective post-acute care services.

The symposium speakers are recognized leaders in Geriatrics globally and locally, hence providing their global perspectives. All have solid track records of implementing system-based improvements on acute care services for older people.

At the symposium, we will present cutting-edge, evidence-informed findings and experiences that will influence acute care services in the next decade. We plan to tailor to participants' needs in identifying local improvement opportunities

and sharing with them lessons learned during knowledge-to-practice translation.

GERIATRIC PROGRAM DEVELOPMENT IN THE FUTURE HOSPITAL

R.Y. Wong, *Medicine, University of British Columbia, Vancouver, British Columbia, Canada*

The steps of developing a specialized geriatric program in the future hospital include initiating a high-level analysis, conducting an environmental scan, designing an operational plan, developing an inter-professional staffing model, implementing strategies to optimize service, and evaluating the program. During this process, the program logic model, service-patient matrix, and patient segmentation matrix can be helpful tools. An inter-professional model of geriatric service is critical for program sustainability. The strategies to optimize patient-centred care must be feasible and aligned with paradigm-shifting innovations, such as personalized medicine (with integrated genomics and microbiomes platform) and big data analytics (health informatics). The geriatric program that is developed must be nimble enough for broader adaptation and dissemination, both within the hospital and across the health system.

DEVELOPING ACUTE FRAILTY MODELS IN UK HEALTH SYSTEMS

D. Oliver, *Royal College of Physicians of London, London, United Kingdom*

Increasingly the core and system-critical business of acute care systems in the UK is older people with complex co-morbidities, dementia and frailty.

We are fortunate in having Geriatric Medicine as the largest General Internal Medical Speciality, with a strong presence at the urgent hospital front door in Emergency Departments, Acute Medical Units and Rapid Access Ambulatory Clinics and managing a large bed base in deeper wards.

Geriatricians increasingly work in interface roles across the acute and community boundary. And there is a growing focus on new models of care outside hospital such as integrated rapid response teams.

I will discuss the development of national quality improvement drives and key resources and clinical networks such as the Acute Frailty Network and Older People in Acute Care Programme (Scotland), the progress we have made in urgent and emergency care for frail older people and the very real challenges we still face.

ACUTE CARE INNOVATIONS IN DELIRIUM MANAGEMENT

W. Lim, *Tan Tock Seng Hospital, Singapore, Singapore*

Delirium is an acute decline in cognitive functioning that is a common, under-recognized, serious, and costly disorder that affects as much as 50% of hospitalized elderly. Increasingly used as an indicator of health-care quality for hospitalized elderly, delirium provides a target for system-wide process improvement to prevent downstream complications and costs.

Multi-component non-pharmacological risk factor approaches are the most effective strategy for delirium prevention. Pharmacological prevention or treatment has been largely disappointing, prompting the shift towards process,

staff and environmental approaches beyond the treatment of reversible patient factors.

Care innovations include the Hospital Elder Life Program (HELP), general medical units with best practice in delirium, and the Delirium Room. We will share our experience and related outcomes in setting up the Geriatric Monitoring Unit, a designated unit for systematic, specialized, and restraint-free management of acute delirium care. Challenges such as upscaling, demonstrating value, sustainability, and further research will be discussed.

INNOVATIONS IN TRANSITIONAL AND COMMUNITY CARE POST-ACUTE SERVICES

T. Chan, *Kwong Wah Hospital, Hong Kong, China*

An aging population has led to an increasing need of acute care for elderly people. A number of geriatrician-led transitional care services were established in Hong Kong over last 20 years to support elderly patients who were discharged from acute setting. Community Geriatric Assessment Teams provide post-discharge support and long term follow up to residents in old age homes. A validated risk assessment score, HARRPE, was developed to identify hospitalized elderly patients who were at risk of unplanned readmission in 28 days. At-risk patients will receive comprehensive assessment. Those with complex needs are provided with home visit by case-managers, domiciliary rehabilitation as well home support services from Non-Government Organizations (NGO). Multi-disciplinary rehabilitation is also provided at Geriatric Day Hospitals for elderly patients with various disabilities. Patient Support Call Center offers telephone follow up for discharged patients with high HARRPE score. Outcomes of patients were shown to be improved.

SESSION 335 (SYMPOSIUM)

NOVEL APPROACHES TO IMPROVING PRESCRIBING FOR VULNERABLE OLDER ADULTS

Chair: M. Steinman, *University of California, San Francisco School of Medicine, San Francisco, California*

Medication misadventures are common in older adults, and have a major impact on quality of life and mortality for this population. Unfortunately, existing efforts to improve prescribing quality have fallen short, and new approaches are needed. This symposium will address this critical gap by discussing several new strategies to conceptualize and improve prescribing quality in older adults. There will be four presentations of original research on these topics by experts from the United States, Italy and Israel. These will include three presentations on clinical trials of interventions to improve pharmaceutical care and medication safety in older adults, and one presentation on novel ways of conceptualizing the scope and impact of drug-drug interactions in older adults. Each of these presentations will include a traditional presentation of original research findings, plus a brief discussion about how the research fits into a larger understanding of how to conceptualize and improve pharmaceutical care quality in older adults. The last third of the symposium will consist of a moderated discussion with the presenters, including questions from the audience. The focus of this moderated discussion will be commonalities and lessons learned from research in the areas discussed, and how health systems and

clinicians can use these findings to improve pharmaceutical care for the older adults they serve.

REDUCING PSYCHOACTIVE MEDICATION USE IN OLDER ADULTS WITH DELIRIUM SUPERIMPOSED ON DEMENTIA

D.M. Fick¹, A.M. Kolanowski¹, L.C. Mion², J. McDowell¹, J. Waller³, 1. *Penn State University, University Park, Pennsylvania*, 2. *Vanderbilt University, Nashville, Tennessee*, 3. *Georgia Regents University, Augusta, Georgia*

Delirium is often misdiagnosed in dementia and mis-treated with medications that may be continued even after hospital discharge. This paper will present results from the Early Nurse Detection of Delirium Superimposed on Dementia (END-DSD) NIH funded cluster randomized trial. We hypothesized that subjects on the END-DSD units would receive fewer psychoactive medications compared to subjects on control units. Participants ($n = 391$; $M_{age} = 84$; 71% female; 95% Caucasian) were enrolled at the time of admission. The intervention group had significantly lower number of medications given PRN than the control group. The number of unique Beers medications given PRN was lower in the intervention group. And the number of PRN medications with an anticholinergic burden score of 3 was significantly lower. These drugs negatively impact older adults and should be avoided. Nurses play an integral role in decreasing the use of PRN and psychoactive medications in older adults.

IMPROVING MEDICATION SAFETY AND TRAINING FOR OLDER ADULTS WITH DEMENTIA

N. Brandt, *University of Maryland at Baltimore, Baltimore, Maryland*

The intent of this session is to highlight the work of an interprofessional team and tactics to improve medication safety for older adults and their caregivers. Interprofessional health care providers at the Baltimore Veterans Affairs Medical Clinic, namely medicine, pharmacy, nursing, neuropsychology & social work, have been actively involved in various clinical and educational initiatives. One of these initiatives is the "DEMO: Dementia Evaluation, Management and Outreach" program. This program aims to extend dementia evaluations to regional community-based outpatient clinics, which serve people in more rural regions, and to improve management and follow-up of these patients, including medication coordination and adherence monitoring. Additionally, the team has created and evaluated online interprofessional training focusing on medications and other needs of older adults with dementia, looking at knowledge, skills and attitudes. Results and resources will be shared with conference attendees that can be useful for their clinical care settings.

IMPACT OF A NURSE-BASED INTERVENTION ON MEDICATION OUTCOMES IN OLDER ADULTS: THE CC-MAP STUDY

E. Shadmi^{2,3}, M. Low³, R. Balicer^{3,4}, M. Steinman¹, 1. *Division of Geriatrics, Department of Medicine, University of California, San Francisco School of Medicine, San Francisco, California*, 2. *University of Haifa, Haifa, Israel*, 3. *Clalit Research Institute, Tel Aviv, Israel*, 4. *Ben Gurion University of the Negev, Beersheva, Israel*

Medication-related problems are common in older adults with multiple chronic conditions. Holistic, patient-centered approaches may be particularly well-suited to addressing the complex and disease-crossing nature of these problems. In this presentation, we will present results of a cluster-controlled clinical trial that evaluated the impact of a nurse-based primary care intervention on medication outcomes in 1,218 high-risk older Israeli adults. Our primary outcome was the number of changes to patients' medication regimens, a marker of attention to patient-centered prescribing. After 9 months of follow-up, intervention subjects had more changes to their medication regimen than control subjects (mean 4.04 vs. 3.62 medication changes; adjusted difference 0.55, $P=0.001$). Similarly, intervention subjects had more changes to their symptomatic medications (mean 1.38 vs. 1.26 changes, adjusted difference 0.20, $P=0.003$). We will discuss how our findings inform a broader understanding of the role of nurse-based interventions in improving pharmaceutical care for vulnerable older adults.

DRUG INTERACTIONS AND THE NEED FOR A COMPREHENSIVE APPROACH TO PRESCRIBING

G. Onder¹, D. Vetrano^{1,2}, 1. *Università Cattolica del Sacro Cuore, Rome, Italy*, 2. *Karolinska Institutet, Stockholm, Sweden*

One of the biggest challenges in preventing drug interactions in older adults is the substantial gap that exists between theory and clinical practice. Drugs have a network of effects that go well beyond a single specific drug target. Moreover, the spectrum of possible drug interactions goes well beyond the traditional drug-drug and drug-disease dyads, for example by impairing immune response and therefore decreasing the effectiveness of vaccination. In this presentation, original data on the possible interaction of statins and PPIs on the effect of influenza vaccination will be shown. Similarly, drugs can contribute to the onset of several geriatric syndromes or worsen cognitive status, but such interactions are rarely considered as factors limiting their use. This presentation will also include original data from nursing homes, home care, and acute care hospitals showing the relationship between drug interactions and geriatric syndromes and cognition.

SESSION 340 (SYMPOSIUM)

MIDLIFE VASCULAR FACTORS, LATE-LIFE HEARING LOSS AND FUNCTIONAL DECLINE: INSIGHTS FROM THE ARIC STUDY

Chair: J.A. Deal, *Johns Hopkins University, Baltimore, Maryland*

Discussant: K.J. Bandeen-Roche, *Johns Hopkins University*

Strategies for the prevention of late-life decline in cognitive and physical function are informed by methodologically-sound observational studies that can identify factors which influence health processes occurring over long periods of time. The Atherosclerosis Risk in Communities (ARIC) Study is an ongoing, prospective observational study of 15,792 men and women (27% African American) aged 45–64 at baseline (1987–1989) from four U.S. communities. Initially designed to investigate the epidemiology, causes and clinical consequences of atherosclerosis, ARIC is now in its 6th

round of data collection. With rich data on midlife vascular factors and markers, audiometric hearing assessment at Visit 6 (2016–17), over 20 years of cognitive testing, and extensive late-life testing of neurocognitive and physical function, ARIC is uniquely suited to evaluate the role of midlife vascular determinants and late-life hearing impairment on functional decline in older adults.

In this symposium, we will discuss solutions to methodological challenges of long-term observational follow-up of functional outcomes from mid- to late-life, including harmonization of different cognitive measures across study visits and informative attrition over time, and present recent results that contribute to our understanding of the relationship of midlife glucose peaks and cognitive decline in older age, mid- to late-life body mass index trajectories and gait speed in late-life, and midlife cardiovascular health with late-life frailty. We will also present observational results of the relationship between hearing impairment and cognitive function, and discuss the design of ACHIEVE, a best practices hearing intervention vs. successful aging randomized trial, nested within the ARIC study.

GLUCOSE PEAKS AND COGNITIVE DECLINE: ATHEROSCLEROSIS RISK IN COMMUNITIES (ARIC) STUDY

A. Rawlings¹, A. Sharrett¹, T.H. Mosley², S. Ballew¹, J.A. Deal¹, E. Selvin¹, 1. *Johns Hopkins University, Baltimore, Maryland*, 2. *University of Mississippi Medical Center, Jackson, Mississippi*

Diabetes and HbA1c are associated with cognitive decline, but the role of glucose peaks is unclear. We examined the association of glucose peaks in midlife, measured by 1,5-anhydroglucitol(1,5-AG) at baseline(1990–1992) and 20-year cognitive decline, in 12996 ARIC participants(mean age 57, 13% with diabetes). Cognition was assessed using three neuropsychological tests at three time points from 1990–2013(summarized as Z-score). Low 1,5-AG(<10 µg/mL, indicating hyperglycemic peaks) was examined within clinical categories of HbA1c using adjusted mixed models. We found no association between glucose peaks and cognitive decline in persons without diabetes. In persons with diabetes and Hb1c≥7%, those with glucose peaks had 0.19 greater Z-score decline over 20-years compared to persons without peaks(p-value=0.162). In persons with diabetes and HbA1c≥7%, those with glucose peaks had 0.38 greater Z-score decline compared to persons without glucose peaks(p-value=<0.001). More research is needed to determine if targeting glucose peaks among persons with diabetes can reduce cognitive decline.

THE RELATIONSHIP OF MID-TO-LATE-LIFE BODY MASS INDEX TRAJECTORIES WITH LATE-LIFE GAIT SPEED

B. Windham¹, M.E. Griswold¹, W. Wang¹, A. Kucharska-Newton², L.A. Pompeii³, S.B. Kritchevsky⁴, T.H. Mosley¹, 1. *Medicine/Geriatrics, University of Mississippi Medical Center, Jackson, Mississippi*, 2. *University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*, 3. *University of Texas Health Science Center, Houston, Texas*, 4. *Wake Forest School of Medicine, Winston-Salem, North Carolina*

Prior studies suggest being overweight in late-life may protect against poor function. Relations of BMI trajectories over 26 years at five visits (1987–2013, baseline n=15,720, aged 45–64yrs; 55% women; 27% black) to late-life gait speed at the fifth visit (aged ≥65yrs, n=6,229) were examined using linear mixed models, adjusting for demographics and comorbidities. Late-life gait speed was 94.3, 89.6 and 82.1 cm/sec for participants with mid-life normal BMI (<25), overweight (25≤BMI<30) and obese (BMI≥30) (p<0.001). Late-life gait speed was 96.9, 88.8 and 81.3 cm/s for participants who maintained normal, overweight and obese BMI across 26 years (p<0.01). A 1%/year BMI increase for a participant with a baseline BMI=22.5 (final BMI 28.5) was associated with a 4.6 cm/s (95% CI: -7.0, -1.8) slower late-life gait speed than a participant who maintained a baseline BMI=22.5. Maintaining a normal BMI in mid- and late-life may help preserve late-life mobility.

AMERICAN HEART ASSOCIATION'S LIFE'S SIMPLE 7 IN MIDLIFE AND FRAILTY IN LATE LIFE: THE ARIC STUDY

P. Palta¹, A. Kucharska-Newton¹, S. Lirette², J.L. Lund¹, A. Folsom³, R. Foraker⁴, K.J. Bandeen-Roche⁵, B. Windham², 1. *University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*, 2. *University of Mississippi Medical Center, Jackson, Mississippi*, 3. *University of Minnesota, Minneapolis, Minnesota*, 4. *The Ohio State University College of Public Health, Columbus, Ohio*, 5. *Johns Hopkins University, Baltimore, Maryland*

The etiology of frailty remains poorly understood, yet is not completely explained by comorbidity and disability. We tested the hypothesis that ideal cardiovascular health, as measured by AHA's Life's Simple 7 (LS7) in mid-life (1987–1989), is associated with a lower prevalence of frailty in late-life (2011–2013). The LS7 cardiovascular health score (0–14 points) is a summary of 7 health behaviors/factors scored as ideal (2 points), intermediate (1 point), or poor (0 points). Participants were classified as “frail”, “pre-frail” or “robust” using established criteria. Each 1-point higher LS7 score was associated with a 19% (95%CI: 16%, 22%) higher prevalence of being classified as robust versus pre-frail, and a 34% (95%CI: 27%, 41%) higher prevalence of being classified as robust versus frail in late-life. Among the LS7 components, ideal levels of body mass index, physical activity, blood pressure, and glucose in mid-life were most strongly associated with prevention of frailty in late-life.

HEARING LOSS AND COGNITIVE DECLINE—OBSERVATIONAL RESULTS AND EMBEDDING OF A RANDOMIZED TRIAL IN ARIC

F. Lin¹, J.A. Deal¹, T. Chisolm², N.W. Glynn⁴, S. Davis³, T.H. Mosley⁵, J. Coresh¹, 1. *Johns Hopkins University, Baltimore, Maryland*, 2. *University of South Florida, Tampa, Florida*, 3. *University of North Carolina, Chapel Hill, North Carolina*, 4. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 5. *University of Mississippi, Jackson, Mississippi*

Hearing loss (HL) is independently associated with accelerated cognitive decline and an increased risk of incident dementia. The Aging, Cognition, and Hearing Evaluation in Elders (ACHIEVE) randomized trial is being planned to

determine if hearing loss treatment versus a successful aging control intervention can reduce the risk of cognitive decline in older adults. This trial will be nested within ARIC, and a pilot study was recently completed that established trial feasibility and intervention efficacy. In this 6-month pilot study of 40 individuals aged 70–84 years, the hearing intervention demonstrated a clear efficacy signal on communication and social functioning (domains hypothesized to mediate downstream effects of HL on cognitive decline). Estimated changes in standardized (z-score) outcomes were qualitatively different by intervention assignment for all measures, including perceived handicap due to hearing loss (HHIE, $p < 0.0001$), loneliness, number of contacts ($p = 0.007$) and diversity of social network, and social, mental, and physical function.

APPLICATION OF LATENT VARIABLE METHODS TO THE STUDY OF COGNITIVE DECLINE WHEN TESTS CHANGE OVER TIME

A. Gross^{1,2}, S. Burgard³, S. Davis³, J.A. Deal^{1,2}, T.H. Mosley⁴, J. Coresh¹, A. Sharrett¹, 1. *Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*, 2. *Johns Hopkins University Center on Aging and Health, Baltimore, Maryland*, 3. *Department of Biostatistics, UNC Gillings School of Global Public Health, Chapel Hill, North Carolina*, 4. *Department of Medicine, University of Mississippi Medical Center, Jackson, Mississippi*

We demonstrated the use of factor analysis to link differing cognitive batteries over ARIC-NCS visits to common metrics representing general and domain-specific cognition. We used 23 years of data from the Atherosclerosis Risk in Communities Study (ARIC-NCS) ($N = 14,252$). Using generalized estimating equations, we compared associations of diabetes with cognitive change using general and domain-specific factor scores vs. z-scores. Factor scores provided stronger associations with diabetes at the expense of greater variability around estimates (e.g., for executive functioning, -0.065 SD units/year, $SE = 0.015$, vs -0.057 SD units/year, $SE = 0.013$), suggesting factor scores more explicitly address error in measured traits. We calibrated general and domain-specific cognitive performance across study visits in which different but overlapping cognitive tests were administered at each visit. Factor analysis facilitates use of all available data when measures change over time. We further demonstrate how to estimate factor scores during real-time data collection to enable selection into further screening.

SESSION 345 (PAPER)

MULTI-MORBIDITY AND ENVIRONMENTAL FACTORS AFFECTING GAIT AND FUNCTION

MULTI-MORBIDITY PATTERNS AND DISABLEMENT SEVERITY AMONG MOBILITY LIMITED OLDER ADULTS

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Multi-morbidity contributes to functional decline among older adults. However, it is not evident whether specific patterns of multi-morbidity are associated with worse disablement outcomes. We analyzed baseline data from the Boston RISE study, a cohort of older primary care patients with mobility limitations, to examine the association between multi-morbidity patterns and neuromuscular impairments and function. Participants ($n = 425$) self-reported 13 major chronic conditions and underwent assessment of impairments (leg strength, leg velocity, trunk extensor endurance, leg range of motion, sensation) and function (400 m walk test, Short Physical Performance Battery (SPPB), Late Life Function and Disability Instrument (LLFDI)). We conducted Latent Class Analysis among the chronic conditions and examined impairments and functional status among different latent classes. LCA identified a high multi-morbidity group with high prevalence of cardiovascular, metabolic and musculoskeletal diseases (Class 1), a low multi-morbidity group (Class 2) and a musculoskeletal group with high prevalence of arthritis, back pain and osteoporosis, but few other conditions (Class 3). After adjusting for age and gender, Class 1 had significantly lower strength, range of motion, SPPB score, gait speed and LLFDI scores compared to Class 2. However, Class 3 demonstrated less range of motion impairment and similar SPPB, gait speed and LLFDI scores compared to Class 2 but similar pain levels to Class 1. Among mobility limited older adults, a sub group with predominantly musculoskeletal conditions did not have worse neuromuscular impairments or function than a healthier sub-group; the sub-group with co-occurring musculoskeletal conditions and other comorbidities had the worst impairments and function.

IS NEURAL CONTROL OF WALKING IMPORTANT BEYOND GAIT SPEED?

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Gait speed is a robust index of walking and functioning, but may not represent neural control of walking. Integrating spatial and temporal aspects of gait, the walk ratio (WR, step length/step rate) is a measure of neural control and is associated with energy expenditure. We explored the WR in relation to mobility-related endurance (6-minute walk, 6MWD) and walking confidence (modified Gait Efficacy Scale) in older adult participants in a community-based trial ($n = 391$; mean age, 80.5 ± 7.7 years). Gait speed was 0.92 ± 0.21 m/s and WR 0.0048 ± 0.0008 m/steps/min. Adjusting for gait speed, a 0.001 m/steps/min difference in WR was associated with 15 meters in 6MWD and 2.5 points in confidence (both $p < 0.005$). A clear gradient of mobility-related performance across WR quartiles was observed within quartiles of gait speed. Those who walked within the narrow gait speed range of 0.77 – 0.90 m/s, 6MWD ranged 237–281 meters and confidence ranged 71.1–77.1 points across WR quartiles. Among those with gait speed > 1.04 m/s, 6MWD ranged 317–369 meters and confidence 75.8–84.1 points across WR quartiles. Good and poor neural control of walking are possible at both slower and faster gait speed, and is associated with endurance and confidence independent of gait speed. Neural control of walking is an important aspect of gait and should

be considered in assessment and intervention in community-dwelling elderly.

AGE-ASSOCIATED FACTORS CONTRIBUTING TO OBSTACLE NEGOTIATION ABILITIES: NOT ALL IS AS EXPECTED

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Tripping over an obstacle is one of the most common causes of falls among older adults. Using an innovative, computer controlled, obstacle course, we evaluated age-associated changes in the ability to negotiate obstacles and the role of obstacle parameters (e.g., expected vs. unexpected, height and available response time (ART), and subject characteristics (e.g., executive function, gait and balance). Twenty healthy older adults (77.7 ± 3.4 years; 50% women) and 20 healthy young adults (29.3 ± 3.8 years; 50% women) underwent cognitive, gait and balance testing before negotiating the computer controlled obstacle course. The primary outcome measure was the ability to successfully negotiate the obstacles (without touching); independent variables included the obstacle height and ART. As hypothesized, the success rate (SR) for all subjects was higher when the obstacle was expected ($99.0 \pm 2.8\%$; compared to unexpected $66.0 \pm 20.2\%$; $p < 0.001$). With an obstacle height of 25mm and an ART of 225msec, SR was lower ($p < 0.001$) among older adults ($50.0 \pm 40.4\%$), as compared to young adults ($100 \pm 0.0\%$). For all subjects, the effect of unexpected obstacle height on SR was opposite to our hypothesis; surprisingly, SR was lower when the obstacle height was higher ($p < 0.001$). For young adults, SR was related to ART ($p = 0.02$), however, for the older adults, SR was not related to ART. Among the older adults, SR was correlated with stride length ($r_s = 0.42$, $p = 0.039$) and Trail Making Test B ($r_s = -0.38$, $p = 0.055$). These findings provide new insights into the ability of older adults to successfully negotiate obstacles and help to better understand the mechanisms that underlie this everyday skill.

LIFE-SPACE PREDICTS HEALTHCARE UTILIZATION IN COMMUNITY-DWELLING OLDER ADULTS

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The UAB Life-Space Assessment (LSA) is a validated patient-reported outcome to measure community mobility

and social participation. We have previously shown that LSA predicts adverse health outcomes including mortality, nursing home admission, and cognitive decline, but the role of life-space in healthcare utilization among older adults in general is not known. Participants (N=400) were drawn from the UAB Study of Aging II, a longitudinal study of community-dwelling adults age ≥ 75 identifying predictors of mobility decline. LSA scores at each monthly follow-up interview were used to predict emergency department (ED) visits and hospitalizations over the next 30 days using generalized estimating equations, adjusting for baseline age, race, gender, education, Charlson comorbidity score, physician visits in the last month, and living alone. Over 35-months of follow-up, 55.8% of participants reported at least one ED visit or hospitalization. In multivariable models, a 10-point lower life-space was associated with a 12% increase in healthcare utilization ($p < 0.0001$). Further investigation is warranted on the utility of life-space scores for predicting unnecessary healthcare utilization and identifying conditions that can be managed in a less intense setting.

FROM HEAD TO TOE, FREQUENCY OF COGNITIVE ACTIVITIES IS ASSOCIATED WITH SHORTER FOOT REACTION TIME

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Cognitively stimulating activities can improve both cognitive and physical function. Foot reaction time, a test of neuromotor performance and a possible risk factor for falls in older adults, might be influenced by participation in cognitively stimulating activities. The aim of this cross-sectional study was to examine the association between cognitive leisure activities and foot reaction time. We studied 310 community-dwelling older adults aged 71 to 101 years (mean=84.0y), in the MOBILIZE Boston Study II. Simple foot reaction time (SRT) and choice foot reaction time (CRT) were measured as time to initiation of movement in response to an intermittent light stimulus, seated with feet placed on a gait mat (CIR Systems, Inc., Franklin, NJ). The Cognitive Activity Scale (CAS), assessed frequency of participation in 17 cognitive leisure activities. SRT and CRT ranged from 0.17 to 0.55ms (mean=0.25 $\pm$ 0.06ms), and 0.21 to 0.72ms (mean=0.32 $\pm$ 0.08ms), respectively. Average SRT and CRT were shorter according to higher CAS scores. In multivariable models adjusted for age, sex, race, education, mobility difficulty, peripheral arterial disease, and number of joint pain sites, CAS scores were associated with shorter SRT ($p = 0.02$) and CRT ($p = 0.01$). The association persisted but was weaker after further adjusting for gait speed (SRT, $p = 0.05$; CRT, $p = 0.03$). Adjustment for vision impairment did not alter the relationship between CAS and reaction time. These results show that participation in cognitively stimulating activities is associated with shorter foot reaction time. Further research is needed to determine whether participation in cognitive activities could reduce fall risk in older adults.

SESSION 350 (SYMPOSIUM)

BIOMARKERS AND LONGITUDINAL TRAJECTORIES OF STRESS AND NEUROCOGNITIVE DISORDERS

Chair: C.E. Gould, VA Palo Alto Health Care System, California

Discussant: R. O'Hara, Stanford University School of Medicine, Stanford, California

Longitudinal studies provide insight into the development and course of stressors, anxiety, and neurocognitive disorders across the lifespan. The presenters in this symposium will consider the effect of genetic risk factors, combined genetic and environmental influences, and environmental stressors on physical and cognitive health trajectories. Presenters will discuss data from four unique longitudinal studies conducted in three countries: Brazil, Sweden, and the United States. These longitudinal studies utilize self-report, neuropsychological and biological measures to characterize aging processes as the presenters will describe. The first presenter, Dr. Lee, will consider the differential impact of major life stressors compared with daily stressors on physical health in the VA Normative Aging study. Second, Dr. Castro Costa will discuss the impact of genomic ancestry on depressive symptoms in a population-based cohort. Third, Dr. Petkus will describe the trajectories of anxiety and cognitive performance across the lifespan and the extent to which genetic and environmental influences explain these associations. Finally, Dr. Hirst will consider specific genetic risk factors for declines in list recall, a very sensitive predictor of cognitive decline. Dr. Ruth O'Hara will serve as the discussant and will guide the audience in considering how these findings from the influential multinational longitudinal studies may inform the development and course for physical and neurocognitive problems in late life.

STRESS AND HEALTH IN LATER LIFE: A COMPARISON OF MAJOR LIFE EVENTS AND DAILY STRESSORS

L.O. Lee, A. Spiro, *Psychiatry, Boston University School of Medicine, Arlington, Massachusetts*

Major life events (LEs) and daily stressors (DSs) have been linked independently to morbidity and mortality. This study compared how LEs and DSs were related to 3 health outcomes: change in health conditions and BMI, and all-cause mortality. We used longitudinal and daily diary data from 173 older adults in the VA Normative Aging Study. Self-reported LEs and DSs were assessed in 2002–3, and health conditions in 2002–3 and 2004–5. BMI was measured in triennial examinations. Mortality information was available through 3/2014. Separate regression models were used for each outcome, adjusting for age, sex, smoking, and drinking. Those with more LEs, but not DSs, showed an increase in health conditions over time. In contrast, more DSs, but fewer LEs, were associated with increase in BMI. In Cox regression models, neither LEs nor DSs predicted all-cause mortality. Findings demonstrate that the effects of stress on health vary across outcome and stressor type.

GENOMIC ANCESTRY AND THE RISK OF DEPRESSIVE SYMPTOMS IN OLD ADULTS

E. Castro-Costa, *Centro de Pesquisas René Rachou (CPqRR), Belo Horizonte, Brazil*

Genomic ancestry is well-known moderator factor of several chronic health conditions in general population. However, there are few evidences about the impact of genomic ancestry on depressive symptoms, particularly, in older adults. The aim of this longitudinal analysis is to evaluate the relationship between genomic ancestry and depressive symptoms in older adults from population-based cohort. We found that highest proportion of African ancestry was associated with depressive symptoms after controlling for potential confounders.

LONGITUDINAL ASSOCIATION OF ANXIETY AND COGNITIVE PERFORMANCE: GENETIC AND ENVIRONMENTAL INFLUENCES

A. Petkus¹, C.A. Reynolds², M. Gatz¹, 1. *University of Southern California, Los Angeles, California*, 2. *University of California, Riverside, Riverside, California*

The extent to which genetic and environmental influences explain longitudinal associations between anxiety symptoms and worse cognitive performance in later life is unknown. This study sample included 778 twins from the Swedish Adoption/Twin Study of Aging who completed at least one of seven assessments of anxiety and cognition over a 26-year period. Multi-level random coefficients models were fit to examine average trajectories of anxiety and cognitive performance over age. Multivariate Cholesky-ACE models were fit to decompose the variance and covariance between the estimated age 65 score (intercept) and estimated age effects (linear and quadratic) of anxiety and each cognitive test. Higher estimated anxiety was associated with worse processing speed, nonverbal memory, and visuospatial ability at age 65. Overlap in genetic influences between anxiety and cognitive performance contributed to these associations. Shared environmental contributions on level of anxiety and linear age changes in processing speed tests were also found.

GENETIC VARIATIONS IN 5-HTTLPR GENE AFFECT MEMORY PERFORMANCE IN OLDER ADULTS: A LONGITUDINAL STUDY

R. Hirst¹, R. O'Hara², 1. *Palo Alto University, Palo Alto, California*, 2. *Stanford University School of Medicine, Stanford, California*

The SS allele of the 5-HTTLPR serotonin transporter gene has been linked with greater risk for anxiety, depression, and cognitive impairment, particularly in memory, in older adults. However, no longitudinal studies have examined this association. Community-dwelling older adults ($n = 157$; mean age = 71.45 years, SDage = 9.02) completed baseline genetic, cognitive, and psychological testing as part of a longitudinal study at our laboratory, with repeat cognitive and psychological testing at 12-month and 24-month follow-up. Conditional growth modeling revealed that, after controlling for depression (BDI-2 score), SS allele carriers performed worse than LL and LS carriers at baseline on delayed verbal recall (Rey Auditory Verbal Learning Test). However, SS carriers' memory performance was stable over the two-year period, while LL and LS allele carriers experienced decline. At two years, recall performances of the three groups were indistinguishable. Findings suggest an interactive effect of genetic status on memory over time.

SESSION 355 (PAPER)

THE ROLE OF FITNESS TRAINING IN IMPROVING HEALTH OUTCOMES

THE PROBALANCE RANDOMIZED CONTROLLED TRIAL: FOCUS ON STRENGTH AND GAIT OF OLDER ADULTS

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This study aimed to assess the effect of the ProBalance rehabilitation program on strength and gait of community-dwelling older adults with balance impairments, aged 65–85. In this single-blind randomized controlled trial, the intervention included gait, balance, functional training, strengthening and endurance, flexibility, and 3D training. It was delivered by one rehabilitation nurse on a group basis (90-min sessions, twice/ week, for 12 weeks). Controls maintained usual activities. Strength was assessed by chair stand and arm curl tests. Gait velocity, stride length, and cadence were derived from the 30-foot walk-test. Assessments were at 0 (pretest), 12 (posttest), and 24 weeks (follow-up). Statistical analysis included descriptive and t-test statistics and mixed-ANOVAs. Of 177 participants assessed, 52 were randomized (IG, n=27; CG, n=25).

No significant differences were seen in the CG across time. The IG showed significant improvements in strength at posttest, for the lower and upper body [2.42(1.70), $p<0.001$; 2.23(2.55), $p<0.001$, respectively]. At follow-up, a significant decrease was seen [-1.15(1.76), $p=0.003$; 1.73(1.97), $p<0.001$, respectively]. A mixed-ANOVA (physical activity and age as covariate) detected a large interaction effect for strength tests. For gait parameters, there were only significant increases in gait velocity and cadence at maximal speed, at posttest [0.21(0.20); $p<0.001$; 0.22(0.31); $p=0.002$, respectively], with a large effect size for group in velocity and large interaction effect in cadence. Increases in strength, gait velocity and cadence (at maximal speed) can be attributed to the intervention. At follow up, a detraining effect in strength reinforces the indication of to maintain specific intervention.

Registration: ACTRN12612000301864.

TRANSLATING RESEARCH INTO PRACTICE USING PATIENT-CENTRED VIDEOS: DEVELOPMENT AND ANALYSIS OF UPTAKE

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Purpose: We used patients input and behaviour change theory to design a video series on the Too Fit To Fracture physical activity recommendations. The aim of this work is to describe series development and report on uptake.

Methods: Focus groups and interviews were conducted with older adults across Ontario, with purposeful sampling by gender and urban/rural location. Two researchers coded data and identified emerging themes, categorized as representing capability, opportunity and motivation in accordance with the Behaviour Change Wheel. Themes informed a 13-part video series featuring patient stories, answers to common questions, and functions: modeling, persuasion, training, incentivisation, education and enablement. Videos featured cases of variable age and gender, and addressed noted barriers or patient questions. Media communications were the primary delivery method. Uptake over 7 months was estimated as views in total and by region.

Results: Since their release in November 2015, videos were shared by the Canadian Society for Exercise Physiology, Osteoporosis Canada, American Society for Bone and Mineral Research and the International Osteoporosis Foundation, and in traditional and social media. Videos were viewed 20,800 times in 86 countries. Audiences were primarily in Canada (16898 views, 81% of total) and the United States (2060 views, 10% of total) and other English-speaking countries (744 views, 4% of total). Average duration of views in English-speaking countries was 78% compared to 60% elsewhere. Within Canada, rural residents accounted for 22% of the viewership, slightly above the proportion of rural Canadians (19%). Nearly half of views were within the month of release when promotion was active. Another spike came after traditional media articles about the work of one of the authors and cited the videos.

Conclusions: Partnering with knowledge users to create patient-centred, theory-informed, educational tools and delivery strategies resulted in broad uptake.

EFFECTS OF TAI CHI ON MULTISITE PAIN AND PHYSICAL FUNCTION IN OLDER ADULTS

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Chronic pain is associated with a decline in physical function and an increased risk of falls in older adults. This study examined the effects of Tai Chi on pain severity, pain interference and physical function in older adults with multisite pain. Fifty-four community-dwelling older adults with multisite pain who reported falling in the past year or currently used an assisted device were randomized into a light exercise program or a Tai Chi program offered twice a week for 12 weeks. Pain severity and pain interference were measured using subscales of the Brief Pain Inventory, and physical function was measured by the Short Physical Performance Battery (SPPB). Paired t-tests were used to assess changes

within each group, and independent t-tests were used to assess differences between groups. Twenty-three participants in the light exercise group and twenty-two participants in the Tai Chi group completed the study. There were significant improvements only in the Tai Chi group in pain severity score ($p=0.01$) and pain interference score ($p=0.04$); however, there were no significant group differences in changes of pain scores. There were no significant improvements in SPPB scores in either group. Therefore, pain severity and pain interference were improved after a 12-week Tai Chi intervention in older adults with multisite pain; however, no between-group differences were detected, likely due to a small sample size. A larger study with longer term is required to examine the effectiveness of Tai Chi on multisite pain and physical function in older adults. (Supported by NIH Grant R21 AG043883)

THE EFFECT OF KINECT-BASED TAI-CHI EXERGAMING PROGRAM ON OLDER ADULTS WITH MILD DEMENTIA

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Studies have shown Tai-Chi's beneficial effects, but evidence in those whom with cognitive impairment is limited. There are growing applications of the interactive game-Kinect in health promotion and rehabilitation to enhance motivation and participation of the clients.

The purpose of this study is to investigate the effect of a 6-month kinect-based tai-chi program on physical and cognitive function in mild demented older adults.

A convenient sample of older adults aged over 60 in day-care centers were recruited and clustered randomized (by center) to 6-month kinect-based tai chi exercise, 45 min/session, 2 times/week ($N=20$) or control groups ($N=20$). Cognitive function (Cognitive Abilities Screening Instrument (CASI)), physical fitness tests (grip strength, knee extension strength, 30 sec sit-to-stand, arm-curl test, timed up and go, 5-meter walking time, 6 minute walking distance (6-MWT), functional reach (FR), chair sit-and-reach, and reaction time), Geriatric Depression Scale and proxy reported quality of life, MPBC behavior measure and Zarit's caregiver burden scale (ZCBS) were measured at baseline and after intervention. Two-way (group $\times$ time) repeated measure ANOVA was adapted for analysis.

There were no significant differences of basic characteristics between 2 groups. Significant interaction effects were found in FR, 6-MWT, MPBC and ZCBS. For CASI score, the interaction did not reach significance, but with the Tai-chi group revealed relative maintenance and the control significantly decline after 6 month.

A 6-month kinect-based tai chi exercise program is feasible, fun and effectiveness for the mild demented OAs in improving balance, endurance and behavior problems, reducing care burdens, and at least maintaining cognitive function.

SESSION 360 (SYMPOSIUM)

WE ARE NOW THEY: OLD GERONTOLOGISTS LIVING IN AGE-SEGREGATED HOUSING

Chair: M.S. Moss, *Arcadia University*

Co-Chair: H.Q. Kivnick, *University of Minnesota, St. Paul, Minnesota*

Discussant: T. Sodei, *Ochanomizu University, Tokyo, Japan*

This symposium uses personal narratives to explore the perspectives of four retired, long term gerontological researchers (ages 70+ - 90+) on their current lives in some form of senior housing community. Each presenter narrates particular elements of her/his experience of living in an age-segregated community – as each one mediates personal experience on the basis of lifelong professional research, theory, practice, and developing wisdom. Like most of “us” conference attendees, these presenters have all spent their careers studying and writing about diverse aspects of aging adults (“Them”). Now the presenters are also “Them.” Wyatt-Brown describes living in a CCRC, where residents must actively struggle against being invisible to staff. Campbell examines multiple aspects identity when living, suddenly, in CCRC in a wholly new city. Moss and Moss focus more explicitly on using particular gerontological theories to meet the challenges of living in a retirement community. Co-chair/discussant Kivnick suggests additional gerontological theories as relevant to these three sets of experience. She also identifies common themes and unique issues for potential study, and highlights contributions that these and other path breaking gerontologists can make to our field's understanding and society's optimal structuring of this part of the experience of later life. Discussant Sodei broadens the session by looking at the presentations and their issues through the lens of Japanese gerontological practice and policy.

LIFE IN A CCRC: ON NOT BEING INVISIBLE

A.M. Wyatt-Brown, *Program in Linguistics, University of Florida, Baltimore, Maryland*

In *Aging in the Right Place*, Stephen Golant (2015) argues that CCRC residents must be able to trust the managers to treat them empathically when residents need more advanced care. True, but empathy is also necessary other times. When managers at my CCRC forced out a beloved employee for unexplained reasons, I began to resent my loss of the autonomy that I had traded for long-term care. Managers must understand, as Atul Gawande learned, (Being Mortal, 2014), that they cannot provide a supportive environment unless they make residents feel understood and respected. Surprisingly, when some of the hiring mistakes were corrected, I found that a weight had been lifted. During the turmoil, I learned that I relied on the comfort of my residential friends. Unlike some people who make elders feel invisible (Angell, 2014), fellow residents understand our dilemma. Yet the staff in CCRCs should provide emotional support as well.

AGING OUT OF PLACE

R. Campbell, *Turner Geriatric, University of Michigan, Ann Arbor, Michigan*

In December 2015, after ten years in Tokyo, and 35 years before that in Ann Arbor, Michigan, my husband and I moved

to Piedmont Gardens, a CCRC in Oakland, California. As a geriatric social worker, I had mixed feelings about moving at age 77 to age segregated housing. Novels reinforced the negative aspects of assisted living (Schine, 2016) although an early study of retirement communities (Ross, 1977) found many beneficial aspects. But the aging in place assumptions about staying put (Scharlach, 2012) did not fit with my ideas on continuity and change. My discoveries so far: 1) Moving in as a couple facilitates adjustment; 2) My young grandchildren enjoy frequent visits; 3) Living with ninety year olds has deepened my understanding of aging; 4) Sharing my gerontological expertise is challenging; a low profile seems best; 5) The surprising sense of community with many unexpected connections

ADAPTATION TO LIVING IN A RETIREMENT COMMUNITY

M.S. Moss, S.Z. Moss, *Arcadia University, Glenside, Pennsylvania*

For over one year, we have been residents of a very well designed town house in a retirement community, that emphasizes independence over dependency. We are living the experience of old age, after studying it for decades. We are now “they.” Thoughts of increasing frailty and death are in the air. Our multiple challenges include: (1) maintaining and modifying our social roles and outside ties to allow continuity of our individual sense of personal identity (Atchley, 1971). (2) Recognizing personal and societal themes of ageism, (Calasanti, 2003), both inside and outside our retirement community; and (3) adapting to and resisting the structures of community living, to maximize our sense of residential comfort and residential mastery (Golant, 2015). We discuss how our gerontological perspectives are reflected in our experience of living in an age-segregated community.

SESSION 365 (SYMPOSIUM)

THE GENETICS OF HUMAN AGING: RESULTS FROM A WORLD-WIDE COLLABORATION

Chair: J. Murabito, *Boston University School of Medicine, Massachusetts*

Co-Chair: D. Melzer, *University of Exeter, Exeter, Devon, United Kingdom*

Most observational studies of human aging suffer from confounding, but establishing links between inherited genetic variation and human aging can provide robust insights. Genetic evidence can help identify both biological pathways and also help prove the importance of environmental and behavioral risks. In this symposium, we will present work from a near global collaboration across the Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) consortium, the European Longevity consortium, and the Chinese Longitudinal Healthy Longevity Study as well as data from the UK Biobank investigating large human samples and unique aging phenotypes to facilitate gene discovery and uncover insights into aging biology. Dr. Joris Deelen will present a 1000 Genome meta-analysis of a novel longevity phenotype defined using age, gender and country specific survival thresholds. Drs. Luke Pilling and Janice Atkins will present data from analyses of parental age at death in nearly 500,000 middle-aged offspring. Novel

variants including one in the DNA repair pathway were identified and follow-up analyses to explore mechanisms underlying human aging will be presented. Dr. Daniel Evans will present the Longevity Genomics project and website, a resource to develop translational strategies to promote longevity. The overall project approach is to use longevity associated variants identified from GWAS, gene expression studies and evidence from animal models to identify longevity genes. Mendelian Randomization approaches will be used to evaluate the impact of longevity genes on outcomes and as potential targets for therapeutics.

WORLDWIDE GENOME-WIDE ASSOCIATION STUDY OF LONGEVITY

J. Deelen², D. Evans³, P.E. Slagboom⁴, J. Murabito¹,
1. *Boston University School of Medicine, Boston, Massachusetts*, 2. *Max Planck Institute for the Biology of Ageing, Cologne, Germany*, 3. *California Pacific Medical Center Research Institute, San Francisco, California*, 4. *Leiden University Medical Center, Leiden, Netherlands*

Genome-wide association studies of survival to advanced ages (i.e. above 90 or 100 years) have thus far identified a limited number of longevity loci, i.e. TOMM40/APOE/APOC1, FOXO3A and chromosome 5q33.3. To comprehensively explore the genetic architecture of human longevity, we initiated the largest international GWAS meta-analysis of longevity to date, including studies from the U.S., Europe and China. Genotypes were imputed using the 1000 Genomes Phase 1 reference panel. We defined longevity using country, gender, and birth cohort specific survival percentile cut-off points, where cases were defined as individuals whose age was above the 90th survival percentile and controls as those whose age was below the 60th survival percentile at last censoring. We currently have included over 10,000 cases and 20,000 controls and we expect the study size to increase even further with additional collaborators. The results of the 1000 Genomes meta-analysis of longevity will be presented during the meeting.

GENETIC VARIANTS FOR AGING WELL SUGGEST POTENTIAL FOR INTERVENTION

L.C. Pilling, J. Atkins, D. Melzer, *University of Exeter Medical School, Exeter, United Kingdom*

The UK Biobank is a cohort of 500,000 European origin volunteers. In our preliminary analysis of participants aged 55–70 against parental age at death, we identified several novel variants including one in a DNA repair pathway. We also found strong associations with known genetic variant counts for many common conditions and traits, especially for smoking, high blood pressure and cholesterol levels, obesity linked variants and others. We will present results for all 500,000 European origin subjects plus an overview of results from similar studies of Asian, African and other groups. In addition to promising new mechanistic insights, the results underline the importance of preventable risk pathways in human aging.

CAN GENETICS CLARIFY THE RISK PARADOXES OF LATER LIFE?

J. Atkins, L.C. Pilling, D. Melzer, K. Bowman, *University of Exeter Medical School, Exeter, United Kingdom*

Observational studies of aging cohorts often produce paradoxical associations between known risk factors (such as obesity) and later life outcomes. These paradoxes may be due to confounding from mixing together fit and frail groups, and from the impact of sub-clinical pathology on behaviors and exposures. In this presentation we will explore the role of genetics in clarifying these paradoxes.

Associations between germline genetic variants and phenotypes can't be confounded by the usual behavioral and social factors. Therefore so-called Mendelian Randomization analyses provide robust evidence for causal influences and pathways involved in health outcomes. We will provide an overview of the accumulating evidence from genetics to support the role of key risk factors and clarify claimed paradoxes. We will also present our own analyses, for example showing that body mass index related genetic variation does not support a paradoxical protective effect of being overweight or obese in later life.

TRANSLATIONAL STRATEGIES TO PROMOTE HEALTHY AGING: LONGEVITY GENOMICS RESEARCH GROUP

D. Evans¹, K. Bhutani⁵, G.J. Tranah¹, T. Girke², N.J. Schork³, S. Melov⁴, S.R. Cummings¹, 1. *California Pacific Medical Center Research Institute, San Francisco, California*, 2. *University of California Riverside, Riverside, California*, 3. *J. Craig Venter Institute, La Jolla, California*, 4. *Buck Institute for Research on Aging, Novato, California*, 5. *University of California San Diego, San Diego, California*

The Longevity Genomics Research Project is designed to create a publicly-available research resource available through its website (www.longevitygenomics.org) to enable scientists to develop translational strategies to promote human longevity and healthy aging. Our resource will consist of software tools as R packages, curated datasets, and project results. We will identify Longevity-Associated Genes (LAGs) from Longevity-Associated Variants (LAVs), gene expression studies of aging, and evidence from model organisms. Mendelian Randomization using cohort studies with genetic data and longitudinal measures of aging-related traits will be used to evaluate the potential impact of modulating LAG's on longevity. Candidate Longevity-Associated Drugs (LADs) that target LAG activity are then identified. Using sets of genes whose expression changes with age, we will report associations between genetically predicted expression of these genes and human survival, followed by connectivity map analysis to identify compounds that could target the expression of these genes.

SESSION 370 (SYMPOSIUM)

MANIFESTATIONS OF WISDOM IN REAL-LIFE EXPERIENCES

Chair: N.M. Weststrate, *University of Toronto, Toronto, Ontario, Canada*

Discussant: C.M. Aldwin, *Oregon State University, Corvallis, Oregon*

In the last 30 years, the scientific study of wisdom has flourished. Significant advancements have been made in terms of the definition and measurement of wisdom. Less work, however, has examined how wisdom manifests in, and

develops from, real-life experiences. This is a noteworthy gap in the literature, given that wisdom is a highly contextual phenomenon that is intimately connected to real-life situations, such as the management of difficult life events.

This symposium examines wisdom in relation to real-life experiences using a diverse range of ecologically rich methodologies that draw on research from North America, Europe, and the Middle East. These studies define real-life experience in a variety of ways, ranging from relatively mundane daily hassles to momentous and life-changing events.

Using a daily-diary methodology, Beichler and Glück report on how wise and less wise individuals experience everyday hassles and uplifts, with a focus on individuals' emotional appraisals of these relatively common events. At the level of momentous life experiences, two presentations address the role of wisdom in positive and negative relationship experiences. Farjam, Asadi, and Abadi present on differences in wisdom across groups of divorced and non-divorced women. Auer-Spath and Glück report on the role of wisdom and wisdom-related resources (e.g., empathy), in shaping people's views of the "good marriage" and their relationship satisfaction. Finally, Weststrate, Ferrari, and Fournier present on event content and self-reflective processing in midlife adults' autobiographical memories of wisdom-fostering life experiences.

Carolyn Aldwin will discuss these presentations in relation to the broader science of wisdom and optimal development.

WISDOM AND EVERYDAY REGULATION OF HASSLES AND UPLIFTS

E.M. Beichler, *Department of Developmental Psychology, University of Klagenfurt, Klagenfurt, Kärnten, Austria*

Are wiser individuals happier than others, due to their superior emotion-regulation skills, or even less happy because of their awareness of the negative sides of life? Recent resilience research suggests that being able to savor the good things in life may be as important to living a good life as being able to manage the difficult things. This study investigates how wise and less wise individuals experience and deal with daily hassles and uplifts.

Using a daily-diary method, 52 participants recorded positive and negative experiences and their emotional reactions twice a day for one week. They completed several self-report and performance measures of wisdom in an earlier study. Wiser participants reported the same number of daily uplifts but fewer daily hassles and more low-arousal positive emotions than less wise participants. Thus, wiser individuals seem to be better able than others to savor daily uplifts and deal constructively with daily hassles.

WISDOM AND THE GOOD MARRIAGE

I. Auer-Spath, *Developmental Psychology, University of Klagenfurt, Klagenfurt, Austria, Austria*

The development of human beings takes place in close interaction with other people. Thus, it seems likely that relationships to others influence the development of wisdom. Especially in the context of long-term relationships and the life events that couples go through together, individuals' personal development may be closely linked to that of their partners.

As a first step toward investigating the role of relationships in the development of wisdom, this study analyzed

relationships between participants' levels of wisdom and their views of a good relationship. A sample of 120 participants were interviewed about their views of a good relationship. Wisdom, wisdom-relevant resources, and relationship satisfaction were assessed using self-report and performance measures.

The results showed significant relationships between aspects of wisdom, especially those related to empathy, and relationship satisfaction. In their accounts of a good relationship, wiser individuals were more likely to emphasize acceptance of the other person's individuality.

DO DIVORCED AND NON-DIVORCED FEMALES DIFFER IN WISDOM?

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According to the *MORE Life Experience Model*, the experience of challenging life events, such as divorce or illness, interacts with personal resources to support the development of wisdom. To investigate this empirically the current study examined general and personal wisdom in divorced and non-divorced Iranian females. Twenty divorced women were recruited using a targeted sampling method and 20 non-divorced women were selected randomly. Participants completed interview-based measures of the Berlin and Bremen Wisdom Paradigms (Staudinger, 1994; Mickler & Staudinger, 2008), which were transcribed and rated for the five wisdom-related criteria. Intragroup results revealed that divorced females scored higher in personal wisdom than general wisdom, but there was no significant difference in levels of personal and general wisdom among non-divorced females. Moreover, intergroup comparisons failed to detect a significant difference between the two groups for either measure of wisdom. We conclude that divorce may provide an opportunity for the development of personal wisdom, but not general wisdom, and that increases in personal wisdom after divorce may influence females ability to optimally manage their future lives.

WHAT THE FISHERWOMAN SAID TO THE BOY: NARRATIVE CHARACTERISTICS OF WISDOM-FOSTERING EVENT MEMORIES

N.M. Weststrate, M. Ferrari, M.A. Fournier, *Applied Psychology & Human Development, University of Toronto, Toronto, Ontario, Canada*

Despite the importance of wisdom to human flourishing, little is known about how it is cultivated in people. Laypersons and experts believe that wisdom develops through life experience, yet this assumption has lacked empirical scrutiny. To address this, 502 midlife adults provided a written autobiographical narrative about an event in their life where they felt they grew in wisdom. A team of trained raters scored these wisdom-fostering event memories for *narrative content* (event type, cultural normativity, fundamentality, average event valence), *structure* (narrative coherence), and *process* (meaning-making and personal growth). Participants completed self-report and performance measures of general and personal wisdom. In general, results suggest that negative, fundamental, and culturally non-normative life events are

especially important to wisdom development and that particular styles of self-reflection may be central to the active construction of wisdom from adversity. In terms of event types, mortality events (e.g., premature death) and relationship events (e.g., divorce) were most commonly reported as wisdom-fostering.

SESSION 375 (SYMPOSIUM)

SOCIAL EXCLUSION IN LATER LIFE: UNDERSTANDING THE INTERACTIVE NATURE OF EXCLUSION PATHWAYS

Chair: G. Windle, *IMSCaR, Bangor University, United Kingdom*

Social exclusion is a complex multidimensional process, which although not directly measurable is evident by the presence of associated indicators. The choice of indicators however can be problematic, often overlapping with variables considered drivers or outcomes of social exclusion, obscuring our understanding of the process and mechanisms through which it occurs. This symposium highlights the need to disentangle these pathways and move beyond descriptive accounts of social exclusion, presenting a new working framework that allows direct hypothesis testing of these between domain relationships. Whilst this working framework can be applied to any population we focus on older adults. Life events that can drive social exclusion such as bereavement and changes in health are more likely to occur in later life, and occur more frequently, increasing the risk of social exclusion for this population. Using both quantitative and qualitative methods this symposium will begin to explore some of these framework pathways, modelling the relationship between environmental press and ageing in place on social exclusion; and exploring the relationship between social exclusion and health as both an indicator of exclusion and, whilst controlling for prior health, as an outcome. Possible protective factors that moderate the impact of poor health on social exclusion, such as technology use, will also be examined, and older adult's experiences of using technology and the barriers they face will be discussed. Through detailed examination of the complex pathways through which social exclusion exists we gain a clearer understanding of this phenomenon, and identify possible target areas for intervention.

MEASURING SOCIAL EXCLUSION IN OLDER AGE: DEVELOPING A WORKING FRAMEWORK FOR HYPOTHESIS TESTING

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Social exclusion is widely acknowledged to be a dynamic, multidimensional process; however, each dimension has the potential to be a determinant, indicator, or outcome of social exclusion, making it difficult to disentangle the pathways through which social exclusion exists. We constructed a working framework of *individual* social exclusion from which to directly examine some of these relationships. To

enable hypothesis testing it is important to separate out determinants from indicators of exclusion and to this end we conceptualised social exclusion as reflecting the three domains of service provision and access; social relations and resources; and civic participation. Rooted in this new working framework we constructed later life social exclusion measures for use with Understanding Society - the United Kingdom Household Longitudinal Study. This new working framework and developed social exclusion measures provide a platform from which to explore the complex relationships between domains of social exclusion.

HEALTH AND SOCIAL EXCLUSION IN OLDER AGE: RESULTS FROM THE UK HOUSEHOLD LONGITUDINAL STUDY (UKHLS)

A. Sacker¹, A. Ross¹, C.A. MacLeod², G. Netuveli³, G. Windle², 1. *Epidemiology and Public Health, University College London, London, United Kingdom*, 2. *Bangor University, Bangor, United Kingdom*, 3. *University of East London, London, United Kingdom*

We investigated longitudinal associations between health and social exclusion with data from 4 waves of UKHLS. Adults ≥ 65 years in Wave 3 participating in Waves 1–4 with complete data ($N = 4169$) were used. We modeled the relationship between a social exclusion index (SEI) and prior health and the relationship between SEI and subsequent health, conditional on baseline health and control variables. Poor self-rated health (SRH), limiting long-standing illness (LLTI) and psychological distress predicted SEI ($b = 1.04$ 95%CI 0.88, 1.22; 0.94 95%CI 0.73, 1.15; 0.79 95%CI 0.59, 0.98, respectively). Mobile phone, car and internet use moderated associations. Higher SEI was associated with poorer health outcomes (OR SRH 1.17 95%CI 1.11, 1.23; LLTI 1.07 95%CI 1.02, 1.12; distress 1.10 95%CI 1.04, 1.16). Internet and technology use protected older adults in poor health from social exclusion, suggesting age-friendly hardware and software design might have public health benefits.

THE ENVIRONMENTAL EFFECTS ON SOCIAL EXCLUSION IN OLDER AGES

G. Netuveli^{1,2,4}, A. Ross², C.A. MacLeod³, G. Windle³, A. Sacker², 1. *Institute for Health and Human Development, University of East London, London, United Kingdom*, 2. *University College London, London, United Kingdom*, 3. *Bangor University, Bangor, United Kingdom*, 4. *Imperial College London, London, United Kingdom*

The role of unsupportive environments as a barrier for active life style and social participation has been noted. We investigated the effects of environmental press and ageing in place, as indicators of environmental support, on social exclusion with data from 3 waves of UKHLS. Environmental press was operationalised with three characteristics: the neighbourhood: disruptions, problems and insecurities. Ageing in place was operationalised as the length of residence in the neighbourhood and whether the participant would stay in the same neighbourhood. Social exclusion was measured using a social exclusion index (SEI). Neighbourhood problems (0.657, 95%CI 0.279, 1.036) and disruptions (1.988, 95%CI 1.569, 2.407) increased social exclusion significantly while being a stayer reduced social exclusion significantly

(-0.502, 95% CI -0.664, -0.341). There were no differences between men and women in these results. Policies that will improve neighbourhood quality and make places age-friendly can reduce social exclusion.

USING TECHNOLOGY IN LATER LIFE: QUALITATIVE INSIGHTS INTO ACTUAL AND PERCEIVED BARRIERS

C.A. MacLeod¹, K. Canvin², A. Sacker², G. Netuveli^{2,3}, G. Windle¹, 1. *Dementia Services Development Centre Wales, Bangor University, Bangor, Gwynedd, United Kingdom*, 2. *University College London, London, United Kingdom*, 3. *University of East London, London, United Kingdom*

Poor health is known to predict social exclusion in later life, however this relationship is moderated by internet and technology use. People's approach to technology varies and older adults are known to engage less with technology and its associated applications than younger age groups. We conducted qualitative interviews with 40 participants aged 65 years and over, asking people about their access to services and use of technology. Focusing on information and communication technology (ICT), we found varying levels of engagement amongst this group and identified four categories of use: proficient, basic/learner, proxy and avoider. We explored people's experiences of ICT and revealed a number of actual and perceived barriers, including hardware, software and social factors that inhibit people from fully engaging with technology. Technology use has the potential to protect older adults in poor health from exclusion, but first people need to overcome barriers preventing them from engaging with technology.

SESSION 380 (SYMPOSIUM)

BEST PRACTICES OF FOUR GLOBAL INNOVATION CENTERS TO IMPROVE THE LIVES OF OLDER ADULTS

Chair: J.G. D'Ambrosio, *University of Louisville, Louisville, Kentucky*

Co-Chair: A. Faul, *Institute for Sustainable Health and Optimal Aging*

This symposium brings together innovation centers from Canada, Ireland, the US and China who will share best practices for improving the lives of older adults by advancing the development and translation of technology in both clinical and community based settings. The Schlegel-UW Research Institute for Aging, Waterloo, Canada has developed a Centre for learning, research and innovation in long-term care through research-informed practice change and innovation in workforce preparedness. Their campus includes a long term care center, a workforce teaching and research facility that houses living classrooms and research labs. The Ireland Smart Ageing Exchange (ISAX), Ireland has established an independent network of businesses, academic institutions, government agencies and NGOs collaborating to fast-track research, development and commercialization of solutions for the global smart ageing economy. The Thrive Center, Louisville, Kentucky is an innovation center that partners closely with the Institute for Sustainable Health & Optimal Aging, University of Louisville to promote life-long wellness in order to transform the quality of life and care for

the global aging population. It acts as a hub for older adults, academia and industry to experience and create innovative products, services and education that will promote sustainable health and optimal aging. The Genesis Innovation Center housed within the Qinhuangdao Taisheng GRS International Rehabilitation Center is a state-of-the-art facility designed to bring the best care to the people of China. Genesis has been designed for guests to interact with some of the newest technologies created to improve healthy living and maximize independence.

THE THRIVE CENTER, AN INNOVATION HUB DESIGNED TO CARE FOR THE GLOBAL AGING POPULATION

J.G. D'Ambrosio¹, A. Faul¹, S. Rose², J. Reinhart², *1. School of Medicine, University of Louisville, Louisville, Kentucky, 2. The Thrive Center, Louisville, Kentucky*

The Thrive Center, Louisville, Kentucky is an innovation organization, with a mission to promote life-long wellness by transforming the quality of life and care for the global aging population. The Center is a hub for older adults, academia and industry to experience and create ground-breaking products, services and education that promotes sustainable health and optimal aging. The Center includes interactive exhibits and cutting edge state of the art technology and products that can be used in the older adult market to promote quality of life and care. The exhibits rotate between stakeholders in the market and are open to exploration by older adults and caregivers. The Thrive Center is also an educational and evidence based service facility for academia, industry and the community. The Center partners closely with the Institute for Sustainable Health & Optimal Aging at the University of Louisville, and is located within the university's innovation research campus.

ENHANCING LIFE AND CARE OF OLDER ADULTS THROUGH PARTNERSHIPS IN RESEARCH, EDUCATION AND PRACTICE.

M. Sharratt, J. D'Avernas, *Schlegel-UW Research Institute for Aging, Waterloo, Ontario, Canada*

The Schlegel-UW Research Institute for Aging (RIA), Waterloo, Canada, has a distributed network across Ontario of 16 continuum of care Villages housing over 3,000 residents. Emphasis is placed on learning, research, and innovation in long-term care and retirement through research-informed practice change and innovation in workforce preparedness. The newest Village is contiguous with a 30,000 sq.ft. research building (RIA) as part of a unique Centre of Excellence. The magic of this infrastructure is that it brings potential front-line workers in contact with university students, researchers, and labs, and provides an opportunity to mingle with the residents of the Village (Living Classroom). In response to the aging demographic and a resource-limited system, the RIA is a catalyst for the development and spread of innovation that enhances the quality of life and care for older adults.

ISAX BRINGING BUSINESSES, ACADEMIA, GOVERNMENT, AND NGOS TOGETHER TO ADDRESS AGING

A. Connolly, *ISAX, Arthurs Quay, Limerick, Ireland*

The Ireland Smart Ageing Exchange (ISAX), Ireland has established an independent network of businesses, academic institutions, government agencies and NGOs collaborating to fast-track research, development and commercialization of solutions for the global smart ageing economy. ISAX has developed Start Your Own Business programs for smart ageing and for 'mature' entrepreneurs aged 55+, developed a Smart Ageing Community (panel of 55+ age cohort interested in sharing their life experience to help design better products and services and is forging themed clusters among its members to pursue new business opportunities.

THE GENESIS INNOVATION CENTER ADDRESSING THE NEEDS OF CHINA'S OLDER ADULTS

S. Thomas, *The Genesis innovation Center, Qinhuangdao Taisheng, China*

The Genesis Innovation Center, China provides new technology interaction to improve healthy living and maximize independence, including smart-home technology, and global innovative products such as sensors, digital applications, virtual and augmented reality, mobile health platforms, artificial intelligence, and 3D printing. Participants experience innovative designs from prototype to products ready for purchase. The Center has a "startup in residence" program for entrepreneurs and collaborates with engineers, startups and investors to accelerate design development. It has fully integrated tech-enabled care delivery utilizing robotics to access world class clinicians and resources, virtual rehabilitation and motion trainer tools to create and monitor compliance, performance and clinical outcomes. The Center's high-tech devices and switches improve environmental access, increase independence, and assist with cognitive or mobility impairments. Remote controlled appliances, sleep monitors, video capture technology, smart design features with biometric monitoring and clinician or caregiver alerting mechanisms are all built into the design of the center.

SESSION 385 (SYMPOSIUM)

OLDER MEN LIVING ALONE: ROBERT RUBINSTEIN'S SINGULAR PATHS REVISITED

Chair: M. Leontowitsch, *Goethe-University Frankfurt am Main, Frankfurt am Main, Hessen, Germany*

Discussant: E.H. Thompson, *College of the Holy Cross, Broadview Heights, Ohio*

Due to demographic changes the number of men who live up to old age is steadily increasing and the gap in life expectancy between men and women is closing. Across a variety of circumstances (e.g. widowhood, divorce, singledom, living apart together) a growing number of men are living on their own in later life. However, this group has received relatively little attention. Some social and environmental gerontological as well as medical work have considered older men living alone to be an at risk group, with higher scores of deprivation, suicide and mental health problems compared to older women living alone. Social anthropologist Robert Rubinstein's important publication "Singular Paths" in 1986 provided a novel account of how and why some older men live on their own, which suggested that this group was more emotionally and socially stable than previously expected. In

light of significant changes to aging this symposium aims to look at how our knowledge of this group has evolved over the past 30 years. Presentations will provide accounts of men's lives from different geographical areas as well as social settings. They will look at how perceptions and performances of masculinities are shaped by widowhood and other life events that have lead men to live on their own after the age of 60.

WIDOWERS AS REAL MEN: THE EVERYDAY LIVES OF WIDOWERS IN NEW BRUNSWICK, CANADA

D.K. van den Hoonaard, *Gerontology, St. Thomas University, Fredericton, New Brunswick, Canada*

This paper explores the everyday lives of older widowers who live in New Brunswick, a relatively rural province of Canada. It is based on an in-depth interview study, from a symbolic-interactionist perspective, with widowers over the age of 60 whose wives had died within the previous ten years. The thematic analysis showed that the widowers used impression management to present their everyday lives as masculine. They minimized their ability to carry out household work, emphasized their relationships with women, and focused on masculine leisure activities. Using quotations from the interview transcripts, the paper argues that losing two pillars of masculinity, work and being in a heterosexual couple relationship, was threatening to the widowers' sense of masculinity. They framed their everyday activities to remind the female interviewer that they were still real men.

OLDER MEN LIVING ALONE—INSIGHTS FROM A GERMAN PILOT STUDY

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2. *Institute of Historical Studies, Goethe-University Frankfurt am Main, Hessen, Germany*

This paper explores the lives of older men living alone in Frankfurt/Main, a medium-sized German city. The data is based on in-depth interviews with men aged 60+ who lived on their own for a variety of reasons and structured interviews with stake holders in social care, adult education and international cultural programmes. The inductive thematic analysis of the interviews with the men links their life events that led them to live alone in later life with social and historical changes that accompanied those experiences. In doing so the paper will argue that the way men live alone in later life needs to be understood in the context of their biography. The analysis of the stake holder interviews shows that a deficit orientated view of older men living alone does not match the heterogeneity of the group and the potential risks and resources these men have accumulated over the life course.

DEPRESSION, MASCULINITY, AND LIVING ALONE IN A MILITARY RETIREMENT COMMUNITY

K. de Medeiros, *Miami University, Oxford, Ohio*

Everyday concepts of depression are often associated with feminine traits such as sadness and uncontrollable crying. Such gendered traits can consequently pose challenges to constructions of masculinity in older men. This paper draws upon interviews from a unique sample—eight older men who reside alone in a military-sponsored retirement community and explores how masculinity is performed and defended in

light of age- and person-based threats such as depression. Findings point to the importance of the lifelong identity as a military serviceman as an important site through which to negotiate, process, or deny change with age.

SESSION 390 (PAPER)

SOCIAL AND ECONOMIC DETERMINANTS OF ADULT HEALTH

CONCEPTUALIZING PATHWAYS BETWEEN NEIGHBORHOOD ENVIRONMENTS AND RISK OF CARDIOVASCULAR DISEASE

A.J. Lehning², C. Mair³, S. Waldstein³, E. Onukwugha², M.K. Evans¹, A. Zonderman¹, 1. *National Institute on Aging, Baltimore, Maryland*, 2. *University of Maryland, Baltimore, Baltimore, Maryland*, 3. *University of Maryland, Baltimore County, Baltimore, Maryland*

Using cardiovascular disease (CVD) risk as an example, this paper discusses conceptual and methodological developments to advance research about neighborhood effects on health across the life course. CVD is a leading cause of morbidity and mortality, and modifying the neighborhood physical and social environment is a promising strategy for reducing racial and income disparities in CVD risk. However, empirical evidence of the specific pathways through which environments influence CVD risk is limited because previous studies: 1) measure only a few neighborhood characteristics rather than multiple indicators, 2) assess cardiovascular health primarily through self-reported measures or mortality rather than clinical biomarkers of risk, 3) do not consider intermediary pathways, and 4) analyze predominantly white samples.

We present an adapted version of the Social Determinants of Health and Environmental Health Promotion model (Shultz & Northridge, 2004), which conceptualizes the multiple pathways through which neighborhood environments influence individual and population health. We illustrate the potential of this conceptual model for reducing cardiovascular health disparities by demonstrating an approach for combining data from multiple sources at multiple levels. Specifically, we link household- and neighborhood-level data from administrative sources to Healthy Aging in Neighborhoods of Diversity across the Life Span dataset (HANDLS), a 20-year epidemiological study examining health disparities among socioeconomically diverse African American and white adults in Baltimore City, USA. We discuss the implications of our conceptual model and analytic approach as a means of leveraging community data to inform the design of multilevel interventions to reduce cardiovascular health disparities in an urban adult population.

THE EFFECT OF NEIGHBORHOOD CONTEXT ON COGNITIVE FUNCTION IN INDIVIDUALS APPROACHING MIDLIFE

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The context in which individuals develop plays an important role in determining function in old age. We examined

the role of neighborhood context in cognitive function in a sample of adults approaching middle-age (30–45 years) taking part in the ongoing Colorado Adoption/Twin Study of Lifespan behavioral development and cognitive aging (CATSLife), a longitudinal follow-up of individuals from the Colorado Adoption Project and Longitudinal Twin Study. We conducted an initial analysis of the adoptive subset of participants who underwent cognitive assessments at age 30–35 ($n = 266$; mean age = 31.86 (SD = 1.28); 52% female) and completed a neighborhood demographics questionnaire in which they reported on the prevalence of problems in their neighborhoods (e.g., crime, transportation, corruption). Results from multilevel models to account for family clustering showed that those who reported greater neighborhood problems, performed more poorly on WAIS performance tasks (Cohen's $d = -.37$) compared to WAIS verbal tasks (Cohen's $d = -.19$). Across the whole cognitive battery, including the WAIS subtests and specific cognitive ability tasks, effect sizes were larger for episodic memory ($-.34$) and spatial/fluid tasks ($-.31$), than for verbal ($-.22$) or perceptual speed tasks ($-.07$). However, effect sizes ranged within and across domain from large to small (range = $-.78$ to $.15$; median = $-.21$). We will extend analyses to incorporate a larger sample size with additional waves and compare results to international samples from the UK, Netherlands, and Germany. These findings suggest that the demands of dealing with stressful neighborhood environments may diminish cognitive function in adulthood.

LOW MOOD AND 9-YEAR INCIDENCE OF DEMENTIA: THE ROLE OF MARITAL STATUS AND LIVING SITUATION

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This study aims to examine whether low mood was related to an increased risk of dementia (DSM-III-R), and whether marital status and living situation can modify this association. To examine this, the Kungsholmen Project was used where 1203 cognitively healthy community-dwellers aged 75+ years were followed for 9 years. Low mood at baseline was associated with an increased dementia risk over a 9-year period (HR: 1.36, 95% CI: 1.09–1.69). Stratified analyses by marital status revealed that the effect of low mood on the risk of dementia was only observed in individuals who were single (HR: 1.50, 95% CI: 1.18–1.90), but not in those who were married (HR: 0.83, 95% CI: 0.48–1.42). A similar pattern was observed in stratified analyses by living situation; individuals with low mood were at a higher risk of developing dementia only if they were living alone (HR: 1.49, 95% CI: 1.17–1.91), but not if living with someone (HR: 0.96, 95% CI: 0.59–1.57). These associations could not be explained by socio-demographics or health status of the participants, and remained unchanged after excluding those who developed dementia during the first 3-years of follow-up. Overall, dementia risk was elevated among older adults who have low mood, but the risk exists only in individuals who were single or living

alone. This study emphasizes the importance of social interaction when experiencing low mood. Thus, specific attention should be directed towards the health care of older adults who are experiencing low mood and are single or living alone.

DIFFERENT INDICATORS OF SOCIOECONOMIC POSITION AND THEIR RELATIVE IMPORTANCE AS DETERMINANTS OF HEALTH IN OLD AGE

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Socioeconomic position is most commonly operationalised as education, social class, or income. Socioeconomic position can also be operationalised as occupational complexity. Studies of health inequalities in the general population show that the choice of indicators influences the results. However, less is known about the influence of indicator choice in older populations. We explored whether the strength of the association between socioeconomic position and health in old age (69–88) varied by the indicator of socioeconomic position used.

Data from two nationally representative Swedish surveys (LNU and SWEOLD) were combined, providing 20 years of follow-up. Average marginal effects were analysed to compare the association between the indicators of socioeconomic position (education, social class, occupational complexity and income) and two late-life outcomes: mobility limitations and psychological distress.

All indicators were associated with both outcomes in late-life; differences were small. Income was independently and most strongly associated with both outcomes and contributed the most to model fit. Social class contributed the least to both outcomes. The results indicated that occupational complexity was at least as strongly associated to health in old age as social class and education.

If the primary objective of including an indicator of socioeconomic position is to adjust the model for socioeconomic differences rather than to analyse these inequalities, income may be the preferable indicator, as it seems to capture the most variation in late life health. If, on the other hand, the primary objective of a study is to examine health inequalities, the choice of indicator should be theoretically guided.

EDUCATION AND DEMENTIA: PROTECTION ONLY AMONG THE YOUNG-OLD?

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Whether the association between education and dementia is causal remains unknown. Our study examines this association in Swedish register data as well as the effect of a natural experiment prolonging compulsory schooling from six to seven years. Individuals born from 1920 to 1937 ($n = 1\,373\,936$) were followed up in the National

Inpatient Register from 1980 to 2011 for hospitalizations with dementia diagnosis ($n=103\,235$). Educational measures (schooling type, highest degree achieved and years of education) were derived from a 1970 census. In a Cox model, one year of education was associated with 4% lower risk of hospitalization with dementia diagnosis among 60–78 years old ($HR=0.96$, 95% CI: 0.96–0.97), adjusting for cohort, sex and geographical area. The association was robust to changes in the operationalization of education. Further, a dose-response association was present across the whole spectrum of educational attainment. Among 79–92 years old, one year of education was associated only with 1% lower risk of dementia ($HR=0.99$, 95%-CI: 0.98–0.99), and that was driven mainly by a low risk among those with university education. The results from the natural experiment, which prolonged schooling at the lower end of the educational attainment spectrum, also indicate a protective effect, but again only among the 60–78 years old. In summary, we find preliminary support for a causal protective effect of education on dementia. However, it is possible that prolonging schooling at the lower end of the educational spectrum, from 6 to 7 years, may not buffer against neurodegenerative processes among the oldest old.

SESSION 395 (SYMPOSIUM)

STANFORD CENTER ON LONGEVITY PRESENTS: STARTING POINTS FOR REDESIGNING LONGER LIVES

Chair: T. Sims, *Stanford Center on Longevity*

Co-Chair: L.L. Carstensen, *Stanford University*

Improved longevity is among the most remarkable achievements in all of human history and one of our greatest challenges. The mission of the Stanford Center on Longevity (SCL) is to redesign long life employing science and technology to alleviate the potential challenges of longer lives and improve the well-being of people of all ages. To commemorate SCL's 10th year, we will feature seminal projects underway that focus on optimizing longevity using multi-disciplinary and multi-method approaches. In this symposium, we will present four projects addressing timely issues stemming from longer lives. Tamara Sims will provide an overview of the Sightlines Project which aims to capture how well Americans of all ages are doing financially, socially, and physically over historical time in an effort to identify critical, actionable areas to better prepare society for long lives. Marti DeLeima will discuss work on financial fraud and ways of identifying those most at risk for victimization. Iya Vargas will present research aimed at promoting volunteerism among older adults as a way to promote well-being and inter-generational contact. Finally, Mary Rosenberger will discuss how utilizing a 24-hour activity cycle can better leverage new wearable technologies to enhance health. Taken together, these studies are designed to foster dialogue and multi-disciplinary collaboration among typically disconnected worlds. In doing so, SCL aims to develop workable solutions to urgent issues confronting the world as the population ages.

THE SIGHTLINES PROJECT: TRACKING KEY INDICATORS OF LONGEVITY ACROSS GENERATIONS

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More Americans are living to 100 than ever before. Yet, we are ill-prepared to navigate long life. A flagship project of SCL, *Sightlines* investigates how well Americans are doing on three key indicators: financial security, social engagement and healthy living. We examined eight nationally representative, multi-year datasets surveying more than 1.2 million Americans. On average, financial security (e.g., home ownership, lack of debt) has decreased since 2000 for those under the age of 75. Social engagement (e.g., interactions with family/friends/communities) remained stable since 1995 for most age groups, except Baby Boomers who show significant decline. For Healthy Living, we observed some gains (e.g., physical activity) and some losses (e.g., increased sedentary behavior) since 2002. Many of these trends vary by socioeconomic status and ethnicity. These findings can shape policy, guide product development, and inform individual-level interventions to ensure independent, 100-year lives.

ESTIMATING THE IMPACT OF FRAUD IN THE UNITED STATES

M. DeLiema, M. Deevy, *Stanford Center on Longevity, Stanford, California*

Financial fraud poses a significant threat to the financial security of aging societies. Despite billions of dollars lost to fraud each year, the United States has yet to routinely administer a national survey to estimate the extent of the problem. In collaboration with fraud researchers and policymakers, we are developing a definitional framework and survey to measure rates of fraud in an online sample of 2,000 adults. Thirty-eight percent reported victimization by one or more types of fraud in the past year. Consumer products and services were the most common scams followed by investment fraud. Risk factors included younger age, chronic life stressors, and risky investment preferences. In 2017, the survey will be launched as a module with the National Crime Victimization Survey and administered to over 50,000 households. Data will help identify trends in fraud prevalence and inform where to allocate prevention resources to protect those most at risk.

INCREASING RETIREES' SOCIAL ENGAGEMENT THROUGH MEANINGFUL VOLUNTEERISM

M.E. Vargas¹, A. Yotopoulos¹, J.W. Rowe², 1. *Stanford Center on Longevity, Stanford, California*, 2. *Columbia University, New York, New York*

The SCL Santa Clara County Volunteer Project is a multi-phase effort aimed at improving the health of County retirees through volunteerism, as well as improving the health and well-being of the recipients of the volunteerism and ultimately reducing the cost of medical care to the county. Working closely with the leadership of Santa Clara County,

we first administered a survey to 4000 county workers and retirees. Using the information learned from the survey, we are now recruiting 250 retirees and near-retirees into volunteer roles in the community, initially as developmental screeners for young children ages 0 to 5, and are following them over a two year period. The final phase envisions a large-scale longitudinal study measuring physical and cognitive health outcomes, monitoring health care utilization, and examining expected reductions in health care costs among volunteers in a wide variety of County volunteer positions.

24 HOURS OF PHYSICAL ACTIVITY, SEDENTARY BEHAVIOR, AND SLEEP WITH WEARABLE DEVICES

M. Rosenberger, K. Smith, *Stanford Center on Longevity, Stanford, California*

Wearable devices can provide a detailed description of daily activities, giving researchers the capability to create a new model of healthy living by using an interdisciplinary approach to disease prevention. A combination of expertise from exercise science, sedentary behavior research and sleep studies is needed to understand the relationship of all human activity to disease and longevity. Optimizing a 24-hour activity cycle is likely to be a key part of utilizing this new technology for health research and interventions. Additionally, it creates a new avenue for studying how behavior affects aging and how to best optimize activity for longevity. This presentation will describe the 24-hour activity cycle, why it is important for health, where the data are being collected, and how researchers are currently using the data to answer public health questions. Important future research directions will be highlighted.

SESSION 400 (SYMPOSIUM)

TRANSLATING EVIDENCE-BASED DEMENTIA CARE FOR OLDER ADULTS AND FAMILIES INTO PRACTICE: COPE CT STUDY

Chair: R.H. Fortinsky, *University of Connecticut, Old Lyme, Connecticut*

Discussant: L.N. Gitlin, *School of Nursing, Johns Hopkins University, Baltimore, Maryland*

This symposium contributes new knowledge to current efforts to successfully translate evidence-based interventions into existing home and community-based service settings for older adults with dementia and their family caregivers. We report on several aspects of the ongoing COPE CT study, which incorporates and evaluates implementation of the evidence-based Care of Persons with Dementia in their Environments (COPE) intervention into Connecticut's Medicaid waiver and state-funded homecare program for older adults. In COPE, occupational therapists teach family caregivers problem solving skills for managing dementia-related symptoms and their own stress, and nurses assess persons with dementia for underlying medical conditions that may affect function and behavior. In the COPE CT randomized trial, COPE services are added or not added to existing homecare service plans for older adults with dementia and their family caregivers (dyads). In this symposium, Fortinsky will first explain the COPE CT translational study design and report findings to date regarding enrolled dyad characteristics and clinical findings from COPE

interventionists. Piersol will then explain the principles and components of COPE, and how its fidelity is monitored in the COPE CT study. Molony will then provide perspectives from care management organizations responsible for coordinating publicly-funded homecare services. Robison will then report focus group findings regarding home care program care managers' experiences incorporating COPE into daily practice. Pizzi will then report findings from economic impact analysis data. Discussant Gitlin will comment on study implications for efforts elsewhere translating evidence-based interventions for this growing target population into homecare practice and policies.

OVERVIEW OF COPE CT STUDY DESIGN AND SELECTED SAMPLE AND TREATMENT CHARACTERISTICS

R.H. Fortinsky, *UConn Center on Aging, University of Connecticut, Old Lyme, Connecticut*

The COPE CT study tests effectiveness of incorporating the Care of Persons with Dementia in their Environments intervention (COPE) into care plans of older adults with dementia (OAD) and their family caregivers (dyads) enrolled in Connecticut's Medicaid waiver and state-funded homecare program. In this presentation, we explain the study's translational design, report interim results, and discuss project potential for replication. Eligible dyads are randomly assigned either to COPE plus usual care services, or usual care services only. Outcomes include functional independence for OAD, and perceived well-being for caregivers. Recruitment goal=290 dyads. Among 127 dyads enrolled to date: 81% of OAD and 72% of caregivers are female; mean/s.d. ages=84.7/7.6 for OAD and 61.3/11.9 for caregivers; 20% Black; daughters are most common caregivers. Most dyads receiving COPE complete all sessions. Nurse assessment of OAD has revealed medical conditions warranting physician treatment. Replicability potential is high because all states offer similar homecare programs.

CARE OF PERSONS WITH DEMENTIA IN THEIR ENVIRONMENTS (COPE): PRINCIPLES, CHARACTERISTICS, AND FIDELITY

C.V. Piersol¹, L.N. Gitlin², 1. *Thomas Jefferson University, Philadelphia, Pennsylvania*, 2. *Johns Hopkins University, Baltimore, Maryland*

COPE seeks to support the capabilities of older adults with dementia (OADs) living at home by reducing environmental stressors and enhancing caregiver knowledge and skill. COPE-CT, a translational study, tests the effectiveness of incorporating the intervention into Connecticut's Medicaid waiver program. This presentation describes intervention principles and characteristics and fidelity approach. COPE is theory-driven and sensitive to cultural attributes, focuses on caregiver-identified problems, provides empirically derived strategies and resources, and is designed to be transportable to real-world practice. COPE is delivered by advanced practice nurses (APN) [two sessions] and occupational therapists (OT) [10 sessions] who communicate assessment findings and care emergencies to agency care managers, an important translational element. The fidelity plan initially involves intensive monitoring and measurement of delivery, receipt and enactment components using traditional scientific

methods and practical approaches. Future plans are to have fidelity measures built into care delivery with care managers providing oversight.

COPE CT FROM ORGANIZATIONAL AND PUBLIC POLICY PERSPECTIVES

S. Molony, *Quinnipiac University, Hamden, Connecticut*

Home and community-based services (HCBS) offer a lower-cost option than institutional long-term care, while supporting older adults in their preferred setting. Nearly 70 percent of people with dementia live at home (Alzheimer's Association, 2009) and almost one-quarter has Medicaid coverage (Kaiser Family Foundation, 2015). HCBS services vary from state to state and while many provide options for long-term services and supports (LTSS) such as personal care, case management, physical or occupational therapy, few of these services are designed to formally address the needs of family caregivers essential to successful community living for persons with dementia. The COPE intervention offers a unique constellation of supports to these families that can be integrated into existing LTSS care management models. This paper compares and contrasts "usual care" with the enhanced supports offered as part of the COPE intervention and identifies key points for successful implementation by care managers and HCBS policymakers.

CARE MANAGER PERSPECTIVES ON COPE INTERVENTION IMPLEMENTATION IN THE CT HOME CARE PROGRAM FOR ELDERS

J.T. Robison¹, R.H. Fortinsky¹, L.N. Gitlin², 1. *UConn Center on Aging, University of Connecticut, Old Lyme, Connecticut*, 2. *Johns Hopkins University, Baltimore, Maryland*

An important aspect of the COPE CT study translational design is understanding implementation processes to enable widespread adoption of COPE within the CT Home Care Program for Elders (CHCPE), and within Medicaid waiver and state-funded homecare programs elsewhere. We draw upon Normalization Process Theory (NPT) which posits specific criteria for judging implementation potential of an intervention, how practice settings may be affected by the intervention, and how the intervention can be modified to support its implementation. Focus groups designed in accordance with NPT are conducted annually in years 2–5 of the study period with CHCPE care managers and COPE interventionists. This presentation reports findings from the 6 care manager focus groups held during study years 2 and 3, with special emphasis on their experiences recruiting participants from their client caseloads, perceived COPE intervention benefits and challenges, and how well COPE services are integrated into their daily service coordination activities

COST ANALYSIS PLAN AND CAREGIVERS' WILLINGNESS TO PAY FOR COPE-CT: INTERIM FINDINGS

L. Pizzi², E. Jutkowitz⁴, K. Prioli², L.N. Gitlin³, R.H. Fortinsky¹, 1. *UConn Center on Aging, University of Connecticut, Old Lyme, Connecticut*, 2. *Thomas Jefferson University, Philadelphia, Pennsylvania*, 3. *Johns Hopkins University, Baltimore, Maryland*, 4. *University of Minnesota, Minneapolis, Minnesota*

To inform a net financial benefit analysis of COPE-CT from the Medicaid perspective, a variable map was developed which included relevant costs and willingness-to-pay (WTP) for the program. WTP for non-pharmacological behavioral programs is critical to translation because it

indicates the monetary value caregivers place on these services. 85 participating caregivers were read a brief description of COPE-CT at baseline and asked to estimate their per session WTP using a contingent valuation method. Results were grouped by WTP thresholds.

WTP/session ranged from \$0 to \$200. 21 CG (24.7%) were unwilling to pay for this program, 17(20%) willing to pay \$10–25/session, 21(24.7%) willing to pay \$50–75/session, 19(22.4%) willing to pay \$100–125/session, and 7(8.2%) willing to pay \$150–200/session. The variable map will also be presented as a tool to explain how we will create the specific direct and indirect cost measures that will be used in the economic analysis for the COPE-CT study.

SESSION 405 (SYMPOSIUM)

FRAILITY IN OLDER ADULTS: INNOVATIVE PERSPECTIVES ON EARLY DETECTION AND INTERVENTION

Chair: S. de Bruin, *National Institute for Public Health and the Environment, Netherlands*

Discussant: T. Kardol, *Vrije Universiteit Brussel, Brussel, Belgium*

A MULTIDIMENSIONAL APPROACH OF FRAILITY IN THE GENERAL POPULATION—THE DOETINCHEM COHORT STUDY

L. Rietman^{1,2}, S. van Oostrom¹, D. van der A¹, S. Picavet¹, M. Lette¹, M. Verschuren^{1,2}, S. de Bruin¹, A. Spijkerman¹, 1. *National Institute for Public Health and the Environment, Bilthoven, Netherlands*, 2. *Julius Center, Utrecht, Netherlands*

Accumulation of problems in physical, psychological, cognitive, or social functioning is characteristic for frail individuals. This study explored which sociodemographic and lifestyle factors, life events and health characteristics were associated with these four frailty domains. The study sample included 4019 men and women (aged 40–81 years) examined in 2008–2012 of the Doetinchem Cohort Study. About 17% of the population was frail at one or more domains, with limited overlap between the frailty domains. Being physically active was consistently associated with a lower risk of being frail on each of the four domains. Short or long sleep duration was associated with a higher risk of being physically, psychologically, and socially frail. In conclusion, considering multiple frailty domains is important because the majority of frail people were frail on one domain of frailty only. Lifestyle factors including physical activity, smoking and sleep duration were cross-sectionally associated with multiple domains of frailty.

AGING IN PLACE WITH FORMAL AND INFORMAL CARE: OLDER PEOPLE'S NEEDS AND PREFERENCES

M. Lette¹, A. Stoop², L. Lemmens², Y. Buist², C. Baan^{2,3}, S. de Bruin², 1. *VU University Medical Centre, Amsterdam*,

Netherlands, 2. National Institute for Public Health and the Environment, Bilthoven, Netherlands, 3. Tilburg University, Tilburg, Netherlands

Older people in the Netherlands are increasingly being stimulated to remain independent and live at home for as long as possible, with help from formal and informal caregivers. In-depth interviews were conducted with 36 older people and provided insight into what older people need with regard to health, wellbeing and aging in place. Mobility appears to be essential for remaining independent. Additional important preconditions for living independently at home were good cognitive health, appropriate housing conditions and practical help (e.g. housekeeping, maintenance, administration). With regard to wellbeing, feeling respected and having a sense purpose and autonomy were important, as well as having social relationships. Respondents indicated to be reluctant to ask for structural help from their informal network, and they also felt that problems related to wellbeing were primarily their own responsibility. These results may help caregivers when organizing preventive (in)formal care and support for older people.

IMPROVING EARLY DETECTION INITIATIVES: PERSPECTIVES OF PROFESSIONALS IN THE NETHERLANDS

L. Lemmens¹, Y. Buist¹, M. Lette^{1,2}, A. Stoop^{1,2}, C. Baan^{1,3}, S. de Bruin¹, 1. National Institute for Public Health and the Environment, Bilthoven, Netherlands, 2. VU University Medical Centre, Amsterdam, Netherlands, 3. University of Tilburg, Tilburg, Netherlands

Many initiatives are developed aiming to proactively identify health and social problems in (frail) older people. Early detection and proactive delivery of care and support could help older people to age in place and remain independent. Previous research shows that these initiatives do not always meet the needs and preferences of older people with regard to e.g. setting, timing and scope. In-depth interviews with nineteen professionals in preventive elderly care were conducted to identify areas of improvement in existing initiatives. Identified improvement areas included: 1. More tailored approach, 2. Better information for older people (and thereby raising awareness about anticipating on future needs), 3. More use of informal networks, 4. Better alignment of initiatives within the neighborhood, 5. More attention for groups that are difficult to reach. It is recommended to take these starting-points for improvement into account to better align early detection initiatives with older people's needs and preferences.

EARLY DETECTION OF FRAILTY IN COMMUNITY-DWELLING OLDER ADULTS BY PREVENTIVE HOME VISITS

B. Fret, D. Verté, L. De Donder, *Educational Sciences, Vrije Universiteit Brussel, Brussels, Brussels, Belgium*

Timely detection of frailty and preventive home interventions can allow older people to age well at home. Research indicates that preventive home visits can have a preventive effect on frailty for a well-defined population. The current paper will test the effectiveness and experiences with a consecutive model of preventive home visits: step 1 visit by volunteers, step 2: visit by professionals. Quantitative and

qualitative data are collected during preventive home visits performed among 450 community-dwelling older adults living in three cities in Flanders, varying in urbanisation rate (Tienen, Gent and Knokke-Heist). Results point towards the possibilities and constraints of performing preventive home visits by volunteers and develop guidelines and profiles. Second, findings demonstrate the effectiveness of the preventive home visits in terms of "detected cases who are frail but lacked care and support". Finally, preventive home visits can guide to the most appropriate interventions, taking into account the clients' preferences.

DETECTION AND PREVENTION OF FRAILTY: INCREASING EFFECTIVENESS USING EVIDENCE-BASED RISK PROFILES

E. Dierckx, A. Smetcoren, L. De Donder, S. Dury, *Vrije Universiteit Brussel, Brussels, Brussels, Belgium*

This paper investigates risk profiles of frailty among older people, as these are essential for detecting individuals at risk for adverse outcomes and to undertake specific preventive actions. Frailty is not only a physical problem, but also refers to emotional, social, and environmental hazards. In a first phase, data from the Belgian Ageing Studies, a cross-sectional study among home-dwelling older people (N= 28,049) were analyzed using multivariate regression models. Findings indicated several sociodemographic and socioeconomic risk profiles for frailty (domains). In a second phase (January 2017), these risk profiles are validated in three municipalities in Belgium. Samples are drawn from the population registers based on the detected risk characteristics. Results will demonstrate the effectiveness and efficiency of using these risk profiles among 900 older people. In the discussion, this paper elaborates on practical implications to use these profiles in detection and prevention of frailty.

SESSION 410 (SYMPOSIUM)

EMPOWERMENT, EMOTIONAL LABOR, AND EVERYDAY ENCOUNTERS IN HOME CARE FOR PERSONS WITH DEMENTIA

Chair: K. Scales, *Duke University, Durham, North Carolina*

"Home care" encompasses a range of services designed to meet individuals' long-term care and support needs in their home setting, thereby promoting independence and delaying admission to institutional care. Addressing concerns about home-care quality is a priority across many care systems, including in England, as reflected in the recent release of the Quality Standard for Homecare for Older People (NICE, 2016). Little is known, however, about how "good" home care – that which is person-centered, well-coordinated, and consistently staffed – is understood and implemented in daily practice, particularly for those with dementia. Drawing from an innovative mixed-methods study undertaken in England in collaboration with a large international home-care provider, the purpose of this symposium is to advance understanding of the structure and content of daily in-home care for clients with mild to moderate dementia. The primary data sources are extensive fieldnotes from one year of participant observation and weekly diary entries maintained by 11 paid caregivers over eight weeks. The first paper will discuss the tensions between autonomy (or "empowerment") and

support in the daily delivery of care. The second paper will describe the emotional labor undertaken by home-care staff, with attention to how their deployment of “tact” to maintain clients’ dignity highlights the inherent conflicts of the paid caregiving relationship. The final paper will draw from the caregiver diaries to discuss the everyday challenges of providing consistently “good” care within broader structural conditions. Implications for workforce development, quality improvement, and commissioning of home-care services will be discussed.

EMPOWERMENT IN HOME CARE FOR PERSONS WITH DEMENTIA: IMPLICATIONS FOR PERSON-CENTERED CARE

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A key element of person-centered care, which is a priority across long-term care systems, is the “empowerment” of direct-care workers – understood as the legitimated autonomy to adapt care around individuals’ needs and preferences, instead of completing tasks by rote and routine. The nature of empowerment in the particular context of home-care is not well-understood, however. This paper draws from ethnographic data collected as part of a mixed-methods study of “good” home care to describe how caregiver autonomy is enacted and experienced in daily care. We examine the close link between autonomy and isolation for these workers, which can curtail the knowledge exchange that supports person-centered care in other settings. We also examine the relational and structural limits of autonomy, highlighting organizational surveillance techniques as a particular example. The paper concludes with a discussion of the implications of these findings for efforts to empower direct-care staff to provide person-centered in-home care.

CLOSE ENCOUNTERS OF THE CARING KIND: EXAMINING EVERYDAY EXPERIENCES OF HOME CARE USING STAFF DIARIES

C. Travers², K. Pollock³, K. Scales¹, L. Perry-Young³, S. Wilkinson³, N. Manning⁴, J. Schneider³, 1. *Center for the Study of Aging and Human Development, Duke University, Durham, North Carolina*, 2. *Loughborough University, Loughborough, United Kingdom*, 3. *University of Nottingham, Nottingham, United Kingdom*, 4. *King's College London, London, United Kingdom*

Written diaries are increasingly used to gather data in academic, educational and vocational settings. Diaries get us “up close” to people’s lived experiences, yielding rich data free from retrospective bias. As part of a mixed-methods study, 11 home caregivers for clients with dementia kept reflective diaries for eight weeks. This paper reports findings from the diaries relating to: *caregivers’ key skills*, including their efforts to preserve client’s dignity and agency and to mediate among clients, relatives, and the home-care organization; the *daily demands of the job*, including physical and

emotional stressors; the *challenges of the job*, from interpersonal to logistical tasks; and the *daily experiences of job-related satisfaction*, including the practices of self as a skilled and caring worker and the sense of being appreciated. These findings are discussed in relation to the caregivers’ representations of home-care clients in the diaries, which range from *idealization to candor*.

TACT AND DUPLICITY IN INTERPERSONAL RELATIONS BETWEEN PAID HOME CAREGIVERS AND THEIR CLIENTS

K. Pollock², K. Scales¹, C. Travers³, L. Perry-Young², S. Wilkinson², N. Manning⁴, J. Schneider², 1. *Center for the Study of Aging and Human Development, Duke University, Durham, North Carolina*, 2. *University of Nottingham, Nottingham, United Kingdom*, 3. *Loughborough University, Loughborough, United Kingdom*, 4. *King's College London, London, United Kingdom*

This paper explores tensions arising from caregivers’ practices of skilled interpersonal work, specifically the exercise of tact to protect the dignity of clients. The threat to self-esteem from low-paid, low-status employment is buffered by satisfaction from close relationships with clients. Emotional labor required of caregivers in the course of routine work may be rewarded by emotional capital and enhanced self-worth. Caregivers exercise great skill in supporting personhood and agency, particularly to deflect and cover up mishaps of mental and physical incompetence. However, the requirement – or “feeling rule” – of tact to maintain the personal dignity of clients breaches norms of fair and transparent dealing between people in close interpersonal relationships. Tact may be a manifestation of professional skill but can also undermine the authenticity in relationships between client and caregiver that its exercise aims to instantiate, and underlines the ambiguous nature of a personal relationship underpinned by pay.

SESSION 415 (SYMPOSIUM)

INTEGRATED CARE FOR PEOPLE WITH COMPLEX CARE NEEDS: PAST, PRESENT, AND FUTURE

Chair: J.M. Wiener, *RTI International, Washington, District of Columbia*

Co-Chair: W.L. Anderson, *RTI International, Research Triangle Park, North Carolina*

Discussant: J. Chen Hansen, *American Geriatrics Society, New York, New York*

Integrated care systems have a primary goal of providing coordinated care using formal linkages of different types of providers to provide high quality care to populations with complex care needs. The symposium will open with a background analysis of the need for integrated care systems for people with complex care needs, including an overview of the benefits and challenges. The symposium will then present three research projects funded by the U.S. Department of Health and Human Services’ Office of the Assistant Secretary for Planning and Evaluation that examine the past results, present challenges and future opportunities for integrated care. The first paper analyzes the effect that Minnesota’s well-established integrated systems of care have had on

health care and long-term services and supports (LTSS) use among dually eligible individuals over age 65. The second paper examines several current integrated systems of care to determine how care coordination is operationalized and the challenges that remain when exchanging information across acute care and LTSS providers. The third paper will examine the opportunities and challenges for expanding the Program of All-Inclusive Care for the Elderly (PACE), a fully-integrated care system, to serve younger people with disabilities and the implications of these findings for the older populations currently served by PACE. The discussant will respond to the studies' findings and discuss the evolution of integrated care and the potential for these delivery systems to provide high quality care for populations with complex and unique needs.

WHERE'S THE REST OF ME? THE CASE FOR INTEGRATED CARE

J.M. Wiener, *RTI International, Washington, District of Columbia*

Older people with disabilities currently receive care in a fragmented and uncoordinated financing and service delivery system, both within and between the health and long-term care systems. Financing for acute care is largely the responsibility of Medicare and the federal government, while long-term services and supports (LTSS) is dominated by Medicaid and state governments. As a result, no organization is responsible for managing all aspects of care for a person. Indeed, under the current system, the financial incentives are to shift costs between Medicare and Medicaid, especially for users of LTSS, where Medicaid's financial role is large for LTSS and small for medical care and Medicare's financial role is small for LTSS and large for medical care. The fragmented financing and delivery system has negative consequences for older people, including high levels of hospitalization and potentially avoidable hospitalizations.

INTEGRATING CARE FOR DUAL MEDICARE-MEDICAID ELIGIBLE SENIORS: A NEW LOOK AT THE MINNESOTA MODEL

W.L. Anderson¹, S. Long², Z. Feng¹, 1. *RTI International, Research Triangle Park, North Carolina*, 2. *Urban Institute, Washington, District of Columbia*

With few incentives for program coordination, the 10 million Americans who are dually eligible for Medicare and Medicaid often receive fragmented and inefficient care. Using 2010–2012 Medicare and Medicaid fee-for-service claims, managed care encounters, and enrollment data, we assessed the impact of enrollment in the Minnesota Senior Health Option (MSHO) —a state-wide fully-integrated Medicare-Medicaid model and the first of its kind—on health care and long-term services and supports use among elderly dual eligibles, relative to similar enrollees in Minnesota Senior Care Plus (MSC+), a Medicaid-only managed care plan with Medicare fee for service. MSHO enrollees had 60 percent higher likelihood of community-based services use and 49 percent lower likelihood of hospital-based care than similar MSC+ enrollees. Adopting fully-integrated care models similar to MSHO in Minnesota may have merit for other States as they consider strategies to improve care delivery for dual eligibles under Medicare and Medicaid.

INFORMATION EXCHANGE IN INTEGRATED CARE MODELS

M. Knowles¹, S. Mitchell², E.G. Walsh³, M. Ignaczak⁴, L. Bercaw³, 1. *Aging, Disability, and Long-Term Care, RTI International, Durham, North Carolina*, 2. *Digital Health Policy and Standards, RTI International, Chicago, Illinois*, 3. *Aging, Disability, and Long-Term Care, RTI International, Waltham, Massachusetts*, 4. *Quality Measurement and Health Policy, RTI International, Washington, District of Columbia*

Integrated care models offer the organizational structure to support the coordination needed to provide high quality care to populations with long-term service and support (LTSS) needs. This study describes how care coordination is operationalized by examining the information exchange processes in several integrated care models. We conducted an environmental scan, convened a technical advisory group, interviewed subject matter experts, and conducted case studies of three integrated care systems. We determined that care coordination and information exchange remain high touch processes, and organizational trust and personal relationships between providers remain foundational to successful care coordination; existing electronic health records are inadequate for integrated care models because they do not capture all information needed to support those with LTSS needs; electronic exchange of information with LTSS providers generally does not occur; and interpretation differences of regulations that protect patient health information create barriers to exchanging information and providing coordinated care.

CHALLENGES AND OPPORTUNITIES TO EXPAND THE PACE INTEGRATED CARE MODEL TO NEW POPULATIONS

S. Karon, M. Knowles, E. Vreeland, R. Love, G. Chiri, *RTI International, Research Triangle Park, North Carolina*

The PACE program has a long history of successfully serving people age 55 and older who need nursing home level of care in the community. The program provides integrated medical and social services, coordinated through highly-structured interdisciplinary teams and primarily provided through adult day health centers. The PACE Innovation Act of 2015 allows expansion of this model to other populations. We present findings from a recent study of how the PACE model might serve younger people with physical, intellectual, developmental, or mental health disabilities. Challenges identified include the structure and function of the interdisciplinary teams, acceptability of day center-based services, organizational capacity to support populations with unique needs, and adequacy of payment risk adjustment methodologies. We will discuss implications of these findings for the older populations currently served by PACE, and identify ways in which the PACE model might evolve to meet changing views of service provision and coordination.

SESSION 420 (SYMPOSIUM)

INTERNATIONAL PERSPECTIVES ON DIVERSE ROLES FOR OLDER PEOPLE IN HIGHER EDUCATION

Chair: T. Scharf, *Newcastle University, United Kingdom*

In focusing on students between the ages of 18–24, traditional models of higher education (HE) typically overlook

issues arising from demographic change. However, trends towards lifelong learning in some countries have increased age diversity within university classrooms. Further, increasing acceptance of the importance of public involvement and engagement (PPI/E) has created new opportunities for older people to connect with teaching and research taking place in HE. This symposium will draw on key international examples to explore the increasingly diverse roles of older people in HE. Matthew Kaplan will describe the Intergenerational Leadership Institute, a certificate training program developed by Penn State University for older adults already engaged in volunteering but with an interest in getting more involved, at a leadership level, in developing or expanding intergenerational programs in their areas of interest. Alison Phinney will discuss working in partnership with older people to undertake applied nursing research projects. Thomas Scharf will explore learnings that arise from developing a new educational programme for older adults in Ireland, "Touchstone", aimed at promoting civic engagement in later life. Ellen Tullo will present insights arising from the involvement of older adults in the design, development and delivery of an interdisciplinary module for undergraduate students in the UK. By comparing and contrasting these examples, and the roles that older people may adopt, contributors will critically review benefits and challenges associated with involving older people in the life and work of HE institutions.

UNIVERSITY AS INTERGENERATIONAL LEARNING AND LEADERSHIP INCUBATOR

M. Kaplan, *The Pennsylvania State University, State College, Pennsylvania*

Public awareness and interest in intergenerational programs is strong, fueled in part by a growing literature that attests to wide-ranging benefits for program participants and their communities. Participants tend to derive richer life perspectives, enhance social support networks, and find new pathways to civic engagement and community service. However, even successful programs tend to have difficulty finding skilled staff members to assist with program planning, activity facilitation, and program evaluation. Penn State University's Intergenerational Leadership Institute (ILI) is a lifelong learning and civic engagement program for older adults as well as an incubator for new intergenerational program development. ILI participants gain skills in reaching out to age-diverse populations, facilitating communication and cooperation across generations, and building consensus and teamwork among partnering organizations. The ILI adopts a micro-level approach to community innovation and service, focusing on the utilization of local assets and skills to shape self-help strategies at the local level

INCLUDING OLDER PEOPLE IN RESEARCH TOWARD CHANGE

A. Phinney, J. Baumbusch, L. Hung, *University Of British Columbia, Vancouver, British Columbia, Canada*

Through our respective programs of research, we seek to improve long term residential care services, support meaningful activity for older people in community settings, and enhance the physical environment for older patients in acute care hospitals. What unites our work is a commitment to

using research as a vehicle for effecting positive change in the health and social care systems. This pragmatist leaning has led us as nurses to consider older people not as the focus of our research, but as our *partners* in research. We discuss three ways that older people have been involved in our work: as *informants*; as *advisors*; and as *co-researchers*. We provide examples from various projects to illustrate the challenges and benefits of older people being included through these kinds of partnering roles, and where we see potential to further develop this approach to applied nursing research.

DEVELOPING A CIVIC EDUCATION PROGRAMME FOR OLDER PEOPLE: LESSONS FROM IRELAND

T. Scharf¹, B. McDonald², A. Atkins³, 1. *Newcastle University, Newcastle, United Kingdom*, 2. *National University of Ireland Galway, Galway, Ireland*, 3. *University College Dublin, Dublin, Ireland*

Touchstone is a civic engagement programme that aims to develop the skills and capacities of a diverse population of older people to engage in community and, potentially, age-friendly initiatives. This paper reviews the experience of developing Touchstone in Ireland as a short course with the potential to generate participant-directed projects. We highlight the value of collaboration between higher education and community partners, presenting insights from a mixed-methods evaluation of two Touchstone courses involving 50 people aged 50 and over. Drawing on pre- and post-course questionnaires, two focus groups, and a range of observational data, the paper highlights opportunities and challenges emerging from development of the Touchstone programme. The paper concludes with an assessment of the potential role for higher education in Ireland and other countries in embedding age-friendly initiatives, founded on meaningful active engagement of ageing adults, within local communities.

SESSION 425 (SYMPOSIUM)

TECHNOLOGY SUPPORTING PEOPLE WITH DEMENTIA

Chair: W. Moyle, *Griffith University, Brisbane, Queensland, Australia*

Co-Chair: L.P. de Witte, *Zuyd University of Applied Sciences, Heerlen, Netherlands*

New as well as existing technologies can help the person with dementia and family carers to reduce social isolation and behavioral and psychological symptoms of dementia (BPSD), and therefore help to make the disease more manageable. This symposium, presented by leaders in the field of technology and social robots aims to assist participants to recognise the benefits of technology use in dementia care. An introduction to new online platforms to support family and community dwelling older people will demonstrate the relationship between independence and technology, while an overview of three social and telepresence robot projects will demonstrate the importance of these technologies in reducing social isolation and BPSD. The three symposium presentations will be complemented by the introduction of a new measurement of engagement - an important concept when measuring the effect of technology and persons with dementia.

IMPROVING DEMENTIA CARE THROUGH SOCIAL AND TELEPRESENCE ROBOTS

W. Moyle¹, C. Jones¹, B. Sung², T. Dwan¹, J. Murfield¹,
1. *Menzies Health Institute QLD, Griffith University, Brisbane, Queensland, Australia*, 2. *Curtin University, Perth, Western Australia, Australia*

The complexity of dementia, and the differing care services, makes it difficult to establish best practices for managing behavioural and psychological symptoms of dementia (BPSD). Our team have been trialling robots in the community and a social robotic laboratory. This presentation will demonstrate what we have learnt to date about the impact of using the robots in dementia care. Findings related to improvements in engagement, socialisation and mood as well as the feasibility of using social and telepresence robots from three studies will be outlined: 1) A cluster-randomised controlled trial ($n=415$, people with dementia living in long-term care), with three treatment groups – a robotic animal (PARO), a non-robotic animal (Plush-Toy), and usual care (control); 2) A case study of five dyads (people with dementia and family) using telepresence robots in a 6-week intervention; and 3) family, people with dementia and health professionals acceptance of telepresence robots in a laboratory trial.

ONLINE PLATFORM TO SUPPORT THE NETWORK OF CAREGIVERS OF PEOPLE WITH DEMENTIA

E. van Rossum, R. Verwey, A. Boessen, L.P. de Witte, S. Willard, *Zuyd University of Applied Sciences, Heerlen, Netherlands*

Care technology is used insufficiently to support persons with dementia, their family and professional caregivers. We integrated a range of eHealth services and applications into an online platform, with the aim to strengthen care and support networks of persons with dementia. The platform was developed in an iterative user centered way, based on an available platform. It consists of 'cubes' with information about dementia (care), video communication options, a calendar and care plan. A first version was tested during 10 weeks in the networks of four community-dwelling persons with dementia. Family caregivers reported that they were better informed and felt more in control. Care professionals reported improved communication and better understanding among themselves and with family caregivers. In the autumn of 2016 the platform will be tested in 40 patient networks over a 4 months period. We will report the results of this field test and discuss the next steps.

A COMMUNITY ICT PLATFORM TO SUPPORT COMMUNITY-DWELLING ELDERLY PEOPLE: FEASIBILITY AND IMPACT

S. Willard¹, E. van Rossum^{1,2}, M. Spreeuwenberg^{1,2}, L.P. de Witte^{1,3}, 1. *Zuyd University of Applied Sciences, Heerlen, Netherlands*, 2. *Maastricht University, Maastricht, Netherlands*, 3. *University of Sheffield, Sheffield, United Kingdom*

Older people prefer to stay independent and active in their own environment. Information and communication technology can support them in accomplishing these goals. This is challenging though, as many are not familiar with technology. We introduced a community ICT platform in

Heerlen, a city with a highly ageing population, in close collaboration with older persons and active citizens. By means of simple and clear apps, the platform offers a market place for mutual services, community information, access to professional services, and possibilities to set up new community activities. A process evaluation is conducted to study the use of and experiences with the platform. In addition, the platform's impact on independent functioning, social contacts and involvement in community activities is studied in 150 users over a 12 months period. We will report data over the first 4 months and discuss the role of such platforms in future care and support models.

ASSESSING THE USE OF TECHNOLOGY TO ENGAGE PEOPLE WITH DEMENTIA

C. Jones¹, B. Sung², W. Moyle¹, 1. *Menzies Health Institute QLD, Griffith University, Brisbane, Queensland, Australia*, 2. *Curtin University, Perth, Western Australia, Australia*

The study of engagement (i.e. social interaction/connection) in people with dementia can determine the effectiveness of using technology to promote meaningful activity and to improve quality of life. This paper presents the psychometric properties of a recently developed 10-item Engagement of a Person with Dementia Scale (EPWDS). Four raters each watched and completed the EPWDS for 132 videos of people with dementia using PARO, a social companion robot for ten minutes. Psychometric properties of the EPWDS were assessed for Principal Components analysis along with measures of construct validity (i.e. convergent validity), internal consistency, test-retest reliability and inter-rater reliability. The EPWDS is reliable and shows validity in assessing engagement when using technology in five dimensions: affective, visual, verbal, behavioural, and social engagement. Importantly, it can be used to demonstrate the benefits of using technology to improve quality of life in people with dementia.

SESSION 430 (SYMPOSIUM)

FINANCING SERVICES FOR OLDER ADULTS WITH DAILY LIVING NEEDS: U.S. VS. INTERNATIONAL REFORM EFFORTS

Chair: G.E. Alkema, *The SCAN Foundation, Long Beach, California*

Over half of all adults turning 65 in the United States will experience a high need (needing assistance with two or more activities of daily living or experiencing severe cognitive impairment) for long-term services and supports (LTSS) over their lifetime. Fifteen percent will experience high need for five or more years. However, the United States lacks an insurance system to protect older adults from the risks associated with this need. It relies, instead, on an unsustainable mix of out-of-pocket payments, unpaid family caregiving and financing from Medicaid, a welfare-based healthcare program for low-income individuals.

Over the past two years, several influential bipartisan groups have developed recommendations for shifting the financing of LTSS to an insurance-based system. In this symposium, long-term care financing leaders will 1) share insights from new economic modeling platform that supported policy recommendation development, 2) discuss the structure

and status of policy recommendations to date, and 3) compare these proposals with long-term care systems from other countries also preparing for a rapidly aging population.

LTSS RISKS AND COSTS IN THE U.S.: NEW RESEARCH INFORMS FINANCING SOLUTIONS

A. Tumlinson, *Anne Tumlinson Innovations, LLC, Washington, District of Columbia*

New economic modeling from the Washington, DC-based research organization, the Urban Institute, has changed the policy conversation about long-term supports and services (LTSS) financing reform in the U.S. The Urban Institute has developed a micro-simulation model of the lifetime risk of needing LTSS and the costs associated with this risk. In this presentation, Anne Tumlinson, project coordinator for the modeling work, will share the major findings and discuss their implications. These include average lifetime risk for needing a high level of LTSS and the average costs of this risk, by financing sources – out-of-pocket spending and Medicaid. This presentation will explain how these risks vary by gender and income, and how the averages mask an uneven distribution of risk. This presentation will then present results from simulations of new insurance programs; the winners and losers under a variety of approaches.

BUILDING A NEW LTSS FINANCING SYSTEM IN THE U.S.: BIPARTISAN LEADERS JOIN TOGETHER TO CRAFT SOLUTIONS

K.J. Hayes, *Bipartisan Policy Center, Washington, District of Columbia*

The Washington, DC-based Bipartisan Policy Center (BPC) has been working, over the past two years, to recommend reforms for financing Long-Term Services and Supports (LTSS) in the U.S. Their work, chaired by Former Senate Majority Leaders Tom Daschle and Bill Frist, Former Congressional Budget Office Director Alice Rivlin, and Former Governor and Department of Health and Human Services Secretary Tommy Thompson, considered a wide range of private and public sector options. This presentation will share BPC's final recommendations on the roles of private long-term care insurance markets and public insurance programs, as well as insights on BPC's decision-making process, and how the economic modeling influenced those decisions. This presentation will also discuss the challenges that U.S. policymakers face in reforming the current system and political feasibility of reform given these challenges.

NEW LTSS FINANCING REFORM OPTIONS IN THE U.S. AND HOW THESE RELATE TO INTERNATIONAL EXPERIENCES

H. Gleckman, *The Urban Institute, Washington, District of Columbia*

While the 2010 Affordable Care Act (ACA) extended healthcare coverage to most Americans, it did not improve the financing of long-term services and supports (LTSS). As a result, a group of influential non-government stakeholders and thought leaders formed the "Long-Term Care Financing Collaborative" to develop detailed recommendations for enhancing both finance and delivery of LTSS. In this presentation, Howard Gleckman, a senior fellow at the Urban Institute and one of the Collaborative's conveners,

will discuss its recommendations, including a universal catastrophic insurance program. This presentation will compare the Collaboratives' recommendations with LTSS financing systems in selected other countries, and explain how lessons from these countries are informing reform efforts in the U.S.

SESSION 435 (SYMPOSIUM)

SOCIAL ISOLATION AND LONELINESS: A PLACE-BASED PERSPECTIVE

Chair: R. Winterton, *La Trobe University, Wodonga, Victoria, Australia*

As the population ages, more older people across the world are living alone, such that social isolation and loneliness have emerged as a key policy and practice challenge, with important implications for the health and wellbeing of older people. Thus, governments at all levels as well as major non-profit organizations have implemented a range of health promotion interventions designed to address this intransigent problem. In recent years, for example, Age UK has developed the Campaign to End Loneliness, while the Australian Red Cross is currently running a campaign called Doing it Tough designed to reduce older people's feelings of loneliness and isolation.

However, whilst researchers, policy-makers and practitioners all recognise this area as a major concern, there is an important gap in understanding of how social isolation and loneliness are impacted by the environments in which older people live. Thus, presenters at this Symposium will address this issue from a number of place-based perspectives, both across and within national boundaries, as well as across the rural / urban divide. Rurality is a particular focus as many older people across the world live in geographically isolated communities.

By exploring how social isolation and loneliness may differ according to the places people live, this Symposium will challenge us to explore the design and implementation of more appropriate and effective social interventions.

DOES LONELINESS AMONG OLDER PEOPLE VARY WITH THE PLACE THEY LIVE?

C. Victor, J. Pikhartova, *Brunel University London, London, United Kingdom*

There are variations between different countries in reported levels of loneliness but less attention has been given to variations within countries. We use data from the English Longitudinal Study of Ageing (ELSA) to investigate if loneliness for older people varies between different areas (urban, rural, inner city and deprivation status). Areas are classified using standard measures of deprivation and type (urban, rural) and we use 2 loneliness measures: R-UCLA scale and a self-rating question.

4,765 individuals were present in both waves 2 and 6 (mean age 71.6 years (wave 6)). Loneliness prevalence was 18% in wave 2 and 20% in wave 6. Loneliness was higher for those living in deprived areas (ORs from 1.4 to 1.8) compared to those who were not although the relationship was attenuated when confounding factors were taken into account (OR 1.11; 95% CI 1.02–1.20). There was no relation between loneliness and type of area (urban/rural).

UNDERSTANDING LONELINESS IN AUSTRALIAN RURAL AGEING POPULATIONS: A MIXED METHODS APPROACH

S. Hodgkin, R. Winterton, J. Warburton, *John Richards Initiative, La Trobe University, Wodonga, Victoria, Australia*

Utilising data from six Australian rural regions, this mixed-methods study sought to understand both the predictors of loneliness, and how loneliness is constructed among diverse rural ageing populations. At stage one, cross sectional data was collected via a telephone survey (n=266), with measures relating to wellness, health, social capital, social ties and reciprocal support, and loneliness. This was followed by qualitative, semi structured interviews (n=60), which sought to expand on the quantitative findings. A standard multiple regression found that wellness, mental and physical health, support received and community characteristics predicted 38.5% of the variability seen in loneliness. Other variables, (age, gender, social and community participation) did not contribute to the amount of variability in loneliness scores. This presentation critically discusses these findings in the context of the qualitative data relating to loneliness, and highlights how rural older adults construct loneliness in relation to micro and macro environmental characteristics.

FEELINGS OF LONELINESS IN AN URBANIZED COUNTRY: DOES PLACE AND CIVIC ENGAGEMENT MATTER?

S. Dury, N. De Witte, D. Verté, L. De Donder, A. Smetcoren, S. Van Regenmortel, *Vrije Universiteit Brussel, Brussels, Belgium*

This paper explores the relationships between environmental features, civic engagement and feelings of loneliness. It raises the question of how neighborhoods and municipalities promote or hinder feelings of loneliness. Data for the research are derived from the Belgian Ageing Studies, a structured survey among community-dwelling older people (n= 28 094, in 83 municipalities. We conducted multivariate regression models which included environmental factors (degree of urbanization, neighborhood connectedness and satisfaction, quantity and quality of contact with neighbors) and civic engagement (personal leisure, civic participation, informal help, community leisure, and volunteer work) on feelings of loneliness (social and emotional loneliness). The results indicate that feeling connected to the neighborhood, having qualitative contact with neighbors, and doing volunteer work or participate in an association lowers feelings of social loneliness. The conclusion raises practical implications and formulates a number of policy recommendations to tackle feelings of loneliness in an aging society.

THE IMPACT OF RURALITY, DISADVANTAGE, AND POPULATION TURNOVER ON SOCIAL ISOLATION AND LONELINESS

V. Burholt, D. Morgan, *Swansea University, Swansea, United Kingdom*

This study draws on the CFAS Wales data to test a pathway from poor health to loneliness in later life. We hypothesize that poor health will increase the risk of social isolation, and that social isolation will mediate between health and loneliness. Further, we hypothesize that rural environments, disadvantage places and population turnover will amplify

exclusion from social resources. We conceptualize a mediation model and a moderated-mediation model. Nationally representative data on older people living in Wales are used to validate the hypothesized pathways. The results indicate that our hypotheses are partially supported. We demonstrate that there are distinct pathways from poor health to loneliness in different types of areas. The statistical models increase our understanding of the contribution that environment has in social isolation and the experience of loneliness. We suggest that it is insufficient to consider loneliness as an outcome of interactions between individual-level characteristics.

SESSION 440 (SYMPOSIUM)

CHALLENGES FOR CONTEMPORARY GRANDPARENTING: GENDER, WORK, IMMIGRATION AND DISABILITY

Chair: S. Moffatt, *Newcastle University, Newcastle upon Tyne, United Kingdom*

Co-Chair: H. Merrick, *Newcastle University, Newcastle upon Tyne, United Kingdom*

Discussant: M. Silverstein, *Syracuse University, Syracuse, New York*

Increased life expectancy offers the potential for grandchildren to establish much longer term relationships with their grandparents, yet contemporary patterns of marriage, separation, divorce, labour force participation and migration make the experience of being a grandparent more complex and diverse. It is widely accepted that grandparents play an important role practically, emotionally and financially, but that this varies across cultures, social and family norms and welfare states. Gender, retirement practices, policies to extend working life, socio-economic factors and migration patterns are key to a better understanding of grandparenting in the 21st century, yet much is poorly comprehended and inadequately theorised. This symposium will address some of these gaps and draw on European, North American and globally focused research. Paper 1 examines the impact of social policies to extend working lives on grandparenting in the UK from the perspective of both women and men. Paper 2 focuses on the extensive childcare provided by working grandmothers in the US and how this impacts on their own lifecourse. Paper 3 explores cultural expectations amongst immigrant grandmothers in the US, and the conflicts which can ensue when 'norms' contrast with their country of origin. The final paper considers the experiences of grandparenting in the context of childhood disability and the challenges this can present across three generations of the family as the grandparent ages. More broadly, this symposium enables debate about how intergenerational relations, social policies, migration, gender, agency and structure will lead to a better understanding of contemporary grandparenting.

GRANDPARENTS, CARE, GENDER, AND FLEXIBLE WORK IN THE UK

D. Lain¹, W. Loretto², 1. *University of Brighton, Brighton, United Kingdom*, 2. *University of Edinburgh, Edinburgh, United Kingdom*

UK grandparents are an important source of childcare provision for working parents (Glaser et al, 2010). At the same

time, however, there are increasing pressures for older people to remain in work, creating a potential tension between working and caring. We therefore need a much better understanding of the experiences, preferences and perspectives of grandparents providing care and how their decisions interact with their domestic, work and retirement circumstances. The paper presents results from a project qualitatively interviewing 60 UK grandparents that regularly care for their grandchildren while their adult children are at work. The sample includes grandmothers and grandfathers, and is stratified to include working and non-working grandparents on high to low incomes. Key findings relate to the influences of work-related flexibility and part-time work on caring; the importance of resources in terms of exercising control; and the role of grandfathers in caring.

CULTURAL AND GENDERED EXPECTATIONS OF LATIN AMERICAN AND CARIBBEAN GRANDMOTHERS IN THE U.S.

Y. Abdul-Malak, *Syracuse University, Syracuse, New York*

As with any other groups in the U.S, immigrant grandmothers provide care for grandchildren when their adult children are in need of assistance and public programs do not provide adequate support. This paper focuses on the theoretical framework of carework outside of the Western context. It draws on in-depth interviews with 15 immigrant non-custodial grandmothers from Latin America and the Caribbean and examines how contrasting cultural and gendered expectations between the sending and receiving countries make grandmothering challenging. Disciplining grandchildren was one of the more salient issues that was raised through almost all the interviews. Immigrant grandmothers attempt to reconcile the forms of discipline from their home countries and what they perceive as the tolerance that is pervasive in Americans childrearing practices. The issue of disciplining their grandchildren engenders some type of emotional stress that might have some deleterious effects on grandmothers' health.

GRANDPARENTING DISABLED CHILDREN: EXPERIENCES FROM THE UK

S. Moffatt, M. Tse Laurence, L. Pennington, *Institute of Health and Society, Newcastle University, Newcastle upon Tyne, United Kingdom*

Grandparenting in the context of childhood disability, is an under-researched area, particularly in the UK. This qualitative study draws on in-depth interviews with nine grandparents (seven grandmothers) of children aged 3–19 years with a range of developmental disabilities. Grandparenting 'norms' were similar to grandparents of non-disabled children, namely to 'not interfere' and 'be there'. However, this was complemented by 'intensive' grandparenting, and grandparents simultaneously expressed positive and negative feelings and exercised considerable agency to achieve a balance in their relationships with their disabled and non-disabled grandchildren. Grandparents reflected on the impact of their own ageing and death in the context of the continued needs of their disabled grandchild, and worried for their adult children, denied a 'normal' life course. The ageing of the disabled grandchild and grandparents impacts on the type and intensity of grandparenting provided, with particular

implications for the care responsibilities of middle generation adult children.

SESSION 445 (SYMPOSIUM)

BUILDING INTERDISCIPLINARY RESEARCH CAPACITY: LESSONS FROM THE INTERNATIONAL SUMMER SCHOOLS ON AGING

Chair: G. Lamura, *INRCA - National Institute of Health and Science on Ageing, Ancona, Marche, Italy*

Co-Chair: A. Martin-Matthews, *University of British Columbia, Vancouver, British Columbia, Canada*

Discussant: A.C. Walker, *University of Sheffield*

The objective of this symposium is to consider the rationale, delivery and outcomes of an International Summer School on Ageing (ISSA) for doctoral students and post-doctoral fellows, held in 2012 (Italy), 2014 (Sweden) and 2016 (Canada). The creation of the ISSA is a direct response to the "Road Map for European Ageing Research" (Walker et al., 2011), produced by the European Commission's *FuturAGE* project. ISSA is unique in its interdisciplinary approach, international audience (of both participants and mentors), and focus on ageing-related contents as well as methodological and research development issues. We analyse the outcomes of three ISSA. Data are based on participants' assessments at the end of each and then six months post-ISSA (six data-sets totally). The perspectives of several ISSA alumni (among its 60 graduates) reflect different national and disciplinary (including clinical) contexts in appraising ISSA's short- and longer-term impacts. Findings underscore the value of role-modelling through interaction with established researchers and the development of international research networks, leading to active interdisciplinary collaborations. This symposium also contextualizes approaches to the future of interdisciplinary education on ageing, comparing ISSA with other national and international initiatives. The training of early career researchers remains often largely mono-disciplinary, thus challenging researchers' professional capacities to understand the holistic nature of the ageing process. ISSA underscores instead the value of additional interdisciplinary training within an international framework. The *FuturAGE* project leader, Alan Walker (UK), is discussant, and will highlight how initiatives like ISSA can play a strategic role in capacity building in ageing research.

BUILDING FUTURE COHORTS OF RESEARCHERS: RATIONALE AND AIMS OF AN INTERNATIONAL SUMMER SCHOOL ON AGEING

G. Lamura¹, A. Martin-Matthews², C. Chiatti¹, T. Svensson³,
1. *INRCA - National Institute of Health and Science on Ageing, Ancona, Marche, Italy*, 2. *University of British Columbia, Vancouver, British Columbia, Canada*, 3. *Lund University, Lund, Sweden*

Globally, increasing efforts are being undertaken to set up programmes aimed at enhancing size, interdisciplinarity, international focus and quality of new cohorts of researchers in ageing-related issues. Awareness of such developments, as well as of the wide-ranging priorities identified by the

FuturAGE “Road Map for European Ageing Research”, prompted a group of researchers from countries with quite different gerontological traditions (Canada, Italy and Sweden) to initiate an “International Summer School on Ageing” (ISSA). This presentation provides an introduction to the rationale and objectives of the ISSA, starting with an overview of existing models for building a community of age-focused researchers. Lessons from different training initiatives are also discussed, including the Summer Program in Aging organised by Canada’s Institute of Aging. Finally, ISSA’s design, implementation and evaluation structure will be illustrated, highlighting the solutions adopted to enhance the capacities of participants for collaborating across disciplines, sectors and geographical areas.

OVERVIEW OF THE MAIN CONTENTS AND OUTCOMES OF THE ISSA: EVALUATION AND FOLLOW-UP STRATEGIES

F. Barbabella^{1,2}, C. Chiatti¹, R. Papa¹, 1. INRCA - National Institute of Health and Science on Ageing, Ancona, Marche, Italy, 2. Linnaeus University, Kalmar, Sweden

This contribution aims at illustrating contents and outcomes of the first three editions of the ISSA, including its mid-term impact on the careers of early-stage researchers who attended it. A longitudinal assessment was conducted with all participants (N=60), both at post-event and 6-month follow-up for each ISSA. Assessment included a questionnaire with structured and semi-structured questions on the satisfaction and usefulness of each module, as well as on advantages from participating in the ISSA. Findings underline the high rating of professional and research skills development in training for publication and grant-crafting. Furthermore, ‘interaction with established researchers’ and ‘being part of a research network’ were perceived as main benefits after attendance. Some students reported that, after the event, they remained in contact for study or research purposes. Results suggest that ISSA represented an exceptional opportunity for capacity building and to establish connections between researchers with different disciplinary backgrounds.

FROM ISSA STUDENT TO ALUMNI: LEARNING OUTCOMES AND EXPERIENCES OF PARTICIPANTS

C. Nilsen², E. Tullo¹, S. Van Regenmortel³, 1. Newcastle University, Newcastle upon Tyne, United Kingdom, 2. Aging Research Center - Karolinska Institutet & Stockholm University, Stockholm, Sweden, 3. Vrije Universiteit, Brussels, Belgium

This presentation will compare and contrast the personal perspectives of three students who each attended different iterations of the International Summer School of Ageing (ISSA): 2012, 2014 and 2016. We will outline the key learning outcomes we obtained *during* the summer school and what this meant for our career trajectories *after* the event. In particular, we will discuss why and how participation in the summer school increased our confidence as early career researchers, gave hands-on tips and tricks, and allowed us to establish an international professional network beyond our home institutions. We will describe examples of concrete academic outputs prompted by participation in ISSA such as international conference symposia and ongoing collaboration between ISSA students and faculty members.

THE FUTURE OF INTERDISCIPLINARY AND CROSS-NATIONAL GRADUATE EDUCATION ON AGING AND HEALTH

S. Iwarsson, Department of Health Sciences, Faculty of Medicine and Centre for Ageing and Supportive Environments (CASE), Lund University, Lund, Sweden

Building upon the experiences of establishing a graduate school integrated in a center for research on aging (CASE) and the national graduate school for aging and health (SWEAH) in Sweden, Lund University is a founding partner of ISSA. Nurtured by collective as well as personal experiences of graduate supervision and examination internationally, trends useful for future interdisciplinary and cross-national education endeavors will be presented and problematized. Evaluation results show that students are highly motivated for interdisciplinary research, but also that they find it challenging to integrate such perspectives in their thesis projects. Students as well as supervisors must engage in networking beyond their comfort zones, while balancing mono-disciplinary formal requirements and interdisciplinary ambitions. PhD student engagement in cross-national research introduces even further challenges, but is highly rewarding for those involved. Truly committed and open-minded senior researchers serving as role models constitute a prime requirement for the future of such developments.

SESSION 450 (SYMPOSIUM)

THE WORLDWIDE FACE OF ELDER ABUSE: COMMONALITIES AND DIFFERENCES AMONG SELECTED WHO REGIONS

Chair: P.B. Teaster, Virginia Polytechnic Institute & State University, Blacksburg, Virginia

Discussant: G. Antezberger, Cleveland State University, Cleveland, Ohio

Building upon the first international study, *The Worldview Environmental Scan on Elder Abuse*, this symposium presents findings from the second international study, *The Worldwide Face of Elder Abuse*. Specifically, the purpose of this study was to understand commonalities and differences among World Health Regions concerning how and why people abuse older adults. The aims of the study were to: (1) increase the number of survey respondents, both in terms of represented persons and countries, (2) expand the group of experts and expertise in the field of elder abuse through the formation or use of related national multidisciplinary teams, and (3) explore undisclosed areas of inquiry with respect to elder abuse as a global problem. Participants in this symposium will present the following information: background of the study, methodology of the study, characterizations of cases from Asia, Europe, North America, and South America. The symposium concludes with observations from the case studies from the four regions as well as study implications and next steps.

OVERVIEW AND MAJOR FINDINGS FROM THE WORLDWIDE FACE OF ELDER ABUSE STUDY

P.B. Teaster, R.H. Weaver, Human Development, Virginia Polytechnic Institute & State University, Blacksburg, Virginia

The first large-scale international study, the WorldView Environmental Scan on Elder Abuse, explored the nature

and response to elder abuse (53 individual countries, 6 WHO regions). Results indicated that the problem of elder abuse existed and that no single definition applied. In developing countries, poverty and lack of social support were leading causes of elder abuse in developing countries; in developed countries, living alone and lack of social support were leading causes. Building upon the Scan, the Worldwide Face of Elder Abuse is the second ever large-scale international study of elder abuse. This presentation summarizes the major findings from the study, in which exploitation by a family member is prevalent across the majority of cases, and concludes with implications of the findings and future directions for conducting future large-scale international studies.

THE FACE OF ELDER ABUSE IN ASIA

E. Yan, G. Fang, *The University of Hong Kong, Hong Kong, Hong Kong*

Asian population is aging at an unprecedentedly fast pace. By 2050, 24% of the population would age 60 or above (HelpAge International, 2013). This presentation outlines the current state of knowledge of elder abuse in Asia, with a particular emphasis on studies conducted in Chinese societies. The presenter highlights the changing cultural values and sociodemographic characteristics and their relevance to understanding elder abuse in Chinese populations. Efforts to prevent and intervene elder abuse in Chinese societies will also be discussed.

THE FACE OF ELDER ABUSE IN EUROPE

B. Penhale, *School of Health Sciences, University of East Anglia, Norwich, United Kingdom*

This paper will provide an overview of elder abuse, with a focus on UK and European perspectives. The issues and developments that have occurred will be briefly explored. Over the last decade there has been increasing recognition of abuse and neglect of older adults as a social problem. A number of European countries have been working in this area but are at different stages of development. Recognition of abuse remains problematic. Defining and identifying abuse remain difficult, perhaps even more when the abuse occurs within institutional settings. Techniques of intervention with victims of abuse and those who abuse are in comparatively early stages of development, although there has been progress with systems for health and care professionals. Responses to the problem of elder abuse from several European countries will be explored, although there will be a concentration on techniques of intervention from a UK perspective.

THE FACE OF ELDER ABUSE IN SOUTH AMERICA

L. Daichman, *ILC-Argentina, Buenos Aires, Argentina*

In South America, there is a growing understanding that providers of public and private services abuse the human rights of frail older people by failing to provide personal care, adequate treatment, and basic nutrition and hydration. Over the last 15 years, policymakers, health professionals, users, and carers in Argentina have collaborated to publicise the benefits of providing compassionate, humane, and empathic care to elders. A better understanding of human rights and a new International Convention for the Rights of Older Persons will improve all types of care and prevent

institutional neglect and abuse. National campaigns such as *La Cultura del Buen Trato* and training over 25,000 caregivers have concentrated on positive reinforcement and support to staff delivering care to older people. Highlighting the importance of human rights in the care of older people emphasises that dignified care is the responsibility of all staff as well as those who commission care.

ELDER ABUSE IN CANADA: A GROWING DILEMMA IN AN AGING SOCIETY

E. Podnieks, *University of Toronto, Toronto, Ontario, Canada*

According to Statistics Canada, eight million adults will be over the age of 65 by 2031, nearly 25 percent of the population. Increasingly, older adults report being victims of abuse, even though Canada has actively addressed the problem since the early 1980s (Podnieks, 1989). This presentation describes the most recent study to quantify the extent of elder abuse and neglect in Canada (McDonald, 2016). More than three quarters of a million Canadian elders suffered some form of abuse last year, more than double the 1998 finding. One reason could be a rise in financial abuse, the second most frequent form behind psychological abuse. The most important risk factor was depression, followed by having been abused in another stage of the life course. This presentation describes the study's guiding theoretical framework, methodology, and findings and draws conclusions and offers implications for future research and services for maltreated older adults in Canada.

SESSION 455 (SYMPOSIUM)

COMMUNITY FOR SUCCESSFUL AGEING (COMSA) @WHAMPOA: CREATING AN ECOSYSTEM FOR AGEING IN PLACE

Chair: S. Harding, *International Longevity Centre, Singapore, Singapore*

Discussant: H.J. Vrijhoef, *Saw Swee Hock School of Public Health, National University of Singapore, Singapore, Singapore*

"Ageing in Place" remains the Holy Grail for aged care planning despite advances made in healthcare, home technology, housing design and healthcare financing. It requires coordinated, multipronged efforts from policy, research and practice to re-engineer the ecosystem where people live, work, play and age. One such re-engineering project has been initiated by Tsao Foundation, a Singapore-based but regionally oriented non-governmental organisation, in 2013.

This symposium showcases Tsao Foundation's ground-up, community-wide demonstration project called the Community for Successful Ageing or "ComSA". The impetus for ComSA comes from the Foundation's mission to fulfil older persons' needs and aspirations for their continuing healthcare and personal growth. Situated in a relatively lower-income and higher elder concentration locality in Whampoa, ComSA created a unique ecosystem that responds to policy and market challenges in a non-welfare state. ComSA pulls together multiple components for successful ageing, which include: multidisciplinary health and social services, civic empowerment and participation and policymaking.

ComSA planners, implementers, providers and researchers will be speaking at the symposium. Talks will be followed by discussions with participants for the following topic areas:

1. An overview of ComSA – its theoretical framework and essential components
2. The development of a system of care in ComSA – from case finding, primary care, care management to service provider networking
3. The development and activation of the grassroots community – from self-care to self-development
4. An overview of research activities – measuring processes and outcomes

AN OVERVIEW OF COMSA—ITS THEORETICAL FRAMEWORK AND ESSENTIAL COMPONENTS

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The ComSA (Community for Successful Ageing) @ Whampoa initiated by Tsao Foundation (Singapore) brings together multidisciplinary expertise for optimising opportunities in longevity and improving the quality of life of older persons in the interconnected areas of health, personal empowerment, social participation and wellbeing. This session gives an overview of various ComSA components and the theories underpinning ComSA.

THE DEVELOPMENT OF A SYSTEM OF CARE FOR THE AT-RISK ELDERLY IN COMSA

W. Ng, K. Peh, H. Chua, F. Hon, E. Koh, P. Cheong, *Tsao Foundation, Singapore, Singapore*

ComSA @Whampoa has two major domains: the System of Care (SoC) and Community Development. The SoC domain aims to create a comprehensive and integrated delivery system for care of the at-risk elderly. This session describes the creation of the SoC through three key components: 1) the development of novel biopsychosocial risk screener that identifies vulnerable community-dwelling older adults; 2) the provision of stratified aged care service by a multidisciplinary care management team in partnership with age-friendly primary health care providers; and 3) the creation of a service provider network. SoC implementers will also share their journey in developing the program, feedback gathered from the clients and SoC's impacts on the overall ComSA ecosystem. A more in-depth discussion of the care management component is available in the fourth presentation of the symposium.

COMMUNITY DEVELOPMENT IN COMSA: FROM SELF-CARE TO SELF-DEVELOPMENT

M.B. Geronimo, E.S. Ahmad, J. Lee, S. Harding, *Tsao Foundation, Singapore, Singapore*

ComSA @Whampoa has two major domains: the System of Care and Community Development (CD). The CD domain addresses psycho-social needs of ageing. It aims to increase

older persons' sense of health and wellbeing by: addressing problems of alienation and apathy; improving sense of optimism and community pride; cultivating leadership and trust among community members. This session describes the creation of CD through three key components: 1) the development of an educational intervention to assist elders to develop positive attitudes and behaviours toward self-care and wellness; 2) the creation of platform for elders to address their biopsychosocial challenges and collectively find solutions; 3) the facilitation of longer-term, elder-initiated civic action groups in partnership with stakeholders from across all sectors and age groups. CD implementers will also share their journey in developing the program, feedback gathered from the clients and CD's impacts on the overall ComSA ecosystem.

CARE MANAGEMENT IN COMSA: SHIFTING FROM A HOSPITAL-CENTRED TO A PROACTIVE, COMMUNITY-BASED APPROACH

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Background: Traditionally, case management (CM) in Singapore adopts a hospital-centric model: CM clients are identified only by the hospitals; and referred by the hospitals to community-based providers. ComSA-CM aims to reverse this process by proactively identify clients even before problems are developed or worsen. **Method:** Selected case studies from ComSA-CM will be presented to explore: methodology used for proactive detection of CM clients; how care is integrated with other service providers; major operational challenges; and potential outcomes achieved. **Results:** This new care model required big changes in care focus, CM approaches and relationship to the clients. Adjustments were required for roles, skillset and the pacing with the clients. Most well (but at-risk) clients would resist CM initially; hence required persistent effort to build relationship. The acceptance of CM was facilitated by a concurrent community activation project. **Conclusion:** Community-based CM is proactive in preventing deterioration in clients already at-risk for hospitalisation.

SESSION 460 (POSTER)

ACUTE CARE I

MAKING BETTER DECISIONS ABOUT POST-ACUTE CARE: KEY STAKEHOLDER PERSPECTIVES

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The number of older adults discharged to post-acute care (PAC) facilities after hospitalization is increasing rapidly, but their clinical course is uncertain. We sought to understand how the decision to go to a PAC facility after hospitalization is made from the perspectives of hospital-based clinicians (physicians, nurses, therapists, social workers), patients, and

caregivers. We also wanted to understand the perspective of PAC-based clinicians, patients, and caregivers on the content and quality of this decision-making. We conducted 70 semi-structured interviews at three hospital-based units and two skilled nursing facilities with content focusing on the knowledge, attitudes, and beliefs of participants regarding PAC. We used a team-based approach to analysis with both inductive and deductive components informed by social constructivism, transitions of care principles, and systems engineering. Among hospital providers, decision-making is decentralized and implicit, without consensus on which patients should go to PAC or when they are ready to be discharged. There was strong tension between patient autonomy and provider paternalism, and little feedback to improve decision-making. Patients and caregivers identified several systems barriers, including insurance coverage and hospital length of stay, which affected their decision-making. PAC providers identified common transitional care deficits and highlighted the increasing acuity and complexity of patients admitted to PAC, while patients and caregivers expressed stress and uncertainty about payment and planning for a possible return home. Decision-making about PAC is highly variable but can have a profound impact on outcomes; understanding these perspectives and identifying best practices for shared decision-making may improve outcomes.

ANTITHROMBOTIC AGENTS INTAKE PRIOR TO INJURY DOES NOT AFFECT OUTCOME AFTER A TBI IN ELDERLY PATIENTS

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Previous studies have shown that anticoagulation is associated with a higher risk of bleeding after traumatic brain injury (TBI) and a higher mortality rate. However, other studies have shown conflicting results on the outcome after a TBI in anticoagulated patients. The purpose of this study is to investigate the effect of risk factors including international normalized ratio (INR) as well as the Partial thromboplastin time (PTT) scores on outcome following TBI in the elderly population. Data were retrospectively collected on patients (n = 982) aged 65 and above who were admitted post TBI to the McGill University Health Centre-Montreal General Hospital from 2000 to 2011. Age, Injury Severity Score (ISS), Glasgow Coma Scale score (GCS), type of trauma (isolated TBI vs polytrauma including TBI), initial CT scan results according to the Marshall classification and the INR and PTT scores and prescriptions of antiplatelet or anticoagulant agents (AP/AC) were collected. We found that age is significantly associated with an increase in the rate of death (CSHR:1.08, 95%CI(1.06, 1.11) and in the rate of discharge to a long-term facility (CSHR:1.06, 95%CI (1.03,

1.09)). PTT values above 60 adversely affected outcome in patients not on AP/AC only, and INR values had no effect on outcome or CT findings. Age and injury severity rather than antithrombotic agent intake are associated with adverse acute outcome in hospitalized elderly TBI patients.

MORTALITY AND ASSOCIATED RISK FACTORS FOR OLDER ADULTS VISITING THE EMERGENCY DEPARTMENT

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Context: The recent increase in population aging has implications in every level of health, including acute care in an emergency department context. In order to allocate care for those in the highest risk of mortality, factors associated with lower survival in older adults that assist to emergency departments are needed.

Design: Cohort study

Setting: Observation and emergency department of two General hospitals of the Metropolitan area of Mexico City.

Patients or other participants: adults over 60 years of age, of both sexes, beneficiaries of the Mexican Institute of Social Security and residents of the Metropolitan area of Mexico City who were admitted for observation to an emergency department of one of the two participating general hospitals

Main and secondary outcome measures: All-cause mortality from the time of hospital admission until a follow-up home visit after discharge was measured. Included risk factors were from different dominions: socio demographic, health-care related, health-related (mental and physical) and in-hospital care-related. Survival functions were estimated using Kaplan-Meier curves, and associated life tables were calculated. Hazard ratios were derived from Cox regression models in a multivariate analysis.

Results: From 1,406 older adults 59.17% were women (n=701). Independent mortality risk factors found were age, schooling, delayed emergency assistance, length of stay in the ED, ED with geriatric care trained residents, handgrip strength, cognitive status, worsening delirium, decline in functional status and frailty.

Conclusion: The health system must adapt to the multidisciplinary needs of the older adults, emergency departments may represent triggers for mortality.

IMPACT OF A GERIATRIC CO-MANAGEMENT PROGRAM FOR ELECTIVE JOINT REPLACEMENT

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Introduction: Geriatric co-management models (GCM) within orthopedic surgery have emerged in the last decade,

especially with hip fractures. Our aim was to compare a GCM program for elective knee (TKA) and hip (THA) replacement with historical (HG) and concurrent control (CG) groups in regards primarily to length of stay (LOS) and secondarily to 30-day readmission rates (RaR), mortality, and home discharges. **Methods:** Retrospective cohort design, including patients aged 70 and above undergoing elective joint replacement in a community hospital, November 2011 to December 2013. Protocols for geriatric syndromes and post-operative complications were developed. Of 1167 patients, 33.8% were HC. After GCM implementation, 344/733 (44.5%) were GCM patients. Outcomes were analyzed using multivariate analysis. **Results:** Baseline characteristics were similar except for slightly lower ASA score ($p=0.06$) and fewer rates of TKA (31.8% [GCM] vs 33.1% [CG] and 35.0% [HG], $p<0.001$). GCM group had significantly lower mean LOS (3.6 vs. 4.2 [CG] and 4.0 [HG], $p<0.001$). Rehabilitation discharges (29.1% vs. 36.8% [CG] and 34.0% [HG], $p=0.97$), and RaR (21.8% vs. 40.0% [CG] and 38.2% [HG], $p=0.43$) trended lower in GCM, but did not achieve statistical significance. In-hospital deaths were low (3 [CG] and 0 [GCM]). **Conclusions:** A GCM program for elective joint replacement is effective in reducing length of stay. Thirty-day readmission rates were 45% lower. Discharges to rehabilitation were less common by up to 20%. The positive impact of GCM on elective arthroplasty, if disseminated widely, could improve care for this vulnerable group of older orthopedic patients.

ESTIMATION OF APPENDICULAR MUSCLE MASS IN HOSPITALIZED OLDER ADULTS USING BIOELECTRICAL IMPEDANCE

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Sarcopenia is now a billable ICD-10 geriatric condition characterized by low appendicular skeletal muscle mass (ASMM) and low function. There is an increasing need of portable, provider-friendly, cost-effective methods for the estimation of ASMM.

The purpose of this study was to develop and validate an ASMM prediction model using Bio Impedance Analysis and DXA as reference. To increase applicability of our method, we used a single frequency “foot-to-foot” BIA scale (Tanita BF-350) that determines weight and percent fat mass (FM). A whole body scan (DXA, GE Lunar) was used to precisely determine ASMM.

Subjects ($n=171$, ≥ 65 yrs.) were enrolled during an acute hospitalization at UTMB. Testing included: demographics (age, gender, race), body composition (DXA, BIA, anthropometric measures), physical function (gait speed, grip strength), independence questionnaires (ADL, IADL) and chart review (blood metabolic panels, admission history).

FM derived from DXA (FM_{DXA}) was positively correlated with that measured by BIA (FM_{BIA}) ($r=0.792$, $p<0.01$). A Bland-Altman plot showed that BIA underestimated FM by $3.44 \pm 5.49\%$ ($p<0.01$). Scatterplots for linearity were run on all testing variables. FM_{BIA} , grip strength, and BMI had linear relationships with $ASMM_{DXA}$. A stepwise multiple regression was used to derive the ASMM prediction model using the following statistically significant variables: gender, FM_{BIA} , grip strength and BMI.

Once validated with a larger sample, this equation could be used in a hospital setting to estimate ASMM using a simple, portable and cost-effective device. Those identified to have low ASMM could then undergo further functional testing for diagnosis and treatment for sarcopenia.

COMPARISONS BETWEEN PREVALENT AND INCIDENT DELIRIUM IN OLDER ADULTS: A PROSPECTIVE COHORT STUDY

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We sought to compare clinical characteristics and mortality associated with prevalent and incident delirium in hospitalized older adults. We conducted a prospective cohort study in a university hospital geriatric ward, from 2009–2014, in Sao Paulo, Brazil. We included hospitalizations of acutely ill patients aged ≥ 60 years who experienced delirium. Delirium was detected using CAM criteria and defined either as prevalent (diagnosed at admission) or incident (diagnosed throughout hospitalization). Patients were submitted to standardized comprehensive geriatric assessments at admission. Additional clinical data were documented upon death or discharge. We compared the association of each group with in-hospital mortality using Cox proportional hazards models. We included 535 hospitalizations with a mean age of 82 years. Overall, 62% were women, 43% had moderate/severe dementia, 32% died in the hospital. Delirium was detected at admission in 70% of the cases. Prevalent delirium happened in older patients (mean age 83 vs. 80 years; $p=0.001$), was more frequently associated with dementia (49 vs. 29%; $p<0.001$), and more commonly precipitated by infections (80 vs. 64%; $p<0.001$). Medications precipitated a greater proportion of incident delirium cases (14 vs. 6%; $p=0.025$). We did not observe differences in delirium severity according to Delirium Index scores ($p=0.45$). Mortality was similar (32% for prevalent, 31% for incident delirium) and the adjusted hazard ratio for in-hospital death for prevalent delirium did not differ from incident delirium ($HR=0.84$; 95%CI=0.56–1.26). Two in three cases of delirium in acutely ill older adults were diagnosed at admission. Though similar regarding severity and prognosis, prevalent and incident delirium had distinctive predisposing and precipitating factors, which might justify different management approaches.

THIRTY-DAY RE-HOSPITALIZATION PREVENTION: MULTIDISCIPLINARY REVIEW OF MEDICATION OMISSIONS AND ERRORS

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Medication errors can contribute to re-hospitalization. Centers for Medicare and Medicaid Services has targeted discharge medications to reduce errors and 30-day re-hospitalization. To characterize discharge medications, a pharmacist and geriatrician reviewed medical records of patients over the age of 65. The aim was to identify recurring medication errors that could be targeted by discharge coordinators. Errors were identified in 97% of patients, of which 34%

were omissions and 66% inappropriate. Of the latter, 53% were considered potential contributors to re-hospitalization in 60 days. The most common inappropriate errors were loop diuretics (14%), antihypertensives (9%), and sliding scale short-acting insulin (6%). The most common omissions were failure to treat vitamin D (32%) and B12 deficiencies (32%) and iron deficiency anemia (18%).

In summary, medication errors at discharge are common and can increase the risk of re-hospitalization. These observations suggest that more effective strategies should be implemented to reduce discharge medication errors.

HOSPITAL-WIDE COMPREHENSIVE GERIATRIC ASSESSMENT (CGA) FOR OLDER PEOPLE: EMERGING MODELS OF CARE

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Recent years have seen increased use of acute hospitals by older people. The effectiveness of CGA for inpatients is well established, but delivery of hospital wide CGA is not extensively described. The UK National Institute for Health Research recently called for more research on the delivery of hospital wide CGA.

We performed an umbrella review of reviews of inpatient CGA [PROSPERO 2015:CRD42015019159] which identified evidence syntheses published between 2009 and 2015. We also reviewed research papers and abstracts published since the most recent included review (2013–2015). We searched the Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews and Effects, MEDLINE and EMBASE, for recent trials (RCTs), evaluations and conference abstracts describing CGA for hospital inpatients over 65 years. We used content analysis to create an overview of recently reported trends in hospital wide CGA

We screened 715 publications and selected 12 reviews, 17 papers and 34 abstracts for review. The umbrella review identified that frailty is not widely examined as a target for, or a determinant of CGA outcome. Recent papers and abstracts describe team based interventions, adjustment of skill mix and the use of protocols. Settings included the ED, acute assessment, surgical and oncology units. We found no recent RCTs which evaluated the effectiveness of CGA in these acute inpatient settings. Specific care processes for delirium, risk screening, medications and daily ward / board rounds were described.

New CGA trials which stratify participants for frailty and evaluate effectiveness in new hospital wide settings and services are justified.

EFFECTS OF AMBIENT TEMPERATURE ON MORTALITY OF HOSPITALIZED OLDER ADULTS: A PROSPECTIVE COHORT STUDY

T.J. Avelino-Silva, F. Campora, J.A. Esper Curiati, W. Jacob-Filho, *Division of Geriatrics, Department of Internal Medicine, University of Sao Paulo Medical School, Sao Paulo, SP, Brazil*

Older adults are particularly susceptible to harm resulting from exposure to extreme temperatures, but this has not been fully explored in the context of geriatric care. We sought to determine if temperature extremes are associated with in-hospital mortality in acutely ill older adults. We included hospitalizations of acutely ill patients aged ≥ 60 years, admitted to the geriatric ward of a university hospital, from 2009–2015, in Sao Paulo, Brazil. Our primary outcome was time to in-hospital death and we used mean daily temperatures to assess the effect of temperature on mortality. Mean daily temperatures at the high 95th/90th percentiles were defined as extreme heat, and at the low 10th/5th percentiles as extreme cold. Covariates included month of the year, weather and air quality variables, and data from standardized comprehensive geriatric assessments. Multivariate analysis was performed using Cox proportional hazards models. We included 1,403 cases, with a mean age of 80 years. Overall, 61% were women, median Charlson Comorbidity Index was 3, and in-hospital mortality reached 19%. Temperature percentile cut-offs were: 15°C; 16°C; 25°C; 26°C. Mortality was highest in the 95th percentile group, reaching 27%. The adjusted hazard ratio for all-cause mortality in the $\geq 26^\circ\text{C}$ group as compared to the 16.1–25°C group was 1.89 (95%CI=1.14–3.12; $p=0.013$). The associations between other mean daily temperature groups and mortality were not statistically significant. In conclusion, a mean daily temperature higher than 26°C was independently associated with increased in-hospital mortality. Public health and hospital administrators should take this effect into account when developing hospital facilities.

PRELIMINARY RESULT ON GERIATRIC-SURGERY ATTENTION IN COLORECTAL SURGERY: A RETROSPECTIVE COHORT STUDY

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Introduction: Population aging is generating an increase of hospital surgical activity in geriatric patients. Given the functional, cognitive, social and clinical profile of these patients, comprehensive geriatric assessment (CGA) is a useful tool to identify clinical and functional problems.

Objectives: To evaluate the possible improvement of hospital care from an interdisciplinary approach using CGA in elective surgery for colorectal neoplasia.

Methodology: A retrospective cohort study was designed in patients over 69 admitted for colorectal cancer surgery between 2007 and 2012. Exposed (Geriatric-Surgery Intervention Group=GSG) were defined as the patients treated with interdisciplinary attention and no exposed (Usual Care Group=UCG) were defined as the patients treated by surgeons during hospital admission.

Results: The sample was composed of 310 patients (203 in GSG and 107 in UCG). GSG presented a higher mean age 77.5 (SD 4.8) versus 75.3 (SD 4.8) years, $p<0.001$, and higher score in Charlson index (5.2 (SD 3.5) vs 4.2 (SD 3.4), $p=0.013$). During hospital admission there were no difference

in number of complications, hospital stay and in-hospital mortality. GSG presented a significant reduction in the odds ratio OR of in-hospital delirium 0.22 (95% CI 0.08 to 0.60; $p=0.003$). Cox regression showed no significant difference in mortality between groups during 12 months follow-up period after hospital discharge (Hazard ratio 0.98, 95% CI 0.31 to 3.14 $p=0.977$).

Conclusions: Although higher age and comorbidity, GSG patients reduced OR of delirium. Future clinical trials could demonstrate the effectiveness of interdisciplinary teams in geriatric patients with elective colorectal cancer surgery.

TRENDS IN GERIATRIC EMERGENCY MEDICINE FOR OLDER ADULT PATIENTS

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Older adults have sought treatment in emergency departments (EDs) since their inception, however, increasing numbers of older adult ED patients present unique challenges to EDs. This research examines the emergence of dedicated U.S. geriatric emergency departments (GEDs) and related models of ED care between 2007–2015. Survey data was collected from N=53 U.S. hospitals out of a total of N=82 hospitals identified as promoting their geriatric emergency medical services. Analysis reveals substantial heterogeneity in the organization and provision of care. Annual openings of new GEDs reached N=15 in 2013 with fewer than half that number opening in any other year. Over 85% of setting used the term “senior” in their title in contrast to “geriatric”. Most GEDs did not allocate dedicated GED space (56%), however, the majority (>80%) made modifications to bedding, flooring, lighting, and clinical procedures in a portion of the ED. Respondents noted challenges in GED staffing, training & education, availability of validated screening tools, and sustained support of the hospital administration. Overall, the care of acutely ill older patients remains in flux. Current ED settings make specific modifications based on local needs and resources in the absence of strong incentives to adopt recently released national geriatric emergency department guidelines and principles (2014).

LONG-TERM PROGNOSIS OF UPPER GASTROINTESTINAL BLEEDING IN THE ELDERLY POPULATION

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Although upper gastrointestinal bleeding (UGIB) represents a frequent medical situation with a high in-hospital mortality rate in the elderly population, data concerning long term prognosis are lacking and are essential to improve their medical care.

In this prospective observational study, all patients who have undergone an upper gastrointestinal endoscopy for bleeding were included between June 2015 and May 2016. Comorbidities were evaluated with the Cumulative Illness

Rating Scale (CIRS), functional autonomy with Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) scales, and frailty with Rockwood scale. Primary objective was the 6-months mortality. Secondary objective was the comparison between 6-months and pre-hospital functional autonomy.

Fifty seven patients (age 83 [79–87] years, 58% women) were included. The median CIRS score was 10 [8–15], with scores of 5.5 [4–6] ADL, 3 [1–4] IADL and 5 [5–6] Rockwood. Main clinical presentation and etiology were respectively represented by melena ($n=41$, 72%) and gastroduodenal ulcers ($n=38$; 67%). Fifty six percent of patients ($n=32$) presented at least one complication during hospitalization and intra-hospital mortality rate was 18% ($n=10$). At 6 months, 48% of patients were dead. Among the survivors, 92% returned home. There was no difference for functional autonomy between pre-hospitalization and 6-months evaluation (ADL score 5.5 [4.5–6] ($p=0.31$), IADL score 2 [1–4] ($p=0.73$), Rockwood score 5 [4–6] ($p=0.59$)).

In the elderly, UGIB are associated with a high 6-months mortality rate. However, functional autonomy is preserved in survivors.

EXERCISE, PROTEIN, AND ELECTRIC STIMULATION REDUCES ICU ASSOCIATED SARCOPENIA IN OLDER PATIENTS

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Background: Older, critically ill patients receiving mechanical ventilation (MV) are more susceptible to ICU-related sarcopenia due to undernutrition, preexisting comorbidities, and physical deconditioning. We developed an intervention (ExPrES) which incorporates mobility and strengthening exercise (Ex), high-protein supplementation (Pr) and neuromuscular electric stimulation (ES) for 14 days to prevent sarcopenia in older, ICU patients.

Methods: Pilot study comparing the effects of ExPrES on nutrition goals, muscle mass, and functional mobility compared to usual ICU care. Exercise was mobility-based, protein was supplemented to 1.6–1.75 g/kg/d actual body weight, and electric stimulation consisted of two 30-minute treatments/day.

Results: We studied 22 ICU patients receiving MV (9 ExPrES, 13 control; mean age 61 ± 4 yrs, BMI 30 ± 1 kg/m²). The ExPrES group received more dietician-recommended calories (89 vs. 56%) and protein (88 vs. 39%) compared to controls. Although both groups were initially in negative nitrogen balance, by day 4 the ExPrES group achieved positive balance while the control group remained negative. The ExPrES group experienced less leg muscle loss (day 0–7, -8 vs. -13%; day 0–14, -12 vs. -23%) compared to the control group. The ExPrES group improved their gait speed while the controls' speed decreased (+0.37 vs. -0.05 m/s).

Conclusion: These results suggest that a daily intervention combining mobility and strength-based rehabilitation, protein supplementation, and electric stimulation can achieve positive nitrogen balance and reduce muscle loss in older,

critically ill patients over 14 days. Furthermore, this intervention can potentially reduce the neuromyopathic, mobility and malnutrition-associated complications associated with a prolonged ICU stay.

SESSION 465 (POSTER)

ADVANCE CARE PLANNING AND END-OF-LIFE DECISIONS

RELIGIOSITY AND ADVANCE CARE PLANNING BY WHITE AND AFRICAN AMERICAN OLDER ADULTS

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Well-documented racial disparities in advance care planning (ACP) raise concerns regarding end-of-life care received by African Americans (AA). Although no clear reasons for disparities have been identified, religiosity is one commonly proposed explanation. Health and Retirement Study data (N=6,861) were analyzed to examine how religious affiliation, behaviors, and beliefs were associated with written and verbal ACP and to determine if religiosity explained ACP disparities between older Whites and AAs. The odds of advance directive completion were twice as high for Whites after controlling for demographic and health-related covariates (OR=2.51). Similar results were shown for advance care discussion (OR=2.42). More frequent religious service attendance was associated with higher odds of advance directive completion (OR=1.12), and more frequent prayer was positively related to verbal ACP (OR=1.08). Importance of religion was negatively associated with advance directive completion (OR=.87). Compared to those with no religious affiliation, Catholics (OR=.68) and Protestants (OR=.73) were less likely to engage in advance care discussion. In intragroup analyses, religious service attendance was positively associated with advance directive completion for both Whites and AAs. Whites who were Catholic and AAs who were Protestant were less likely to discuss treatment preferences compared to those with no religious affiliation. For White participants only, importance of religion exhibited a negative relationship with written ACP, whereas more frequent prayer was associated with higher odds of both written and verbal ACP. Although religiosity did not explain race disparities, distinct aspects of religiosity influenced ACP both negatively and positively, and these effects varied by race.

EARLY UPTAKE OF NEW U.S. CENTER FOR MEDICARE AND MEDICAID SERVICES' ADVANCE CARE PLANNING PAYMENT

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January 2016 began the Center for Medicare and Medicaid Services' reimbursement for advance care planning (ACP) conversations. Multiple stakeholders are interested in knowing the impact of this highly anticipated new

reimbursement option. We examined the number of ambulatory care providers billing for ACP conversation as of June 30, 2016, along with historical ACP documentation (including Advance Health Care Directives (AHCD) and Physician Orders for Life Sustaining Treatment (POLST)) in a large multi-specialty healthcare system with an integrated multidisciplinary community-based palliative care program. In six months, 69 of 1,200 providers billed for ACP conversations, suggesting a modest yet meaningful uptake of the new ACP payment. Retrospectively, among 3,444 patients ≥ 65 with serious illnesses and no pre-existing ACP documentation, only 14% (N=483) had ACP documented in an digitally extractable location in the electronic health records at the end of a two-year period (2013–2014). Among the 6% of the 3,444 seriously ill patients who received palliative care services, 65% had ACP documented. In contrast, only 11% of those without palliative care had ACP. Propensity score weighted regression analyses showed a strong and statistically significant relationship between receiving palliative care and AHCD (OR=14.2, 95%CI=5.1~39.6) and POLST (OR=175.8, 95%CI=24.9~1243.2). We conclude that paying for ACP is a meaningful first step, which has resulted in a modest and growing number of providers reimbursed for ACP conversations. Systemic efforts are essential to improve providers' competencies in and patients' readiness for ACP discussions. Palliative care services should be integrated into routine care for seriously ill patients.

FACILITATORS AND BARRIERS FOR ADVANCE CARE PLANNING AMONG ETHNIC MINORITIES: SYSTEMATIC REVIEW

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Growing evidence suggests under-engagement in advance care planning (ACP) among ethnic minorities in the U.S. However, findings about factors affecting ACP among ethnic minorities are fragmented. The purpose of this study was to synthesize findings from prior research about ACP among ethnic minorities and identify facilitators and barriers toward it. Out of 633 studies identified through an extensive literature search, only 25 studies met our inclusion criteria such as primary evidence, study location (U.S.), publication year (since 2006), study purpose (ACP) and sample (ethnic minority adults or older adults). Four categories of facilitators and barriers were identified: Socio-demographic factors, health care experiences, cultural values, and spirituality. Socio-demographic factors such as education and financial resources showed inconsistent findings regarding their association with ACP engagement. However, health literacy (knowledge and awareness about ACP) and past experiences with ACP are a common facilitator for ACP across ethnic minority groups, whereas mistrust toward health care system was identified as a barrier only for Black Americans. Collectivistic/family-centered cultural values greatly influenced ACP engagement among Latinos and Asian Americans; however, spirituality/religion played an important role among Blacks. The results of this systematic review illuminate facilitators and barriers that can be utilized to promote ACP for ethnic minorities. Educational interventions can be an effective venue to facilitate ACP for ethnic minorities by improving awareness about ACP. In such interventions, health care professionals

may need to consider including family members or clergy to address culturally unique barriers toward ACP.

INTENTION TO DISCUSS ADVANCE CARE PLANNING AMONG KOREAN AMERICANS

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Despite a growing interest in end-of-life care, there is a dearth of research about advance care planning (ACP) among ethnic minorities. The purpose of this study was to examine intention of ACP among Korean Americans. Two specific objectives were: 1) to identify factors affecting intention of ACP and 2) test the Theory of Reasoned Action (TRA) in explaining intention of ACP. The TRA explains that subjective norms, attitudes toward behavior, and perceived behavioral control predict intentions and behaviors. Specifically, using a culturally expanded TRA model, direct effects of acculturation on attitudes, norms and perceived control; and direct effects of attitudes, norms, and perceived control on intention of ACP were hypothesized. Data was drawn from a cross-sectional survey with 226 Korean Americans. Multivariate regression analysis revealed that greater knowledge about Alzheimer's and more positive attitudes and stronger subjective norms were associated with greater intention of ACP. The initial path model of a culturally expanded TRA model yielded a poor model fit. However, a revised path model produced an excellent model fit. In the revised model, direct effects of perceived control on attitudes and norms, and direct effects of attitudes and norms on intention were found. Perceived control had only an indirect effect on intention through attitudes and norms. Reluctance to seek medical assistance often found in Korean Americans may explain the direct effect of perceived control on attitudes and norms regarding ACP. The finding of the revised model suggests the importance of culturally sensitive approach to promote ACP among this population.

WHAT ENCOURAGES JAPANESE ADULT CHILDREN TO INITIATE END-OF-LIFE DISCUSSION WITH AGING PARENTS?

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Sharing one's wishes about end-of-life care with family members is critical for older adults to receive their preferred course of care until the final days of their lives. This is especially true in Japan, where families are required to serve as surrogate decision makers for older adults. It has been found, however, that Japanese older adults are hesitant to bring up end-of-life issues in family conversation, suggesting the need for their family members to initiate end-of-life discussion. In this study, using online survey data from 1,010 Japanese adult children with at least one living parent aged 65 or older, we explored factors that encourage these children to talk to their parents about end-of-life issues. In doing so, we focused on (a) children's perceptions of parents' personality (e.g., whether, in children's view, parents were confident in their idea), (b) children's attitudes toward parent care and end-of-life discussion (e.g., whether children anticipated that they

would assume the role of parent caregiver, whether children recognized the importance of such discussion), (c) parents' medical history, and (d) both children's and parents' sociodemographic characteristics. Results of logistic regression analysis indicated that children's attitudes rather than other factors explained whether they broached end-of-life issues to their parents. Our findings suggest that, in Japan, approaching to adult children's idea about parent care role and end-of-life discussion can prompt them to initiate such discussion with aging parents regardless of sociodemographic background as well as how they view their parents' personality.

THE ROLE OF PERSONALITY IN ADVANCE CARE PLANNING

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The topic of end-of-life care planning has received a surge of attention in recent years. Previous research has identified several social factors as predictors of advance care planning (ACP). However, the association between personality factors and ACP is not well-established. The aim of this study was to explore the association between the Big Five personality dimensions and ACP. Data from the 2012 wave of the HRS were analyzed. In the HRS, ACP activity was assessed with a series of questions about participation in informal discussions and completion of a living will and/or durable power of attorney. The sample included community dwelling adults age 65 and older who provided complete data on indicators of ACP ($n=3,514$). Descriptive, bivariate and multinomial logistic regression analyses were conducted. Approximately 45% of respondents reported both informal and formal participation, 28% were non-planners, 15% participated in informal planning only and 12% completed formal plans only. Compared to non-planners, the full model showed that individuals scoring high on Neuroticism were less likely to engage in informal planning ($RRR = 0.78$, $p < .05$), while those who scored high on Openness were more likely to engage in informal planning ($RRR = 1.41$, $p < .01$). Individuals scoring high on extroversion ($RRR = 1.23$, $p < .05$) and Conscientious ($RRR = 1.36$, $p < .05$) were more likely to engage in both formal and informal ACP. These findings suggest that personality dimensions may need to be considered in the discussion of factors that may facilitate or hinder engagement in ACP.

END-OF-LIFE DECISION-MAKING AMONG AFRICAN AMERICANS WITH SERIOUS ILLNESS

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African Americans' (AA) tendency to choose life-prolonging treatments (LPT) over comfort-focused (CFC) care at end-of-life (EOL) is well documented, however there is limited research that describes AA experiences of EOL care decision-making. The study objective was to describe AA bereaved family members' experiences of EOL decision-making and their perceptions of the decision to continue or discontinue LPT at EOL. A conceptual framework informed by the literature and the Ottawa Decision Support Framework guided

this study. Purposive sampling was used to recruit fifteen AA bereaved family members of AAs who died 2–6 months prior to enrollment from the palliative care program in a safety-net hospital and a large metropolitan church in the Midwest. Decedent mean age 68.7 was years. Participants were selected based on their Decisional Conflict Scale scores. Data were collected by telephone, using a semi-structured interview guide, and analyzed using qualitative descriptive methods and content analysis. Qualitative themes related to AA family members' experiences in EOL decision-making included understanding, relationships with healthcare providers, and quality of communication. Additional qualitative themes were related to perceptions of the decision to continue LPT (e.g., a lack of understanding) or discontinue LPT (e.g., patient preferences). Religious values and cultural values did not emerge as major themes in relation to family members' EOL decision-making. This study contributes evidence that quality of communication with healthcare providers plays a critical role for AAs in EOL decision-making, and challenges the majority of the literature that suggests religious and cultural values play prominent roles in AA EOL decision-making.

END-OF-LIFE DECISIONS FOR PEOPLE WITH INTELLECTUAL DISABILITIES: PREHOSPITAL PROVIDERS' PERSPECTIVE

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Individuals with intellectual disabilities (ID) represent 1% of the population. Older adults are the fastest growing segment of this population with projections for a doubling by 2030 and a tripling within the foreseeable future. The Institute of Medicine (2014) found that only 1% of this population engage in advance care planning (ACP). Prehospital providers (Paramedics and Emergency Medical Technicians) are often first responders when family or professional caregivers find a person with ID in medical crisis and their decisions about treatment or transport influence how and where the person will die.

The purpose of this two-phase, mixed methods study was to explore how frequently medical orders (MOs) inform decision making during end-of-life calls and prehospital providers' opinions about MOs in emergency care for people with ID. Phase one survey data (N=245) was collected to determine the frequency of different end-of-life calls; 62.7% of prehospital providers treated an individual with ID and a completed MO. Phase two in-depth interviews (N=50) explored how prehospital providers made end-of-life decisions. Utilizing a critical discourse analysis approach, three themes were identified as informing prehospital providers' opinions about MOs for this population: provider familiarity; organizational processes; sociocultural context of ID. Ethical challenges raised by providers, including decision making capacity, are elucidated.

Results suggest that end-of-life decision making among older adults with ID is multifaceted. Although MOs are being presented with increased frequency during emergency calls, multiple (individual, facility and systems) factors inform prehospital providers' opinions of these documents and subsequently may impact decision making at end-of-life.

ASSESSING READINESS IN A DYADIC CARE PLANNING INTERVENTION FOR EARLY DEMENTIA

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Evidence supports designing proactive, dyadic interventions for use in the early stages leads to more effective decision making, and provides an opportunity to document and validate the person with dementia's (PWD's) care preferences. SHARE (Support, Health, Activities, Resources, and Education) a seven-session, counseling-based intervention aims to encourage and support care dyads to have important discussions about health care preferences that are often put off or avoided until the later stages of dementia. Although having these discussions early on are critical, many care dyads are not yet ready to have them. This paper will describe how SHARE Counselors are trained to assess care dyads' readiness using an adapted, 4-stage version of the Transtheoretical Model (TTM). SHARE Counselors rated readiness of each care partner at baseline, after 6 sessions (8 weeks from baseline), and again after a final booster session (20 weeks from baseline). Findings from readiness assessments administered to 128 early-stage dementia care dyads will be used to illustrate: 1) how care partners who were less "ready" at baseline responded to discussions about future care, 2) strategies used by SHARE Counselors to engage care partners even when each started off at a different level of readiness, 3) how initial readiness levels at baseline impacted whether or not dyad completed the full intervention protocol, and 4) whether or not readiness improved over time as a result of the intervention. Discussion will highlight why understanding PWD and caregiver (CG) readiness is critical when engaging in sensitive discussions on future care needs.

SESSION 470 (POSTER)

AGEISM AND AGE DISCRIMINATION

LOVE IN LATE LIFE: PERSISTENT AND PREVALENT

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Our study explores concepts reflecting broad definitions of love in old age. Research documents the value of prosocial behaviors and of altruistic attitudes for enhancing well-being among older adults. While romantic love is also said to persist in old age, scientific studies primarily focus on social supports and care-giving. Yet, hardly any scientific studies address the broader and less technical concept of love in relation to experiences of older adults. In this study we focus on self-reports by older adults about experiencing and giving love in their lives. In our panel study of older adults living independently in the community (N=340) we inquired to what extent respondents feel love towards others and to what extent they experience being loved by others. Based on interviews with community dwelling older adults (mean age=75), we found that the overwhelming majority (92.7%) report that they feel much or very much love for other people. Similarly the vast majority reported that they feel loved by others (88.3%). Women and married people were significantly more likely to report both loving others

and being loved. Based on the high prevalence of love in the lives of older adults and the enduring nature of love over time, our findings support the view that love is a cultural universal. With more and more people living to reach old-age, recognizing the almost universal potential of older adults for loving and being loved become important challenges to disavowing ageism and for maintaining a civil society.

AGEIST STEREOTYPES AND THE INTERGENERATIONAL REENGAGEMENT OF OLDER ADULTS

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In many traditional societies across the world, aging is viewed positively and older adults are fully integrated into their community, holding positions of influence and respect. In contrast, gerontophobia and gerontological illiteracy in most developed societies reinforces ageism--prejudice and discrimination against older adults--that estranges generations. In this three year study we examine the perceptions and representations of aging and old age of 1,034 undergraduate students completing introductory courses at six universities across the United States. The study examined views and representations of aging and old age. Students were asked to provide an age at which they considered an individual to be old, to list words they associated with "old person" and "grandma/grandpa," and to draw a sketch representing "aging." Findings indicate that (1) students consider a person to be old in the United States at 65 years of age, (2) have a far more positive view of older adults they know personally (i.e. their grandparents) than older adults as a category; and (3) images of aging, as represented in hand drawn sketches, are predominantly negative; they focus on a relatively short period at the end of life and are pervaded by concern for time, physical decline, medical care, institutionalization, and death. The findings reinforce the need for renewed efforts in developed societies to combat age stereotyping and ageism through gerontological education in order to facilitate the intergenerational reengagement of older adults as lifelong contributors to community life and culture.

RACIAL DIFFERENCES IN ATTITUDES TOWARD AGING, AGING KNOWLEDGE, AND CONTACT

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Ageism is defined as "the systematic stereotyping of and discrimination against older people, because they are old, just as racism and sexism have accomplished this with skin color and gender" (Butler, 1975). Ageism in the twenty-first century may be more compelling than ever because of the sheer number of Baby Boomers turning 65 daily. Current population estimates suggest that the percentage of older adults will grow to about 18% of the population by 2030 (Cohn & Taylor, 2010). It is believed that misconceptions about aging are developed and maintained due to misinformation about aging and lack of meaningful contact with older adults. Butler's acknowledgment of ageism as a systemic problem

has generated research attempting to develop an adequate way to measure ageism, knowledge about aging, and attitudes toward older people. This research examined differences in attitudes toward aging, knowledge of aging and contact frequency between non-Hispanic whites and African-American young adults. Participants were 96 African-American (Mean age 19.27, $SD=1.318$) and 175 Non-Hispanic Whites (Mean age 19.87, $SD=1.685$) that were part of a larger study. ANOVA revealed significant group differences on the Aging Semantic Differential-Instrumental factor ($F_{(1, 269)}=8.169$, $p=.005$) and on the Fraboni Scale-Anitlocution factor ($F_{(1, 269)}=13.117$, $p<.0001$). No significant differences emerged between groups on either the Facts on Aging Quiz-Revised or everyday contact with older adults. Results suggest that while Non-Hispanic Whites held more negative attitudes toward older adults and higher levels of ageism they also showed higher levels of knowledge and a lower frequency of elder contact.

PERSONAL BELIEFS AND REACTIONS TO AGE AND MEMORY THREAT IN EVERYDAY MATERIALS

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Older adults hold complex, yet predominantly negative, beliefs about aging. When experimenters emphasize negative stereotypes about aging, it can be a threat, affecting older adults' physical performance, self-perceptions of aging, and memory. Reactions to stereotyping may vary with the situation or the individual. This study examines the impact of stereotype exposure for the first time with common everyday materials and evaluates the impact of stereotype exposure on personal beliefs and memory. A priori personal beliefs (e.g., sense of control over memory) may promote resilience to stereotypes, and beliefs may change after stereotype exposure. Participants were 34 men and women (ages 50–75; $M=62$). Everyday stimuli were newspaper cartoons, "jumble" puzzles, and word searches. A stereotype group saw stimuli with embedded age (e.g., weak, inept) and memory (e.g., dementia, forgetting) stereotypes. A control group saw similar stimuli without stereotype words. We controlled stereotype exposure, level of negativity, number of words, and stimulus size. Two-thirds of the stereotype group later reported awareness of the stimulus characteristics ("aware" group). Multiple measures of beliefs and memory were examined before and after stimulus exposure. The control and stereotype groups were comparable on beliefs and memory before working with the familiar materials. After exposure, 1) the stereotype group had higher story recall scores, and 2) the aware group showed the lowest perceived memory threat and the highest general memory evaluation. These results show that those who noticed the stereotypes counteracted their influence. Focusing on how to train stereotype awareness and response would be useful in future research.

MINDFUL AGING: THE IMPACT OF TRAIT MINDFULNESS ON AGING STEREOTYPES

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With a growing aging population, it is important to understand factors that encourage or discourage healthy

aging processes as we get older. Previous research has shown that negative beliefs about aging (i.e., negative aging stereotypes) can negatively affect health behaviours, memory performance and physical function. Thus, discovering ways to decrease negative aging stereotypes may aid in promoting healthy aging. It is postulated that mindfulness may attenuate negative aging stereotypes, as mindfulness cultivates openness, curiosity, and non-judgment. In the present study, we assessed whether mindfulness was associated with fewer negative beliefs and opinions about aging. Participants ($N = 201$) aged 55+ completed the Five Facet Mindfulness Questionnaire (FFMQ) and the Expectations Regarding Aging Survey (ERA-38) as part of an online study examining the psychological correlates of health behaviour in middle-aged and older adults. Controlling for age, sex, education, and retirement status, multiple regression analyses show that enhanced trait mindfulness is significantly associated with more positive beliefs about aging and expectations regarding cognitive function, mental health, sleep, and appearance (all $ps < .05$). These data suggest that interventions aimed at changing attitudes and beliefs, such as mindfulness-based interventions, may reduce negative aging stereotypes and improve quality of life among older adults.

RESPECTED OR A BURDEN? GLOBAL ATTITUDES TOWARD OLDER PEOPLE USING THE WORLD VALUES SURVEY WAVE 6

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The world population over age 60 is expected to double from 2000–2050, with 80% of this cohort expected to live in low- and middle-income countries by the middle of the century. The extent to which individuals and societies are able to benefit from population ageing will largely depend on their perceptions of ageing and older people. Public discourse around population ageing is discouraging, depicting older people as burdensome for health, economies and public spending. These narratives exemplify everyday ageism, as statements are built on assumptions that ignore older people's value and potential. Stereotypes and attitudes, acquired across the lifecourse, do not simply abate when an individual reaches older age. Negative implicit ageist attitudes are held and internalised by older people themselves, resulting in physical, cognitive and well-being declines. Wave 6 of the World Values Survey sampled over 85,000 participants from 60 countries and included assessments on attitudes toward ageing. Our preliminary analyses reveal marked differences in older people's roles between countries and cultures, suggesting that socioeconomic development, income inequality, valuing youth-oriented culture and breakdown of family support structures affect levels of societal ageism. Further, there are significant differences between developed and developing countries, which reflect the economic aspirations of both societies and individuals and mirror the implicit and explicit reporting of ageism-related items. The internalisation of this ageism and its physical outcomes has implications for utilisation of scarce primary healthcare resources across nations, but can be mitigated through well-defined approaches to tackling both implicit and explicit ageism.

GENDERED AGEISM AND MICRO AGGRESSIONS IN THE WORKPLACE

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The intersection of gender and age discrimination has formed an important facet of research concerning barriers to prolonging working lives. With increasing public policy interest in integrating later retirement into successful ageing frameworks, research has sought to understand whether workplace age discrimination is experienced differently by men and women at later career stages. While simplistic additive or multiplicative effects of being an older woman on experiences of workplace discrimination have been posited, research has been inconclusive. While some studies report gendered ageism affecting older women others find that older men appear to struggle with what has been argued to likely be their first experiences of workplace discrimination as they pass beyond what have traditionally been the 'prime working years'. Attempting to overcome the common methodological error of measuring discrimination with leading, unsophisticated self-report items, this presentation draws on nationally representative data from a survey of 3000 Australians obtained using the 'everyday discrimination' approach to measuring workplace discrimination. Binary logistic regression was used to assess the probabilities of experiencing 12 workplace discrimination behaviors across age, gender and functional capacity while controlling for employment type and socioeconomic position. The results replicate some studies' findings of counter-intuitive patterns of workplace discrimination across gender and age group, with discrimination more frequently reported by younger men. It is argued that a more nuanced approach to considering the intersection of age and gender is required and that in considering policy approaches to supporting longer working lives the role of age discrimination should not be overstated.

THE INFLUENCE OF AGEISM ON LIFE SATISFACTION OF OLDER ADULTS

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Older adults experience discrimination in a number of different ways due to their age, and this has potential to negatively affect their psychological well-being. The purpose of this study was to investigate the relationship between age discrimination and life satisfaction among older adults, and how this may be eased by other, constructive experiences of aging, such as a positive outlook on aging and participation in volunteer work.

This study used Health and Retirement Study data (2012 wave), selecting 1,975 persons (58% female) who claimed to experience age discrimination in daily life. Scales measuring the extent of perceived discrimination (in six circumstances) and life satisfaction were used to test the main relationship. Mediating variables were measured by a scale of positive self-perceptions about aging and by the frequency of volunteer activities. Participants' age and gender were controlled.

Perceived discrimination was most frequent in people feeling treated with less courtesy and respect and feeling treated as if they are not smart. Higher levels of perceived

discrimination were associated with lower life satisfaction, even after controlling for age and gender. However, the direct relationship between perceived bias and decreased life satisfaction ($b=-.16$, $p<.05$) was significantly mediated by a positive outlook on aging ($b=.48$, $p<.05$) and by volunteer work experience ($b=.06$, $p<.05$). In conclusion, ageism has a negative effect to older adults' current life satisfaction. At the same time, if older adults participate in meaningful activities, or have a positive self-perception, these are potential resources for reducing negative experiences of aging.

AGE DIFFERENCES IN THE EFFECTS OF SELF-STIGMAS ON WELL-BEING

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The present study used two-wave data from a probability-based sample of adults in the US to examine the effects of self-stigmas on physical and emotional well-being. Data were drawn from 1,216 core participants of the National Survey for Midlife Development in the United States (T1 mean age=48.8, 50.5% women). Using mixed linear effects models, 3 stigma groups (no stigma, single stigma, multiple stigmas) were compared across 3 age groups (20–39, 40–59, and 60+ at T1) and over time on the five indicators of well-being. Results revealed a significant stigma group $\times$ age group interaction effect for positive and negative affect ($F[4,1204]=5.63$, $p<.001$ and $F[4,1204]=5.69$, $p<.001$, respectively), but not physical health. Post-hoc comparisons showed that for both positive and negative affect, older adults had significantly better emotional well-being in the single and multiple stigma groups than their younger and middle-aged peers; in the no-stigma group, younger adults scored lower than older adults on positive affect and higher on negative affect but these effects were small in magnitude. These results are consistent with Carstensen's theory of socioemotional selectivity, which states that with age, individuals are more strongly motivated to regulate their emotional well-being and, thus, to expend effort toward enhancing positive emotions and minimizing negative emotions. Thus, older adults may de-emphasize stigma-based experiences and show greater emotional resilience in the face of such experiences relative to younger and middle-aged individuals. It is important to note, however, that older adults' resilience did not transfer to the domain of physical health.

OLD AND UNEMPLOYABLE? HOW AGE-BASED STEREOTYPES AFFECT WILLINGNESS TO HIRE JOB CANDIDATES

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Across the world people are required or want to work until an increasingly old age. But how might prospective employers view job applicants who have skills and qualities that they associate with older adults? This paper draws on social role theory, age stereotypes and research on hiring biases, and reports 3 experimental- online - studies using age-diverse North American participants. These studies reveal that a) positive older age stereotype characteristics are viewed less favorably as criteria for job hire, b) even when the job role is low status a younger stereotype profile tends to be preferred, and c) an older stereotype profile

is only considered hireable when the role is explicitly cast as subordinate to that of a candidate with a younger age profile. Implications for age-positive selection procedures and ways to reduce the impact of implicit age biases are discussed.

WHAT FACTORS ARE RELATED TO MEDICAL STUDENTS' AND DOCTORS' ATTITUDES TOWARD OLDER PATIENTS?

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Background: A large research base exists on the relationship between medical students' and doctors' attitudes towards older patients with a variety of demographic, educational/training, job/career factors. Studies report conflicting findings and little consensus on associated variables.

Methods: A systematic review on the worldwide English language literature. Ten databases were searched (including Medline, PsychInfo and Science Direct) from database inception to December 2015 using a systematic search strategy. Quality was assessed.

Results: The search identified 2336 articles; thirty-eight studies met the eligibility criteria. Very few variables demonstrated consistent relationships with attitudes. Students' year of medical school, doctors' years of practice or seniority, participants' age and ethnicity did not demonstrate a relationship with attitudes. Participants' level of intrinsic motivation and increased interest in working with older people were positively related with attitudes. The relationship with gender was mixed; of the 28 studies examining gender and attitudes, 18 found no significant relationship. However, the remaining ten studies concluded that females reported more positive attitudes towards older patients than males; no studies reported more positive attitudes in males. None of the 38 studies measured social desirability (e.g. impression management), despite other studies demonstrating that socially desirable responding correlates with attitudes towards older people in other participants (Cherry, Allen, Denver & Holland, 2015) and female medical students score higher on social desirability than males (Merrill, Lorimor, Thornby & Vallbona, 1998).

Conclusions: Attitudes towards older patients show a relationship with participants' motivation type, interest in gerontology work, and a relationship with gender which warrants further investigation.

AGEISM AND SATISFACTION IN LATER LIFE: RESULTS FROM THE HEALTH AND RETIREMENT STUDY

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Purpose: To investigate the prevalence of ageism and the relationships between ageism and satisfaction in later life in the United States.

Design: Cross-sectional analysis

Setting: The 2010 wave of the Health and Retirement Study, a national representative panel study of older Americans.

Participants: Analysis is based on 10,937 older Americans aged 65 and above.

Measures: "Ageism" is conceptualized with two measures: The Everyday Discrimination Scale, and one item question about whether or not discrimination experience was specially based on age. The satisfaction measure consists of "Aging Satisfaction" and "Satisfaction with Life in Domains."

Results: Preliminary data analyses indicate ageism is a pervasive aging experience in the United States. Chi-Square tests show statistical differences in the levels of aging satisfaction and life satisfaction between participants with or without everyday discrimination experience and age-based discrimination. T-tests suggest that participants who experienced everyday discrimination had significant differences in aging satisfaction and life satisfaction, and that age-based discrimination experience is correlated with significant differences in aging satisfaction. However, t-tests do not indicate that ageism experiences predict levels of aging satisfaction and life satisfaction.

Conclusion: In light of new understanding of discrimination and its negative impact on older adults' physical health, mental health, and subjective well being, this empirical study adds emerging evidence on ageism and satisfaction in later life in the United States. Despite its limitations, this proposed study has significant implications for cultural changes in public discourse and human services involving older adults in the United States and globally.

GRAY PANTHERS GROWL AT THE MEDIA, AND MAKE THEIR OWN

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Drawing on archival research and close readings of media texts, this paper will exam the confluence of two remarkable moments in the history of the representation of older women in the media in a decade otherwise known for its social and cultural conservatism. In the 1980s, armed with the concept of "ageism," coined in just 1969, and experience in the feminist and civil rights movements, the members of the Gray Panthers set out to intervene in the representation of older women in the media. Mobilizing through their Media Watch Committee, they monitored TV for examples of ageism, conducted media literacy campaigns, and produced conferences and even their own media content to combat stereotypes and construct an alternative vision of aging. Not unrelated, women of the same generation appeared on TV with more agency – namely in *The Golden Girls*, *227* and *Murder She Wrote* – leading the *LA Times* to ponder whether there was a representational shift on TV, even a "waning devotion to youth." But as an Annenberg study of the time suggested, this drop in the bucket "does not make a ripple" when you consider that the representation of people over 65 was only around one-fifth their actual proportion in the US population, and were "treated disrespectfully most of the time." These TV exceptions proved the rule, then, and make the gray women of the 1980s and their media interventions all the more important to study.

SESSION 475 (POSTER)

AGING IN MINORITY AND DIVERSE POPULATIONS

RACE/ETHNIC DISPARITIES IN EXPOSURE TO CHRONIC STRESSORS VARIES BY AGE AMONG OLDER ADULTS

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Chronic stress exposure is linked to worse mental and physical health and blacks tend to report more stress exposure than whites. The experience of chronic stressors may vary across the older adult life course, making it important to investigate age differences in the race disparity in chronic stress exposure among older adults. We examine age variation in race/ethnic differences in the number of reported chronic stressors in five key domains: health, financial, residential, employment, and relationship. Data come from 6,878 white, black, and Hispanic adults age 54+ from the psychosocial subsample of the 2006 Health and Retirement Study. Descriptive results show whites and Hispanics report a decline in exposure to financial, residential, employment, and relationship stress after age 70. Yet, blacks report an increase in residential stress and relatively smaller decline in financial, employment, and relationship stress after age 70. Reports of health related stress increases for all race/ethnic groups after age 70. Multivariate results show that blacks ($\beta=0.23$, $p<0.001$) and Hispanics ($\beta=0.13$, $p<0.01$) report more stressors than whites. But while fewer stressors are reported by adults 70+, compared to the young-old ($\beta=-0.18$, $p<0.001$), analysis of age interactions shows that blacks ages 70+ reported more stressors than their white counterparts ($\beta=0.14$, $p<0.05$). Importantly, total stress burden is similar among blacks and whites ages 54–69. Black-white differences were similar after adjustment for sociodemographic characteristics. Hispanic-white differences were attenuated after adjusting for SES. Thus, race/ethnic disparities in stress may reflect differential experiences of age-related declines in chronic stress exposure.

CHINESE COMPREHENSIVE HEALTH ASSESSMENT SCALE AND HEALTH STATUS OF THE COMMUNITY-DWELLING ELDERLY

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Purpose: To develop Chinese comprehensive health assessment scale (CCHAS) for community-dwelling elderly with chronic diseases and to examine its reliability and validity.

Method: The original CCHAS was developed using literature review and in-depth interviews, as well as Delphi method. 440 community dwelling elderly were selected to complete the scale and SF-36.

Results: The CCHAS contained 30 items, including: physical health, activities of daily living, mental health, social adaptation and general health. The total Cronbach's alpha coefficient of the scale was 0.81, and the split half reliability was 0.93. The total CVI of the scale was 0.87. Pearson correlation coefficient between the CCHAS scale and SF-36 was

0.83. 56.59% of the elderly has good health status, while 9.77% has poor.

Conclusion: The CCHAS has acceptable reliability and validity and is significantly correlated with SF-36. The results demonstrate that the scale can be applied to health evaluations in community-dwelling elderly in China.

DYNAMICS OF DISABILITY AND DEPENDENCY: EXAMINING THE HISPANIC PARADOX THROUGHOUT ADULT LIFE

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Research often shows that Hispanics in the United States have lower adult mortality than non-Hispanic whites (hereafter whites). Much less is known about adult life course functioning among Hispanics. We studied functioning in activities of daily living (ADLs), distinguishing between disability (having difficulty but not having help) and dependency (having help), among Hispanic, African American, and white women and men, using data from the Health and Retirement Study (10 waves 1994–2012, ages 51+, $n=35,797$, 152,822 functional status and death transitions). Multinomial logistic Markov models estimated monthly probabilities of transitioning among ADL status levels and to death, adjusted for age, sex, education, and race/ethnicity. Using the probabilities we created large populations with microsimulation, measuring monthly disability status for each individual, age 51 through death. Women with high school education illustrate the primary results: Life expectancy was greater for Hispanics than African Americans or whites, respectively at age 70, for example, 88.1, 85.2, and 86.4. The population percentage having difficulty was higher for African Americans than for Hispanics or whites at ages 60–90 ($p<0.01$), respectively at age 70: 38.4%, 33.9%, and 34.9% (no significant differences between Hispanics and whites). The population percentage having help was higher for Hispanics and African Americans than for whites at ages 60–90 ($p<0.01$), respectively at age 70: 6.3%, 7.5%, and 4.6% (no significant differences between Hispanics and African Americans). Results were similar for men. At midlife and older ages Hispanics may have relatively high rates of disabilities that require help from another person despite having lower mortality.

UNCOVERING NEUROPROCESSING AND SELF-MANAGEMENT BEHAVIORS IN PREHYPERTENSIVE AFRICAN AMERICANS

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Aims: African Americans with prehypertension have a 35% greater risk of progressing to hypertension as compared to Caucasian Americans. In this pilot study, we investigated how two neural networks associated with task-oriented and emotional/motivational cognition relate to self-management behaviors in prehypertensive African Americans. **Methods.** Community dwelling African Americans who met eligibility criteria of prehypertension, a systolic BP 120–139 and diastolic BP 80–89 mmHg, were enrolled. Participants completed brain imaging and surveys on everyday discrimination, self-compassion, decentering, social support,

self-efficacy, self-regulation, and the Nutrient Data Systems Report. Data were examined using descriptive statistics and correlation analysis. **Results:** Twenty participants, women ($n=11$) and men ($n=9$) aged 26–76 ($M=51.9$, $SD=12.2$) were enrolled. Findings from our pilot study indicated that everyday discrimination was associated with activation in the ventromedial prefrontal cortex and task positive/default mode networks ($r=-.72$, $p=.05$; $r=-.70$, $p=.05$ respectively). Activation in the ventromedial prefrontal cortex was associated with social support ($r=.58$, $p=.06$). Self-compassion and decentering were not associated with neurocognitive processing. Although self-efficacy was not associated with neurocognitive processing, self-efficacy was associated with self-regulation ($r=.53$, $p=.03$) and decentering ($r=.64$, $p=.05$). **Conclusions:** Findings indicate that neurocognitive processing are associated with everyday discrimination and social support. As we continue to examine the role of neurocognitive processing, we will use these findings to guide future work with self-management interventions and the possible underlying neurobiological mechanisms.

ORAL HEALTH AND DENTAL CARE IN OLDER ASIAN AMERICANS

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Responding to the paucity of information on oral health and dental care in older Asian Americans, the present study examined the status and factors associated with dental health insurance, self-rated oral health, and use of preventive dental service. Data were driven from 533 older adult participants (aged 60 and older) in the 2015 Asian American Quality of Life Survey conducted in Central Texas. The criterion variables of interest were selected based on the Andersen's behavioral model of health services: enabling (dental health insurance), needs (self-rated oral health), and utilization (use of preventive dental service) variables. Using a sequential design, the predictive model of each outcome was built, and sociodemographic and immigration-related variables were used as common covariates. More than 60% of the sample had no dental insurance, 45% reported that their oral health was either fair or poor, and 44% had not had dental check-up in the past 12 months. A series of logistic regression analyses identified the factors posing a significant risk to oral health and dental care. For example, those who had limited English proficiency were three times more likely to lack dental health insurance (enabling) and to have a fair/poor rating of oral health (needs). The odds of not using preventive dental service (utilization) were six times higher among those with no dental insurance coverage (enabling). The overall findings demonstrate substantial inequality in oral health and dental care outcomes in older Asian Americans and suggest strategies to promote their access to dental services.

AGE DIFFERENCES IN THE REASONS OLDER IMMIGRANTS RETURN TO MEXICO

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Mexicans are the largest immigrant group in the U.S. and are aging rapidly. Data support that many return to Mexico due to economic factors such as employment. Few studies

have investigated if older immigrants return to Mexico for different reasons than younger immigrants. Using the Mexican Health and Aging Study (N=963), we examine whether Mexican immigrants in the U.S. who returned to Mexico at age 50 and older report different reasons for returning than those who returned at younger ages. Few immigrants (regardless of age) returned to Mexico for economic reasons. In multinomial logistic regression modeling, older immigrants were more likely to return to Mexico due to illness (OR=3.06, 95% CI=1.29, 7.27) and just as likely to return because they missed family (OR=0.76, 95% CI=0.43, 1.33). Older Mexican immigrants in the U.S. with limited access to health care and/or caregiver support may return to Mexico.

COMMUNITY OF VOICES CHOIR STUDY TO PROMOTE HEALTH IN DIVERSE OLDER ADULTS

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BACKGROUND AND PURPOSE:

With the rise in the number of older adults, there is an urgent need to develop cost-effective interventions that can be easily adapted for adults from diverse racial/ethnic and socioeconomic backgrounds. The goal of this presentation is to describe the baseline and 6-month randomized results from the Community of Voices (Comunidad de Voces) study that is examining the effect of a 12-month community choir intervention on the health and well-being of diverse older adults.

METHODS:

This study used a cluster-randomized controlled design. Twelve San Francisco Administration-on-Aging (AoA) senior centers were randomized in matched pairs to either begin the choir immediately (intervention) or wait 6 months to begin (control). Participants attended weekly, 90-minute choir sessions focused on psychosocial, cognitive, and physical engagement and led by professional music directors. We collected primary and secondary outcomes at baseline and 6 months that focus on psychosocial, physical function, and cognition using the NIH Toolbox and legacy measures.

RESULTS:

A total of 819 individuals expressed interest in the study, and 390 participants (61%) enrolled in the study; 92% completed the 6-month assessment. The sample included 35% non-Latino White, 20% Black, 18% Latino, and 27% Asian/Pacific Islander; mean age was 71 years (range 60–93, SD=7); 76% were women. Twenty six percent rated their health as fair or poor. Results on the primary outcomes from the baseline and 6-month assessments will be discussed.

DISCUSSION:

Working collaboratively with AoA senior centers facilitated recruitment and retention. If efficacious and cost-effective, the intervention could serve as an easily translatable model for promoting optimal aging and reducing health disparities.

SOCIAL SUPPORT, STRESSFUL LIFE EVENTS AND LIFE SATISFACTION: MINORITY AND NON-MINORITY BABY BOOMERS

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The first wave of the Baby Boomer cohort approached retirement age in 2010, officially entering older adulthood. But this generation is vastly different than other cohorts. They are more active, educated, and are living and working longer. Older adults ultimately feel their social networks are as important as their health (Farquhar, 1995). Social support acts as a buffer between stress and well-being (Chronister, Chou, & Liao, 2013) following stressful life events (SLEs) (Hsu, 2011). Those without meaningful social support are lonelier (Utz, Swenson, Caserta, Lund, & deVries, 2014) and have lower life satisfaction (Nilsson, Rana, & Kabir, 2006), highlighting the importance of social support. Minorities frequently use kin networks for support which can be a specific concern as these peer and family supports are also aging (Park et al., 2013). Because of systemic health and access disparities, minorities typically turn 65 having already experienced a greater number of significant SLEs when compared to non-minority aging adults. The meaning of social support on the relationship between SLEs and life satisfaction between minority and non-minority elders of the Baby Boomer generation is examined in this work. This research utilized the Health and Retirement Study (HRS) (2006 through 2012) to perform a one-way ANCOVA. The interaction was significant between SLEs and changes in social support ($F(5,3915)=7.87, p<.001, n^2=.012$) with significant differences between Minority ($M=.046, SD=1.64$) and Non-minority ($M=.989, SD=2.16$) respondents and levels of SLE's. Cultural differences in regards to social support networks is also discussed.

DOES THE HISPANIC EPIDEMIOLOGICAL PARADOX EXTEND TO CHILDHOOD ADVERSITY AND LATER LIFE DISABILITY?

J.N. Laditka, S.B. Laditka, *University of North Carolina at Charlotte, Charlotte, North Carolina*

Evidence suggests adverse circumstances during childhood increase later life disability. Little research has examined whether this association affects Hispanic Americans, whose life course health dynamics often differ from other groups. We estimated this association for African American, Hispanic, and non-Hispanic white women and men for eight childhood circumstances: fair or poor health, poverty, father or mother with education less than grade 8, household moves or receipt of money from family due to financial difficulties, father with extended unemployment, or no father in the household, using data from the Health and Retirement Study (8 waves, 1998–2012, ages 51+, $n=29,629, 136,704$ functional status and death transitions). We used a 5-level index of childhood risk factors, none to 4 or more. Multinomial logistic Markov models estimated monthly probabilities of transitioning among having difficulty with activities of daily living (ADLs), having help with ADLs, and death, adjusted for age, gender, education, and race/ethnicity. We used the probabilities to conduct microsimulations, creating large populations with monthly functional status measures through death for each individual, and analyzed outcomes in those populations. Women age 70 with high school education illustrate results (all $p<0.001$): Comparing those with 4 or more adversities to those reporting none, for Hispanics the percentage of remaining life with ADL difficulty was 8.7% greater, and with ADL help 9.8% greater. Comparable

results were 7.5% and 9.1% for African Americans, 9.7% and 6.8% for whites. Childhood adversity was not associated with mortality. Childhood adversity increased later life disability similarly for African Americans, Hispanics, and whites.

OLDER IMMIGRANTS' CARDIOVASCULAR HEALTH: MEASURING RISK AND THE IMPACT OF SOCIAL DETERMINANTS

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The population of immigrants who resettle in older and middle age, also known as late-life immigrants (LLI), is expected to grow threefold by 2050. The stressors of aging and resettlement predispose LLI to negative health outcomes, including the development of cardiovascular disease (CVD). Despite the passage of the Patient Protection and Affordable Care Act (PPACA), affordable health insurance remains out of reach for most newly arrived LLI. Simultaneously, increasing numbers of uninsured LLI are presenting to emergency departments with life-threatening complications of CVD, including myocardial infarction.

Little is known about the financial and clinical benefits of expanding access to health insurance for LLI. This study, a secondary analysis of data from the National Health and Nutrition Examination Survey (NHANES), (1) examined the association between health insurance coverage and CVD risk (using two separate dependent measures: Framingham Risk Score and the presence of Metabolic Syndrome) among older immigrants and (2) explored the role of health insurance in CVD relative to other socially determined access barriers within immigrants' social ecology using hierarchical block regression. Early results found foreign born middle-aged and older adults to be a heterogeneous group who are less likely to be insured than the native born. Moreover, uninsured older immigrants have worse CVD risk profiles than their insured counterparts. Health insurance is a critical barrier to health access within immigrants' complex social ecology. A cost-benefit analysis is needed to determine the most effective method of expanding insurance coverage to recently arrived LLI.

RELIGION AND DEPRESSION SEVERITY IN OLDER SEXUAL-MINORITY ADULTS

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Older sexual minorities belonging to a religious group may experience poorer psychological wellbeing, as they have historically been discriminated against by religious communities. However, some research suggests that LGBTQ individuals can benefit from religious support. This study examined the relations of outness to religious community and religious activity with depression in 102 lesbian, gay, and bisexual adults over the age of 55. As part of a larger study, participants completed the Religion and Spirituality Questionnaire and the Center for Epidemiological Studies Depression Scale. Of those who reported being religious or spiritual (n=87), outness to religious community was significantly correlated

with relying on religious teachings for problems, satisfaction with outness to religious community, relying on religious beliefs as a guide, and praying ($p < .05$). When examining sexual minority subgroups, correlations indicated that outness to religious community was related to greater involvement in their religion in bisexuals and lesbians, but not in gay men. As for wellbeing and religion, depression severity was negatively correlated to outness to religious community and praying in Lesbians. In Gay men, depression was negatively correlated with belief in god and praying. In contrast, in bisexuals, satisfaction with outness, belief in god, and praying were positively correlated with depression indicating that religion may have a detrimental effect on depression. These findings suggest that some aspects of religion may be beneficial to the wellbeing of older sexual minorities, but the benefits may vary across sexual minority groups.

MENTAL HEALTH SERVICE UTILIZATION AMONG AGING LATINO AND ASIAN AMERICANS: THE ROLE OF SOCIAL CAPITAL

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This study examines how rates of mental health service utilization are impacted by both social capital (friend support, family support, and neighborhood cohesion) and immigration factors (English proficiency and length of residence in the United States (U.S.)). Immigrants to the U.S. often face unique challenges (such as discrimination, language barrier, housing and transportation problems, sparse community and individual resources, and limited access to health services), which place them at risk for deficits in health. Studies have shown that social capital and immigration factors independently have significant impacts on immigrants' health outcomes. We analyzed the mental health service use data on individuals aged 55 and older from the National Latino and Asian American Study. We found three primary themes associated with mental health service use: A significant variation in service utilization within and between the sample depending on their English proficiency and length of residence; All indicators of social capital impact the rates of service utilization but the patterns of associations vary; and that family support had both independent and direct effects on the rates of service use even after accounting for socioeconomic status (SES). This study highlights the significance of social capital, immigration factors and SES as determinants of general health and, more specifically, mental health among aging immigrants. Findings from this study not only add to the aging health and minority literature but they also point to the need for effective and culturally-appropriate mental health interventions.

IMPACT OF PHYSICAL-MENTAL COMORBIDITY ON SUBJECTIVE WELL-BEING AMONG DIVERSE ELDERS

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Objectives: Older adults are more likely to be burdened by multiple health conditions, and physical-mental comorbidity adversely affects one's well-being. However, little is known about comorbidity as a determinant for subjective well-being (SWB). Thus, this study examined racial/ethnic variations in the relationship between types and severity

of physical-mental comorbidity and SWB among diverse elders.

Methods: Drawn from the National Health and Aging Trends Study in 2011, 8064 elders (White, Black, Hispanic, or Asian) aged 65 or older were included for analyses. Participants were grouped using sixteen common physical health conditions and two mental disorders to examine influences of comorbidity. Chi-square analyses were used to compare racially/ethnically diverse participants on demographic variables and types of comorbidity. Analyses of covariance (ANCOVAs) were used to assess the relationship between types and severity of comorbidity and SWB across four major racial/ethnic groups.

Results: Significant differences were found on background characteristics and types of comorbidity among racially/ethnically diverse elders. For main analysis results (ANCOVAs), Blacks and Hispanics reported higher SWB than Whites after controlling for covariates ($F_{(3, 6818)} = 7.26, p < .001$). Participants with physical-mental comorbidity reported lower SWB compared to healthy participants ($F_{(3, 6818)} = 38.16, p < .001$). As the severity of physical-mental comorbidity increased, SWB decreased ($F_{(2, 1337)} = 3.13, p < .05$).

Conclusion: This study provided detailed descriptions and comprehensive knowledge of the relationship between physical-mental comorbidity and SWB among diverse elders. Identifying racial/ethnic-specific correlates of comorbidities and SWB may help healthcare providers develop intervention programs for diverse elders.

THE HEALTH AND WELL-BEING OF LATE MIDDLE-AGED, RURAL-DWELLING HISPANIC ADULTS WITH ARTHRITIS

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Hispanic older adults with arthritis are at high risk for arthritis-related limitations in daily activities. Moreover, rural residence is associated with risk for arthritis, poor health outcomes, and healthcare disparities. This study's purpose is to describe differences in the health and well-being of late middle-aged (50–64 years), rural-dwelling Hispanic adults with and without arthritis. We conducted a cross-sectional analysis of 40 Hispanic adults (mean age=57.6 years, SD=4.8) who were participating in a feasibility study of a lifestyle intervention delivered in a primary care system in rural California, USA. Participants reported on medical diagnoses, including arthritis of any type, and various health and well-being parameters. We analyzed a subset of the measurement battery that holistically represented health and wellness: satisfaction with social activities, physical activity engagement, sleep quality, and general well-being. All participants were Spanish-speaking and 90% were female. Those who reported arthritis ($n=19, 47.5\%$) showed significantly poorer social activity satisfaction ($p=0.05$), physical activity participation ($p=0.04$), and general well-being ($p=0.04$) compared to non-arthritic participants. Although not statistically significant, individuals with arthritis also reported poorer sleep quality. This small cross-sectional study showed that self-reported arthritis was highly prevalent in a sample of late middle-aged,

rural-living Hispanics. Similar to previous findings in elders, the presence of arthritis was associated with poor health and well-being in multiple domains. While a larger-scale study is necessary to confirm these preliminary findings, this study informs efforts to develop lifestyle interventions tailored to vulnerable, late mid-life Hispanic individuals with arthritis and who are residing in rural communities nationwide.

AFRICAN AMERICAN CUSTODIAL GRANDPARENTS: A NATIONAL PROFILE OF HEALTH CHARACTERISTICS AND BEHAVIORS

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The U. S. Census Bureau reports 1.3 million African American (AA) grandparents reside with their grandchildren; nearly half (47%) have full parenting responsibility for their grandchildren's care. Despite the expanding literature on this family group, more information is needed on "solo grandparents" who are raising their grandchildren on their own. Using the 2012 Behavior Risk Factor Surveillance System survey, we compare the prevalence of medical conditions and health behaviors of 169 AA solo grandparents raising grandchildren in comparison to 1,635 AA single parents. Compared to single parents, AA grandparents had a higher prevalence of several chronic health conditions, including arthritis (50.3% vs.17.5%), COPD (12.5% vs. 3.6%), diabetes (20.1% vs. 6.9%), and coronary heart disease (12.6% vs.2.3%). Although a majority of the grandparents were enrolled in a health plan (92.9%) and had a primary medical provider (89.9%), nearly 44% rated their health as *fair* or *poor*. Further, AA grandparents were more likely to have a diagnosis of depression in their lifetime, as compared to single parents (25.4% vs.16.8%). Although AA grandparents were less likely to be overweight (27.9% vs. 33.1%) or obese (36.4% vs.45.8%), they were more likely to be current smokers (35.3% vs. 21.0%). Logistic regression analyses suggested that age differences account for most of the reported variances in chronic conditions between the parenting groups. However, the data illustrate the serious health problems of AA solo grandparents. The impact of the findings on grandparents' parenting roles is discussed, as well as suggestions for promoting community-based support services.

THE HEALTH STATUS OF OLDER ISLAND PUERTO RICANS COMPARED TO U.S. WHITE AND LATINO OLDER ADULTS

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Discussions about Latino health in the U.S. often overlook one large population of U.S. Latinos – island Puerto Ricans. Puerto Rico is a U.S. territory and Puerto Ricans are natural-born citizens of the U.S. Puerto Rico is experiencing population aging, but little is known about the health status of aging island Puerto Ricans, and whether it resembles that of Latinos in the mainland U.S. Using data on adults ages 60 and older from the 2002 Puerto Rican Elderly: Health and Conditions Project (PREHCO) ($n=4,389$) and the 2002 Health and Retirement Study (HRS) (10,679 Whites and 1,160 Latinos), we examine differences in

chronic conditions, disability, and self-rated health by race/ethnicity and gender. Results from logistic regression models show that Puerto Ricans have healthier profiles compared to whites; they have reduced odds of heart disease, stroke, lung disease, cancer, any ADL limitations, and fair-to-poor self-rated health (all differences significant at $p < .05$). Island Puerto Ricans have health profiles similar to mainland U.S. Latinos. Further investigation reveals that among island Puerto Ricans, women have increased odds of hypertension, lung disease, any ADL limitations, and fair-to-poor self-rated health compared to men (all differences significant at $p < .05$). Our findings suggest older Puerto Rican women experience a health disadvantage that is consistent with the double-jeopardy hypothesis. Despite their relatively disadvantaged social and economic status, island Puerto Ricans report better health than whites and have similar health as mainland U.S. Latinos. However, the Puerto Rican health advantage is primarily found among men.

SOCIOHISTORICAL CHANGES IN THE EDUCATION SPECIFIC HEALTH DISPARITIES IN THE U.S.

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Many of prior studies have attempted to explain the widening of educational inequalities in health by focusing solely on cohort-specific trends associated with educational attainment, such as health behaviors and economic factors. Interestingly, this approach treats the distribution of education within a particular cohort as a static “starting place” for the question of subsequent health disparities. There have been fewer attempts to explore the substantial sociohistorical changes in *opportunity structures* in the past century, which have served to change who is selected into particular levels of education attainment. This study employs a novel counterfactual approach to accommodate early life selection processes that may simultaneously shape educational attainment and health. Synthesizing cumulative dis/advantage and fundamental cause of disease theory, this study draws from *Health and Retirement Survey* (1992–2012; $n = 35,692$) to explore potential historical variation (as represented by birth cohorts) in the influence of education on functional limitations over the life course. Results from generalized linear mixed models suggest increase in the average positive influence of education on functional limitations across birth cohorts. However, the increase in the influence of education across three recent birth cohorts born between 1931 and 1953 was found to be statistically insignificant ($t = 1.32$, $p = 0.19$). We obtained mixed findings (i.e., slight increase or decrease over time) with regards to educational differences in *average rates of change* in functional limitations. This study extends existing body of knowledge by investigating the role of changing opportunity structures in modifying patterns of educational inequalities in health across historical periods.

THE MEANING OF AGING WELL AMONG IMMIGRANTS AND REFUGEES IN THE ST. LOUIS REGION

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Despite rich literature on the meaning of “aging well” and related concepts, such as “successful” or “optimal” aging, the meaning of aging well to foreign-born immigrants in the U.S. is relatively understudied and not well understood. In this paper, we present findings on perceptions of aging well among immigrants with differing characteristics including ethnicity, age, gender, mode of entry to the U.S., and length of stay in the US. The paper is based upon a mixed methods study on successful aging conducted in St. Louis, Missouri with a middle-aged and older adult immigrant/refugee sample ($N = 320$; Bosnian, Chinese, Vietnamese, Korean, Indian, and Latino/a). Participant responses to the question “What does aging well mean to you?” were qualitatively analyzed and several themes emerged related to health, functional independence, financial security, and family relations. This study contributes to a better understanding of the role of health, demographic and social factors in improving the reception of programs designed to promote healthful aging.

ETHNICITY AND SATISFACTION WITH SOCIAL CARE IN ENGLAND: MEASUREMENT, DETERMINANTS, AND OUTCOMES

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Satisfaction with social care services is routinely measured with Likert scales, and surveys have consistently found that people from minority ethnic groups are less satisfied than white people in England. These surveys cannot explain the reasons for the differences found. Therefore, qualitative interviews ($n = 121$) with South Asian and White British service users, family carers, and social care staff were carried out to explore reasons for high or low satisfaction. Thematic analysis focused on three areas: (i) the satisfaction measurement itself, (ii) reasons for satisfaction, and (iii) how staff coped with working across diversity. People who gave the same responses to the Likert scale actually had very different experiences, indicating both that the surveys do not capture the full story and also that individuals understand the scale differently. People with a clear understanding of the social care system were better able to work collaboratively with care staff to meet their needs, and thus had a higher satisfaction level. A clear understanding is facilitated by greater opportunities to become familiar with the social care system, and so first-generation migrants are disadvantaged compared to the British-born. Finally, social care staff who adopted a culturally reflexive working style, and were comfortable asking questions about cultural or religious difference, were more confident working with clients who differed from themselves. Recommendations are to include a qualitative component in satisfaction surveys, increase outreach communication about how social care services work, and to encourage staff to recognise and discuss diversity.

DIVERSE AGING EXPERIENCES OF EAST ASIAN IMMIGRANTS IN THE UNITED STATES: A LITERATURE REVIEW

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Around 12 percent of the immigrant population are aged 65 and older, and Asians are the fastest-growing group among elders in the United States. In the gerontological literature, East Asians (Chinese, Japanese and Korean) are often portrayed as a homogeneous group due to their shared cultural heritage (e.g., filial piety as a morality and practice) and are often stereotyped as the model minority population. In fact, despite commonalities, there exists great diversity when it comes to aging experiences, as shaped by varying socio-cultural factors such as timing and duration of immigration, historical background of immigration (e.g. professional, political refugee, military marriage), English proficiency, cultural dissonance, and interracial/interethnic marriage, in addition to demographic characteristics (e.g., gender, education). For example, Japanese immigrants have the highest rate of marrying Caucasians and are the most assimilated group among all Asians, thus they may experience old age differently from their Chinese and Korean counterparts. Also, foreign born immigrant elders living with children raised in America face different challenges from those naturalized citizens' aging parents brought to live with their family in terms of cultural adaptation and intergenerational communication. Such later life diversity among East Asian immigrant population warrants attention, as their needs are often under-met. Therefore, a comprehensive literature review is critical in educating service providers for understanding the socio-cultural factors that contribute to the heterogeneity within the group of East Asian immigrant elders and thus delivering culturally congruent and competent services.

MENTAL HEALTH STATUS OF MIDDLE-AGED AND OLDER HMONG REFUGEES IN THE U.S.

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Mental health issues have previously been identified as a major public health problem for Southeast Asians, who are one of the most rapidly growing populations in the U.S. Yet heterogeneity exists within the Southeast Asian ethnic groups in terms of health, socioeconomic resources, and level of adaptation to the United States. For instance, health outcomes are less favorable for the Hmong and Cambodian groups compared to other Southeast Asians and most other ethnic groups in the U.S. Existing research on mental health status of older Hmong populations in the U.S. is virtually absent. We analyze primary data collected from California for Hmong persons 50 years old and older (N=56). Questions included a short form depression scale (Hopkins Symptom Checklist-10 items (HSCL-10)) and demographic questions. In terms of family characteristics, 34% are widowed, 46% are married, and 66% live in a household including 5 or more people. Less than 5% have completed high school, and 18% speak or read English average or well. For this sample in the past 7 days the experience with difficulty in falling asleep or staying asleep (M=2.91, SD=1.25) and feeling tense or keyed up (M=2.57, SD=1.32) were the most commonly

reported depression symptoms. The overall mean HSCL-10 score was 2.34 (SD=.79). The findings are discussed in terms of the unique migration and adjustment experiences characterizing this population. Findings from this study could provide a more complete view of their status.

SESSION 480 (POSTER)

AGING IN THE COMMUNITY

ONLINE TRAINING OF LICENSE OFFICE PROFESSIONALS TO SCREEN APPLICANTS FOR MEDICAL IMPAIRMENT

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In states with voluntary reporting of possibly medically impaired drivers, previous research shows fewer than expected reports from license office professionals. Medical conditions that potentially impair driving are fairly common among older licensed drivers. Therefore, a crucial opportunity exists in license offices for early identification of impaired drivers prior to involvement in a traffic crash or incident. This study explores the development, implementation, and evaluation of an online training for license office professionals to identify likely medical impairment among driver license renewal applicants. Following statewide roll-out to over 180 privatized license offices, 85.9% of users found the training helpful and relevant, and 96.8% rated the training as "Very Good" or "Excellent" among trainees who responded to a survey embedded within the training (N = 183). The challenges of an agency-wide training release precluded an experimental design, but volume of reports of potentially impaired drivers was used to gauge training efficacy. In the 12 months prior to the training's release, 24 reports were made; in the year following release, 20 reports were made. Although the training was applicable, useful, and highly rated by trainees, it did not immediately increase the volume of reports made. In five of the evaluated months after release of the training zero reports were made. External factors, such as the impact of the privatization of government agencies with critical public safety roles should be evaluated and reported. Stronger policies, training mechanisms, and structural changes in licensing authorities are likely needed to improve screening efforts.

AN ANALYSIS OF THE ACCEPTANCE AND ATTITUDE OF ELDERLY DRIVERS TO THE NEW LICENSING SYSTEM

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Research shows that elderly drivers/riders are significantly over-represented in crash statistics and physically changes associated with ageing (such as vision, memory and reaction speed) can increase the risk of crash for elderly drivers. In

Taiwan, elderly people aged 65 or greater comprised more than 12.5% of the entire population, however, the elderly drivers accounted for 31.4% of traffic accident fatalities in the fiscal year 2015.

The Ministry of Transportation and Communications (MOTC) initiated a campaign to encourage elderly drivers voluntarily surrender their driver license few years ago. However, this campaign was not favorable by the elderly and the disproportionate traffic accident fatalities of elderly remains. Early this year (2016), MOTC enacts a new licensing system to mandate the elderly drivers aged 75 years and over must take a medical and cognitive assessment to retain their driving license every two years. This study applies the Technology Acceptance Model (TAM) to investigate the contributing factors that influence the elderly's perception, acceptance and attitude toward the new licensing system. A questionnaire consists of three sections is administrated to the participants, including the demographic profile, driving experience, self-assessed fitness to drive, attitude toward new licensing system, and subjective evaluation of public transportation. It shows that the majority of participants are not aware of this new regulations. The acceptance and attitude of the participants are highly affected by their medical condition.

WORK CONDITIONS AND WORK DESIGN WITHIN THE HEALTH AND CARING SECTOR: THE CASE OF OLDER WORKERS

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Most EU member states have a strong focus on raising retirement ages and financially incentivising longer working life. Yet so far these policies have paid little attention to growing social inequalities which benefit those most able to work longer and disadvantage those unable to work longer. In analysing unequally distributed chances and risks of working longer on the one side and of implications for quality of life and well-being on the other, our study takes up a research perspective which so far in retirement research has been underdeveloped. Against the backdrop of demographic change, the social service sector is a fast-growing business sector with rising socio-political and employment-related significance – in particular considering health and care jobs. Working conditions – i.e. physical and psychological stress, organisation of work, task variety and discretion, employee involvement and participation, leadership/management strategies, use of assistive technologies etc. – are an essential variable influencing the workability of older people. Therefore, the aim of our study is to examine existing problems and challenges of working conditions within the social service sector in Germany. A particular focus is laid on workers touched by health or social inequalities. To help overcome inequalities with adequate ways of work design and with improved working conditions is often seen as an effective way to generate additional workforce for professional caring jobs. To better understand current challenges for older workers and also ways to deal with these challenges, we use qualitative methods (problem centered interviews with the members of staff and expert interviews with representatives of national organization).

EXPECTATION AND REALITY OF NEW SHRC MEMBER: THE RELATED WITH JOB MATCHING AND SATISFACTION

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Introduction: Japan has Silver Human Resource Centers (SHRCs) for elderly working to live a worthwhile life. SHRCs have many job categories for persons aged 60 or older. This study examined the relationship between job matching and satisfaction of SHRCs member.

Methods: We had two surveys on member satisfaction at 2012 and 2013. We use eight questions (<1>Health maintenance, <2>Get to ikigai, <3>Auxiliary of the household, <4>Exchange with friends, <5>Contribute to the local, <6>Use of knowledge, <7>Better relationship with family, <8>Extend the life). The subjects were 152 new members belonging to the SHRC of the suburban in Tokyo. They were divided into Higher and Lower groups by comparison of one year later. We analyzed it by logistic regression analysis, using job match or job mismatch as objective variable.

Results: The percentage of people that could not get to the desired job was 45.4% (man 50.9%, woman 31.8%). Next, the percentage of Lower group was <1>27.6%, <2>32.2%, <3>48.7%, <4>40.1%, <5>32.2%, <6>45.4%, <7>42.8%, <8>35.5%. However, change of these satisfactions and job matching were not related ($p>0.05$).

Conclusions: Even the new SHRCs members could not get the job desired, they'd satisfaction is not lowered. For them, Itself be joining than the matching of the work is probably important. However, this subjects was higher evaluation of <1> and <2>. Therefore, there needs to be additional test also with different SHRCs.

TRAINING OLDER WORKERS IN SMALL AND MEDIUM-SIZED ENTERPRISES: RESULTS FROM GERMANY

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Small and medium-sized enterprises (SMEs) represent 99% of all businesses in Europe. In Germany the second biggest sector - craft trade - alone accounts for more than one million enterprises, five million workers and an average company size between 5 and 20 employees. Due to structural changes (demographic ageing of workforces, skill shortages or the transition to a knowledge-based society) SMEs in the German craft sector need to pay closer attention to the competence development, especially of their older employees. Research has shown that training activities of SMEs usually follow a distinct pattern: the smaller a company is the fewer training opportunities are offered. However this research is often focused on formal training, neglecting non-formal work integrated training measurements. Using a mixed method approach, which combines quantitative and qualitative methods, this paper researches the importance of non-formal training measurements in the context of SMEs from a gerontological perspective. Based on survey data from the "In-K-Ha Project" (funded by the Federal Ministry of Education and Research (BMBF)), we find a similar training behaviour across smaller and bigger companies. In a second

step we conducted 16 qualitative company case studies in order to identify explanatory factors for the training behaviour found in the SMEs we analyzed. Amongst the owner's willingness to invest in training factors such as staff retention, order volume and a company's degree of (technical) innovation have shown to be influential regarding the prevalence of training opportunities for older workers.

POST RETIREMENT ADAPTATION OF ELDERLY IN KERALA, INDIA

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India is growing old! The stark reality of the ageing scenario in India is that there are 77 million older persons in India today, and the number is going to grow to 177 million in another 25 years. Kerala, a relatively small Southern state in India, is experiencing the last stages of demographic transition that can be compared to the demographic trend in many aging European countries. Kerala has the highest percentage of elderly population (12.6 %), higher than the national average. Though life expectancy has been increasing steadily in Kerala for the last four decades, the retirement age of the state government employees remained at 55 years until 2011 when it was increased to 56 years. As retirement has become an essential life-stage in older adults, adapting well to retired lifestyle is crucial for long term life-satisfaction of the elderly. Kerala has four lakh pensioners and 12 lakh social security beneficiaries. Though some welfare measures have been taken for the aged persons, these measures are not fool proof. The present paper attempts to capture the dimensions and issues of post retirement adaptation of the elderly in Kerala. Quantitative data were collected from 300 retired elderly from the selected households. The problem is approached from the perspective of changes happening in their social position and relations within their family. The majority of the respondents held that they get the expected care from their spouses after retirement. Though this is a positive sign, the fact that around one tenth of them do not get the expected care invites attention to the emerging situation that the elderly in the state are likely to face more seriously in the coming days.

RETIREMENT INCOME SYSTEM: A COMPARISON BETWEEN CHILE AND THE U.S.

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For the last few decades, the world's retirement systems have been objects of analysis. For the past century, social security has played an important role in society—especially as populations get older, presenting new challenges to governments and their existing policies. Chile and the U.S have different systems with similar results when it comes to poverty prevention. However, the retirement system in the U.S, which is public, is facing sustainability problems, and the retirement system in Chile, which is private, is facing inequality problems. Therefore, the aim of this paper is to make a comparative analysis of the retirement income systems between Chile and the U.S.

Despite the accomplishments, new reforms are inevitable, and the cost of the transition of systems in Chile can

offer new elements to the debate in the U.S. In addition, the importance and confidence that people have in the system in the U.S and its redistributive component can show other elements for the debate in Chile.

SUSTAINING COMMUNITY-BASED HEALTH INITIATIVES FOR ADULTS AGING WITH INTELLECTUAL DISABILITIES

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Community-based intellectual disabilities (ID) agencies provide services and supports to people aging with ID, offering these individuals opportunities to participate in their community and engage in health promoting behaviors. However, little is known about the factors involved with *sustaining* community-based health initiatives (CBHI) among ID agencies. The purpose of the current study was to explore the facilitators and barriers of sustaining CBHI for people aging with ID living in group homes managed by ID agencies. Two non-profit ID agencies participated in the study. Nineteen semi-structured interviews were conducted with directors, managers, and direct support staff. Interviews conducted with directors and regional managers provided a broader systemic perspective, whereas interviews with support staff provided a front line perspective of the factors that may be effecting CBHI sustainability within group home settings. Grounded theory methods, including constant comparison, were used for analysis. Findings show that although ID agencies understand the importance of health and community participation for their clients and support such initiatives, agencies lack policies, resources, and ID and health education to sustain CBHI for their clients aging with ID over time. It is important to gain a better understanding of the influencing factors involved in sustaining CBHI that are being implemented by these agencies to enable individuals with ID to experience the many positive physical, psychological, and social health outcomes as they age and to potentially decrease their risk of institutionalization due to poor health.

ASSESSING OUTCOMES FOR THE INTERGENERATIONAL ACTIVE AGING FOR L.I.F.E. PUBLIC HEALTH INITIATIVE

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Active aging involves staying engaged in life in a number of ways, including maintaining independence, physical and cognitive fitness, and social engagement across the lifespan. This investigation highlights the *Active Aging for L.I.F.E.* health initiative, an intergenerational pilot program developed and implemented in northeastern Oklahoma. The program framework focused on both the functional and social systems which are predictors of well-being in older adults, and the understanding that the trajectory of aging is impacted by healthy choices and behaviors throughout the life course.

Program participants included older adults age 65+ (n=23) and college students age 18–25 (n=20). Participants attended a four-part speaker series focused in the four domains of *longevity, independence, fitness, and engagement*, and completed a series of pre/post series surveys used to gauge changes in attitudes and behaviors toward aging. A series of paired samples t-tests were conducted to compare attitudinal responses before and after attending four events, with college-age students showing the most change in their perceptions of their role and place in the aging process. Statistically significant differences ($p < .05$) in responses between genders were also identified, with female participants showing strong agreement in statements such as “I look forward to growing older,” and “It is a privilege to grow old.” These findings highlight that emerging adults, particularly females, may adopt more positive views toward aging with such programming, building a general acceptance of expected age-associated changes. This is also significant as women normatively live longer than men and are vulnerable to negative age-associated changes.

THE AGE-FRIENDLY UNIVERSITY INITIATIVE: BRIDGING COMMUNITY AND ACADEMY

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An age-friendly university movement is transforming traditional universities into centers of lifelong learning that support active, healthy aging and include older adults in the core elements of the university. Initiated by Dublin City University (DCU), Dublin, Ireland and expanded as a collaboration between DCU, Arizona State University, United States, and the University of Strathclyde, Scotland, this international initiative spawned an inaugural international conference in 2015. In May 2016, the Association for Gerontology in Higher Education (AGHE), an educational unit of the Gerontology Society of America, announced its endorsement of the ten age-friendly principles which provide a guiding framework for developing, distinguishing, and evaluating age-friendly programs and policies. This session will present the history of the age-friendly university initiative and international collaboration, present the ten principles of an age-friendly university, discuss the experiences and challenges of the founding universities in this growing movement, and present a model of sustainability for universities considering joining the age-friendly initiative.

AGE-FRIENDLY COMMUNITY FEATURES: CAREGIVERS' PERCEPTIONS

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As communities strive to create age-friendly accommodations to best meet the needs of a growing aging citizenry, the concomitant growth of caregivers provides additional layers of consideration for planning. Increasingly, persons providing care are managing their own aging and negotiating their community's infrastructure for both themselves as well as on behalf of their aged loved ones. These dual standpoints provide a unique perspective for an age-friendly environment.

This study reports on the findings from a global age-friendly community effort that examined the aspirations of persons age 50 and older on the importance of community features across three clustered domains of community life including: (1) built environment (i.e. outdoor spaces and public buildings, housing and transportation); (2) social environment (i.e. civic participation and employment, social participation, respect and social inclusion); and (3) community and health supports (i.e. community supports and health services and communication and information). The study surveyed caregivers (n = 216) and non-caregivers (n = 135) in a Southeastern United States community in which more than half of the residents are age 50 and older and one-third are age 65 and older. Focus group data (n = 9) was also analyzed to further illuminate the findings. Results indicate significant differences across multiple areas with the greatest magnitude of differences noted in the areas of housing and community supports, suggesting that caregivers are simultaneously preferring to enhance their own aging and more efficiently manage the needs of their care recipient. Age-friendly implications of the findings are discussed.

HOW HOUSING WITH SERVICES WORKS FOR LOW-INCOME OLDER ASIAN IMMIGRANTS

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This paper describes a pre- post-evaluation of a housing with services intervention, including culturally relevant programs, in 10 publicly-subsidized apartment buildings in a U.S. city. Twenty-three percent of residents spoke a Southeast Asian language. Intervention goals were to increase residents' access to health and social services, decrease ER use and social isolation, and improve quality of life. Repeated measures analyses examined differences between Asian language and non-Asian language speakers. Asian language speakers were more socially isolated than non-Asian language speakers at both time points. Food insecurity decreased overall from T1 to T2, with no differences within or between groups. More non-Asian language speakers used the ER, were hospitalized, and called 911 than Asian language speakers. No difference were observed on self-rated health or quality of life over time, within or between language groups. Culturally relevant services can improve the lives of Asian immigrants, though inconsistently across health/social domains.

HOW LIFE EXPERIENCE INFLUENCES FEELINGS OF EMERGENCY PREPAREDNESS IN OLDER PEOPLE

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Anecdotally, older people are considered under-prepared for emergency events. However, they are rarely engaged directly, to understand their knowledge and experience of emergencies and their feelings regarding preparedness.

This presentation will discuss research that explored how the life experience of older people influences their preparedness for emergencies. In-depth interviews were held with eleven people aged over 70 years, to explore emergency events experienced; the meaning and understanding drawn from the events; and participants' beliefs about emergency preparedness.

Participants did not view emergency preparedness as a one-off activity, such as completing an emergency plan or checklist; or packing an emergency toolkit or 'go bag'. It is a *process* of experiencing a variety of events over a lifetime and learning to create a feeling of mental preparedness and the ability to cope. While they might not define themselves as 'being prepared', they certainly considered themselves to be resilient; they accept their limitations and feel confident they can cope.

These findings are critical in terms of how older people are engaged in preparedness planning; and have implications for developing well informed emergency management and aged care policy and practice. Older people are not vulnerable per se; rather they may have some specific needs, but also a wealth of positive attributes in terms of knowledge, experience and sense of community.

By understanding that 'being prepared' is less important than 'being resilient', policy-makers can establish how best to assist older people in the face of emergencies.

EFFECTS OF NATURAL DISASTER ON RURAL PEOPLE CHOICE OF OLD-AGED CARE MODEL—BASED ON BAOJI CASE

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Chinese population is aging at an unprecedented speed, meanwhile China also suffers a lot from disasters. Those areas suffering most from natural disasters are often rural areas, facing even serious aging problem and population vulnerability.

The hypothesis of this study is that people's choice of old-aged care model, once underwent natural disasters, may change to seek a higher-level ability of withstanding disasters, which differs a lot from those choices from who haven't suffer loss from disaster.

This study use data collected by our research team through survey from Shanxi Baoji and the account of the data is 854. Old-aged care model is dependent variable (0= traditional home-based care, 1=non-traditional home-based care) and whether they have suffered property losses (0=No, 1=Yes) is independent variable. To analyze the relativeness between the two variables, and the dependent variable is two-valued variable, logit model is available.

According to the regression result, the possibility of people who suffering property losses in a disaster choose non-traditional home-based care is 414.32% higher than the one who haven't suffered. Specifically, the significance of the parameter is 2%. Preference of old-aged care model among people who have suffered property losses in natural disasters have apparently changed.

One of our implication is that once traditional home-based care way be chosen, it means that at least a kinship has to take care of him and sacrifice working time or even a better work opportunity, which is of less possibility would one who have suffered property losses in a disaster choose.

RATIONAL AND AFFORDABLE LTC FOR TOTALLY DISABLED ELDER

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Background: China is experiencing a foreseeable pressure from an increasing aging population. The problem on the

cost control of long-term care for totally disabled elders is a principal contradiction which hinders the development of the long-term care in China. However, no previous study has explained what effects the rationality and affordability of long-term care for disabled elders can make.

Aim: This study explores whether a rational an affordable long-term care for totally disabled elders can enhance quality of life and reduce pulmonary infection and pressure ulcer and other complications.

Methods: 100 totally Chinese totally disabled elders were included and randomly divided into two groups. One group accepted a rational an affordable long-term care service through individual assessment while the other accepted the ordinary long-term care service. Additionally, we evaluated the differences between two groups after 6 months through the quality-of-life evaluation instrument and the incidence of the pulmonary infection and pressure ulcer.

Results: Compared to those who are entitled to an ordinary rational an affordable long-term care service, the life quality of elders accepting rational an affordable long-term care service is remarkably high ($P < 0.05$). However, the ratios of pulmonary infection and pressure ulcer in elders accepting rational an affordable long-term care service have a remarkable decreased ($P < 0.05$).

Conclusions: We demonstrate that the rationality and affordability of long-term care through individually controlling can help totally disabled elders get an increasing quality of life. Furthermore, pulmonary infection and pressure ulcer can exert a significantly attenuated influence on them.

SESSION 485 (POSTER)

ARTHRITIS

ATTACHMENT STYLE, PAIN, AND PSYCHOLOGICAL WELL-BEING IN OLDER ADULTS WITH KNEE OSTEOARTHRITIS

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BACKGROUND: Previous research has shown that adults with an insecure vs. a secure attachment style are more likely to have worse pain, rate their life satisfaction lower, and have more depressive and anxious symptoms. This study examined linkages of attachment style with pain and well-being in persons with knee osteoarthritis (KOA). **METHODS:** In-person interviews with 256 older adults (mean age = 64.3, SD = 9.26), with KOA assessed attachment style, knee pain, depression, anxiety, and life satisfaction. All data came from a larger study examining daily quality of life with KOA. **RESULTS:** Multiple regression analyses examined effects of pain and attachment style on depression, anxiety, and life satisfaction. We categorized attachment as secure (close or dependent) and insecure (anxious). Results indicated that both close and anxious attachment styles and knee pain significantly predicted anxiety, $p < .05$, $R^2 = .337$. However, dependent attachment had no significant effect. Lower life satisfaction was significantly predicted by dependent attachment and knee pain, but not close or anxious attachment, $p < .05$, $R^2 = .321$.

Both dependent and anxious attachment predicted depressive symptoms, $p < .001$, $R^2 = .511$. Furthermore, significant interactions of KOA pain and dependent attachment on depression $p < .01$, and life satisfaction, $p < .05$, reflected buffering effects of attachment on the relationship between pain and psychological well-being. **DISCUSSION:** The results provide support to the importance of attachment style on older adults' physical and mental health when dealing with chronic pain. Implications for research and treatment are discussed. (Supported by R01-AG041655, P. Parmelee & D. Smith, PIs).

RACIAL/ETHNIC DIFFERENCES IN TEMPERATURE-BASED TREATMENT FOR KNEE OSTEOARTHRITIS PAIN

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Background: Racial/ethnic differences in experimental heat and cold pain sensitivity have been observed among adults with knee osteoarthritis (KOA). However, little is known about how these differences influence the use of temperature-based treatments (TBTs) for pain. This research therefore examined differential use of heat vs. cold to manage knee pain among African Americans (AAs) and non-Hispanic Whites (NHWs) with KOA. **Methods:** 228 older adults (mean age = 64.5, SD = 9.42) reported their use of various arthritis treatments as part of an ongoing study of everyday quality of life with osteoarthritis. Heat treatments were assessed quantitatively (yes/no). Additionally, numerical codes were assigned to open-ended, qualitative data according to use of hot, cold, combined, or other non-temperature related treatments. Chi-square tests were performed to examine the relationship between racial group and the application of heat, cold, or their combination. **Results:** African Americans were more likely to report using specific heat treatments than non-Hispanic Whites, $\chi^2(1) = 19.898$, $p < .001$. Reported use of cold, combined, or non-TBTs did not differ across groups. **Discussion:** Although previous findings indicate that AAs display lower heat pain threshold and tolerance than NHWs, these differences may not extend to modalities for managing OA pain. Implications for treatment are discussed. (Supported by R01-AG041655, P. Parmelee and D. Smith, PIs)

PATIENTS' EXPECTATION, QUALITY OF CARE TRANSITION, AND HEALTH OUTCOMES AMONG OLDER ADULTS UNDERGOING HIP AND KNEE ARTHROPLASTY

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Total joint arthroplasty is commonly surgical procedure that reduces chronic joint pain and improves function as well as quality of life among older adults with osteoarthritis. These patients may be discharged with a short hospital stay due to limited resources. Since patients' expectations is important issue resulting in improving the quality of the services and health outcomes, the present study aimed to examine the patients' expectation, quality of care transition, and functional outcomes among Thai older adults undergoing hip and knee arthroplasty.

Ninety-five samples who underwent hip or knee arthroplasty participated in this study. The measures included the Expectation Questionnaire, the Care Transition Measure, the Modified Barthel Activities of Daily Index, and the Complication Record Form. Data analysis was performed using descriptive, Pearson's correlation coefficient, and multiple regressions.

Improvements in daily activities, ability to climb up and down stairs, and daytime pain were the most important expectations. The participants perceived the overall moderate level of quality of care transition with the highest score on the dimension of "empowerment to assert preferences" following by "information transfer". The lowest score was found on "patient and caregiver preparation". Urinary tract infection was the most common complication. Expectations and quality of care transition showed a positive correlation to functional outcomes, and quality of care transition was the most powerful predictor of functional outcomes.

A better understanding of the association among expectations, quality of care transition, and outcomes may improve the process of care and outcomes among older adults undergoing hip and knee arthroplasty.

GLOBAL VS. MOMENTARY ARTHRITIS PAIN AND EMOTIONAL DISTRESS: EMOTIONAL INTELLIGENCE AS MODERATOR

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Osteoarthritis pain affects emotional well-being in terms both of momentary mood states and of global, long-term mental health. Though emotional awareness and regulation strategies are known to affect these dynamics, there have been few direct comparisons of momentary and long-term linkages of pain, distress, and emotional regulation. This research therefore examined short- and long-term associations among emotional dynamics, pain, and distress among 171 older adults with knee osteoarthritis (OA). Respondent interviews yielded self-report data on global pain, depressive symptoms, and trait-level emotional intelligence (EI; attention, clarity, and repair). Respondents then completed an experience sampling method (ESM) protocol comprising 4 calls/day for 7 days, tapping momentary pain and negative affect. In global (person-level) regression analyses, all three EI subscales predicted lower depression, controlling for global pain, demographics and general health. Mood clarity was the strongest predictor; it also moderated the pain-distress linkage, such that persons high in mood clarity showed a weakened association of pain with depression. Parallel multilevel models for ESM negative affect yielded significant Level 2 effects of mood clarity and repair, and both person-level and momentary pain. Here, mood repair (vs. clarity) buffered effects of momentary pain, such that persons with stronger mood regulation skills displayed a weaker association of pain with negative mood "in the moment." These findings suggest that awareness and regulation of one's emotions can be a powerful tool for coping with OA pain. However, dynamics appear to differ between immediate, momentary affect vs. long-term well-being. Implications for clinical intervention

are discussed. (Supported by R01-AG041655, P. Parmelee & D. Smith, PIs.)

SELF-EFFICACY FOR PAIN COMMUNICATION IN OSTEOARTHRITIS PATIENTS AND THEIR SPOUSES

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Spouses' greater understanding of the pain experience of older patients has shown to be beneficial for both members of the dyad. However, spouses tend to over-estimate patients' pain, which may be explained by variations in self-efficacy for understanding pain (spouse) or communicating pain (patient). Although previous work suggests that patient and spouse self-efficacy for pain communication may benefit emotional well-being, to our knowledge, no work to date has examined how these constructs may influence the relational outcomes of married couples. The current study sought to examine how self-efficacy for understanding the pain of patients with knee osteoarthritis (OA) is related to marital satisfaction and depressive symptoms of both members of the dyad. This study involved OA patients and their spouses ($N = 152$ couples) and examined reports of self-efficacy for understanding the patient's pain (spouse) and the self-efficacy for having one's pain experience understood by his or her spouse (patient). Consistent with hypotheses, regression analyses showed that self-efficacy for pain communication significantly predicted higher marital satisfaction in both patients ($p < .001$) and their spouses ($p < .001$). Self-efficacy for pain communication did not significantly predict fewer depressive symptoms for patients ($p = .262$) or their spouses ($p = .138$). These findings highlight the critical role that understanding pain can have in a couple's relationship.

SESSION 490 (POSTER)

ATTITUDES ABOUT AGING

VIOLENCE AGAINST OLD FROM AGGRESSORS' PERSPECTIVE

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Violence against the elderly is a practice found throughout the history of civilization, however, with increasing longevity, is gaining greater visibility and concern of many countries. To this, authors like Foucault, Elias and Scotson and Faleiros gave theoretical support to the exploratory qualitative research was carried out by listening to stories of the attackers. Thus, the main objective of this research is to analyze the factors that led to violence against the elderly through the perspective of the perpetrators, in order to prepare a discussion that subsidizes educational interventions in the field of violence. To this end, it has specific objectives a) know the stories of the lives of elderly offenders; b) identify the possible triggers that triggered the aggression; c) understand the structural aspects that may have relationships with the practice of violence and d) provide elements for educational interventions in the field of violence. The results

analyzed from the content analysis) were organized into two broad categories, namely: multidimensionality of violence, subdivided into "Construction of family relationships", "Consumption of illicit drugs and alcohol" and "unemployment", and the second category, named "Social Mechanisms of Attention to Violence". The results point to the complexity of violence against old people, characterized as a multidimensional process of relationships, which is not possible to identify a single cause as generating the event.

THE VALUE OF EXPERIENCE IN INCREASING UNDERGRADUATES' CAREER INTEREST IN WORKING WITH OLDER ADULTS

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A well-trained workforce is key to meeting the demands of an aging population that is expected to nearly triple by 2030 (CDC, 2015). Ageist stereotypes and lack of knowledge about the aging process among younger adults are two prominent hurdles to meeting these demands. Undergraduates may have more gerontology-related career interest if they have had more contact with older adults and aging course work (Kalisch, et al., 2013). Gerontology-focused career interests of 816 undergraduate students were assessed by employing logistic regression with three blocks of predictors: past experience, knowledge, and attitudes. Results suggest that females were 1.52 times more likely to have career interest in working with older adults compared to males ($p=.02$). Individuals who had course experiences (practicum/internships) with older adults were 2.34 times more likely to have career interest in working with this population than those who did not have such experience ($p<.001$). Undergraduate students who participated in classes which offered aging-related content were 1.29 times more likely to express interest in working with older adults ($p=.003$). These results suggest that interest in working with older adults is related to educational opportunities and knowledge about aging. Educational policies should reflect these findings to achieve the well-trained workforce needed to meet the need of the aging population.

LONG-TERM EFFECT OF ATTITUDE TOWARD OWN AGING ON COGNITIVE FUNCTIONING

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Attitude Toward Own Aging (ATOA) has been shown to affect a variety of important developmental outcomes in old age, including memory. We extend previous research by examining differential long-term effects of ATOA on a broader range of cognitive abilities in later life relying on data of the German "Interdisciplinary Longitudinal Study of Adult Development and Aging (ILSE)". Using the older birth cohort of ILSE followed for 12 years across three measurement points (1930–32; $nt1=489$, $nt2=438$, $nt3=408$), we first present findings addressing the relationship between ATOA and change in fluid vs. crystallized abilities based on overall and gender-specific latent change score models, while controlling for education and objective health. As expected, ATOA predicted change in fluid functioning—but not in crystallized performance—over 12 years. Gender-specific analyses revealed a stronger association between ATOA and decline in fluid abilities for men, even after controlling for

objective health and education. Further, with data collection of the fourth measurement occasion just recently completed, we are in a position to prolong the association between ATOA and cognitive trajectories up to a 20-year observational period. Preliminary analyses support that the pattern of findings also holds for this 20-year interval. Moreover, the role of behavioral and psychological pathways linking ATOA and cognitive aging are discussed. Overall, our results add to the understanding of long-term implications of ATOA for cognitive decline trajectories and show that negative ATOA is a risk factor for age-vulnerable cognitive abilities.

THE RELATIONAL NATURE OF CHILDREN'S PERCEPTIONS OF PARENTAL AGING: FINDINGS FROM A JAPANESE SAMPLE

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Although gerontological research has directed close attention to the components of people's views on aging in general, relatively little is known about how people perceive the aging of their family members, such as parents, as well as psychosocial correlates of such perceptions. In this study, from a social constructionist perspective, which presumes that individuals' perceptions are shaped through interactions with others, we sought to identify whether and how Japanese adult children's perceptions of parental aging are linked with the nature of the ties that they have built with their parents. Specifically, we focused on how much adult children perceived their parents as "young" for their age, and examined the association between such perceptions and structural (e.g., geographical proximity, contact frequency) and functional (e.g., exchanges of different forms of support) aspects of the relationship with parents. Using online survey data from 1,010 Japanese adult children with at least one living parent aged 65 or older, we conducted regression analysis, which revealed that children were more likely to perceive their parents as "young" for their age when finding it easier to self-disclose to parents; when having received greater amounts of tangible aid from parents; and when having provided fewer amounts of such aid for parents. Note that these results were obtained while controlling for parents' age and age disparity between parents and children. Our findings suggest that functional rather than structural aspects of parent-child relationships matter for Japanese adult children's perceptions of parental aging.

KOREAN BABY BOOMER COUPLES' SELF-PERCEPTION OF AGING AND FUTURE TIME: EFFECTS OF FAMILY LIFE EVENTS

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Korean Baby Boomers (born between 1955 and 1963) comprise the largest segment of the population approaching old age in Korea, and the majority (94%) are currently married or partnered. Since studies have examined self-perception of aging at the individual level, little is known about how couples share perspectives on aging and future time. Using 727 couples (individual N = 1,454) from the *Korean Baby Boomer Panel Study Wave 3*, we examined three aspects of aging perceptions: aging anxiety and two

types of future time perspective (i.e., limitation and opportunity). In particular, this study investigated the effects of own and spouse's negative events (e.g., health disruption, job loss, parent loss) on perceptions of aging and future time, using Actor-Partner Interdependence Models (APIM). Given that husbands and wives age together and share most of family events, we expected similarity in aging perceptions among spouses. Due to gendered roles, however, we expected differential effects of family events on aging perceptions between husbands and wives. In line with our hypotheses, we found that Korean Baby Boomer couples shared similar perceptions on aging and future time (Intraclass correlations ranged from .45 to .56). For both husbands and wives, own health disruption was associated with more limited sense of time, but health disruption of wife's parents was associated with more positive aging perception. Experience of child's health problem was associated with more negative aging perception for wives only. Findings demonstrated both shared and unique effects of family events on aging perceptions of Korean baby boomer couples.

AN AGING STATE OF MIND: THE ASSOCIATION BETWEEN AGE IDENTITY AND SELF-RATED MEMORY

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Age identity is associated with a wide range of health indicators, with younger identities predicting better physical functioning and self-rated health, fewer depressive symptoms, and lower risk of mortality. Recent research also reveals that younger identities predict better performance on memory tests and less decline over time. However, research focuses on objective measures of memory, with limited attention given to self-rated memory. The strong association between age identity and other perceptions of health and functioning, such as self-rated health and physiological change, suggests that age identity also may influence self-rated memory. We examine this possibility using the first wave of the National Health and Aging Trends Study (2011). The results of regression analyses reveal that younger identities are associated with better immediate and delayed recall, a finding in line with prior research. However, results also indicate that younger identities are associated with better self-rated memory. In fact, this association is among the strongest observed among other predictors examined, including sociodemographics and physical health. We discuss several directions for future research, including a consideration of the bidirectional relationship between age identity and self-rated memory, the mechanisms underlying the association, and potential implications for health and behavior.

MEASURING INTERGENERATIONAL RELATIONSHIPS: CONTEXT RULES

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Intergenerational contact contributes to a range of health outcomes, including greater social and psychological engagement and lower levels of depression. Contact measures are limited. Informed by Allport's contact theory, the Queen's University Scale (Knox, Gekoski, & Johnson, 1986) measures

contact with the general elder population and a familiar elder. We administered the survey to young adults ($N=606$) to identify factors of intergenerational contact that may optimize intervention programming and enhance health of young people as they age. Factor analyzing the general elder items, only a second-order factor model achieved an acceptable fit. Absence of a simple factor structure reflects challenges to measuring intergenerational contact with this scale. First, multiple dimensions must be measured to fully represent relationships; items consistently grouped along dimensions of developmental periods, context of the intergenerational contact, and nature of the exchange (e.g., cooperating with, assisting, or receiving help). Second, items comprising the Queen's scale reflect relevant constructs but are limited in interpretability because many items reflect multiple dimensions, resulting in items double- and triple-loading and necessitating the second-order factor structure. For example, an item about quality of contact with older adults when the child was 0–4 years old confounds dimensions of quality and developmental stage. To understand the impact of intergenerational contact, researchers must move away from 1- and 2-item global measures of contact. Careful construction of items needs to capture singular constructs. Next steps include development and testing of a scale that captures dimensions of context, developmental periods, and the nature of the contact.

INTER-GENERATIONAL COHESION AND ELDER INCLUSION: A CROSS-CULTURAL PERSPECTIVE ON ATTITUDES TO AGEING

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Expanding our perspectives of how we age is important because focusing on age as a category is not very helpful given that ageing is a continual process of events - biological, psychological and social. That is, what accompanies the biological reality of growth and then decline is the 'psycho-social reality' of managing transitions through the various stages of life. Different social landscapes exist from culture to culture which give rise to diverse social relationships between peers, family members and inter-generational ties. The present study used mixed methods to examine two different cultures - Australia and the Philippines - and different generations (young 20–35 and older 60–96 year olds). Focus groups were held in both countries to explore how congruent or incongruent perceptions of the ageing self are at different stages of the life course. A survey with older participants recruited from Australia and the Philippines (52–79 years of age) explored whether growing up within, or being influenced by a collectivist culture creates more of a psychological buffer towards the negative aspects of ageing than those who are more individualist in their cultural orientation. Evidence from both the qualitative and quantitative studies showed that being part of a collectivist culture where there is a higher degree of inter-generational contact, social cohesion and elder respect does provide a buffer; this supports previous literature and theories which speculate that the surrounding culture can have a significant impact on how we view ourselves as we age.

ANALYSIS OF THE SITUATION (NOT) TO GIVE UP ONE'S SEAT TO AN ELDERLY PERSON ON PUBLIC TRANSPORTATION

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Usually "to give up a seat to an elderly person" is understood by participants as a "display of respect" as opposed to following the rules for using public transportation. This research is based on interviews and materials from participant observation of passengers' behavior on public transportation in 2009–2015 in Russia.

Any person who suddenly appears to feel ill will be likely to be given a seat unconditionally. Nevertheless, a 60-year-old person not exhibiting signs of frailty or physical distress, is unlikely to be given a seat. The logic of giving up seats in practice is based not so much on the principle of "respect for the aging", but more on "compassion for the ailing elderly". Conflicts are generally based on different understandings of legitimate reasons for giving up a seat – the vigorous behavior of an elderly person might seem to belie any declaration of frailty. On the one hand, "giving up one's seat" is still a socially expected norm; on the other, the rule is regularly broken. There are two main strategies for breaking it:

1. "Feigning urgent business" – a strategy of pretending to be occupied with something important. This strategy can be short-term (a passenger plays for time) and a long-term (showing no intention of getting up).

2. "Inattention" – The seated passenger pretends to be not "really included" in the situation to avoid being accused of disrespect. Methods include looking out of the window; "falling asleep"; listening to music, and being distracted by a cell phone.

FEAR OF DEPENDENCY AS A PREDICTOR OF DEPRESSION IN OLDER ADULTS

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There is evidence that older adults who subscribe to negative stereotypes of aging tend to have higher morbidity and mortality rates than similarly aged individuals who reject negative stereotypes of aging (Levy et al., 2002). This paper examines the stereotype that older adults are dependent on others. Baltes (1996) linked the dependency stereotype to feelings of incompetence or helplessness. Fear of looking dependent in others' eyes has made some older adults refuse to use helpful assistive devices that would actually increase their independence (Resnick et al., 2009). In addition, some older people stay home all the time because they do not want to look like they need help when they are out in public (Adams-Price & Morse, 2009). This paper introduces a new measure of fear of dependency. The fear of dependency scale was developed from a sample of 1424 adults across the US between ages of 45 and 99. In a separate sample of 91 older adults, regression analyses were conducted that indicated that fear of dependency was a strong predictor of depression, even after health, disability, and age were taken into account. In addition, fear of dependency correlated negatively with life satisfaction and generativity, and positively with the Fears subscale of the Personal Longevity scale (Adams-Price

et al., in press). The implications of Fear of Dependency for well-being in later life will be discussed.

UNDERGRADUATE MEDICAL STUDENTS' ATTITUDES TOWARDS OLDER ADULTS IN NEPAL

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Life expectancy and other measures of human developments have improved over the past few decades in Nepal resulting in aging of the population. Research on aging is limited in Nepal in spite of a continued growth of older adults population. The objective of the study was to explore the nursing and medical students' and attitude towards older adults and ageism in Nepal. One hundred eighty-four undergraduate nursing and medical students responded to a cross-sectional survey about aging in Nepal. Study protocol was approved by the Institutional Review Board of the University of Massachusetts Lowell. Demographic information (age, gender, level of education, frequency of interaction with older adults, interest in career in aging, currently live with an older adult) was collected. Attitude towards older adults was measured by Behavioral Attitudes Towards Aging Scale (BATAS) and Fraboni Scale of Ageism (FSA). Medical students attitudes towards older adults and ageism were moderate and it varied by students frequency of interaction with older adults and living arrangement. Psychometric properties of the scales are also discussed in relational to its use in a third-world country like Nepal. The study results indicate a need for developing scales that are culturally sensitive and appropriate in the Nepalese context. Also, it is recommended that nursing and medical schools incorporate courses on aging in Nepal and around the globe to debunk the myths of aging.

COMPARING AMERICAN AND CHINESE COLLEGE STUDENTS' ATTITUDES, ANXIETY, AND KNOWLEDGE ABOUT AGING

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The current study addresses a cross-cultural research question: how similar and different are Chinese and American young people in their attitudes toward aging, anxiety, and knowledge about aging? Seven hundred seventy-nine college students (434 Chinese, 345 American) filled out a questionnaire that included Kogan's attitudes toward old people scale, a modified aging anxiety scale, and Palmer's aging facts, as well as some background information. Cronbach's alphas indicate satisfactory internal consistency of all three scales for both groups. Results show that the American participants scored significantly higher on the attitudes toward aging scale than the Chinese participants, indicating they hold more positive aging attitudes. The Chinese participants on the other hand scored significantly higher than their American counterparts on the anxiety scale, indicating they are more anxious about aging. The two cultural groups did not differ significantly on the aging knowledge scale. We also found that for both groups, all three aspects examined in this study are significantly correlated. Specifically, aging attitudes is positively related to aging knowledge but negatively related to aging anxiety; and aging anxiety is also negatively related to aging knowledge. There are also gender differences

within and across the two groups. We hope these findings will contribute to literature on cross-cultural research of young people's views on aging and the elderly. We will discuss the effects of globalization regarding whether Chinese young people are able to hold onto a core traditional value "filial piety" that has been essential in preserving intergenerational families in Chinese history.

SEXY SENIORS AREN'T GEEZERS: REDRAWING THE BOUNDARIES OF OLD AGE

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Using survey data from the American Perceptions of Aging in the 21st Century, this study explores how the intersection of age and gender influences perceptions of sexuality and old age. Age as a gendered performance informs both the questions in this paper as well as the interpretation of the data in terms of how masculinity and femininity are constructed in later life. This study, looking at 3048 men and women (N=3048) ages 18 – 99, examined how whether or not the belief that old people can be sexy influenced opinions of the age at which a person would be in order to be considered old, controlling for respondent's age and self reported age category. A multiple regression analysis found that age uniquely intersected with masculinity and perceptions of sexuality to draw boundaries between middle and old age. Significant results showed that men who thought that old people could be sexy tend to perceive old age as occurring chronologically older than men who did not think that old people could be sexy. Thus, men perceive old age as a status that may be staved off so long as a successful performance of youthful sexuality can be maintained.

WHEN ARE PEOPLE TOO OLD TO MARRY? NEVER, ACCORDING TO MOST AMERICANS

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The impact of increasing life expectancy on older adults' expectations for starting new sexual partnerships and marrying remains a relatively unexplored area in gerontology. In this study we examine the sociodemographic and attitudinal correlates of beliefs about the appropriateness of marrying at later ages, specifically whether Americans believe that women and men may become "too old" to marry. We use original data from the Cornell National Social Survey 2015, a national telephone survey of 1000 Americans (age range 18–96, M= 48.9; 50% female; 82% White, 13% Black, 11% Hispanic). Participants were asked "When does a (woman/man) become too old to marry?" Following research on ageism, predictor variables examined were participant age, education, income, sex, race/ethnicity, discrepancy between one's actual age v. "felt" age, physical fitness, marital status, household composition, religious attendance, social/political ideology, and beliefs about when "(woman/man) enter old age." **Findings:** 77% reported that they believe men and women never become too old to marry ($r=.91$), thus dichotomous outcomes and logistic regression were used. Older (OR= 1.02), female (OR=1.21), more educated (OR=1.16), white and more liberal participants (1.09) were significantly more likely to state that women were "never too old to marry." Reports of "when old age begins" significantly predicted "never too old

to marry” but not when age was controlled. Beliefs regarding men showed a consistent pattern. Data on participant health were not available in this dataset, which may be a limitation. These findings are interpreted using theories of ageism, beliefs about longevity, and other societal trends.

TIME PERSPECTIVE AND QUALITY OF LIFE IN INDIVIDUALS WITH MULTIPLE CHRONIC CONDITIONS

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To examine whether future time perspective (FTP) is associated with quality of life (QoL) in older adults and whether this relation varies as a function of the number of chronic conditions of a person, a longitudinal study (study 1; N=479) over six months and a population-based cross-sectional survey (study 2; N=1681) in German individuals over the age of 65 years were conducted. FTP, QoL and chronic conditions (i.e., cardiovascular diseases, cancer, respiratory diseases, and conditions of the musculoskeletal system, depression, diabetes, and hypertension) were assessed with questionnaires. Fixed-effects models (with correlated residual errors in the longitudinal study) with interaction terms between FTP and conditions were applied. FTP (study 1: $\beta=.11$; study 2: $\beta=.23$) and chronic conditions (study 1: $\beta=-.29$; study 2: $\beta=-.28$) were significantly related to QoL in both studies. Significant interactions occurred in both studies, where individuals with a lower number of chronic conditions had generally higher levels of QoL compared to individuals with a higher number of conditions; although generally showing lower levels of QoL, the later had a stronger and more positive FTP-QoL relation with higher levels of FTP being related with higher levels of QoL. The protective buffering value of having a more open-ended time perspective can be used to inform future interventions.

SESSION 495 (POSTER)

BIOLOGY OF AGING

PEROXIREDOXIN 2 DEFICIENCY AGGRAVATES AGING-ASSOCIATED INSULIN RESISTANCE IN MICE

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Aging is associated with increased insulin resistance and oxidative stress may play a role. Peroxiredoxin (Prx) comprises recently characterized antioxidant family but the association of Prx2 with insulin resistance is not determined yet. In this study we examined the role of Prx2 in aging associated insulin resistance in Prx2 knockout and wild-type littermate mice. Insulin sensitivity was measured using hyperinsulinemic-euglycemic clamp in young mice at 2-month and in old mice at 22-month old. Plasma glucose and insulin levels were not significantly different among the groups. Glucose

infusion rate to maintain euglycemia at ~6 mM was reduced in old groups of mice compared to respective young group of mice. Glucose infusion rate of Prx2 knockout old mice was significantly lower than that of wild-type old mice. Whole body glucose turnover and skeletal muscle glucose uptake were reduced in old mice compare to respective young mice in both wild-type and Prx2 knockout mice. Whole body glucose turnover and skeletal muscle glucose uptake were significantly lower in Prx2 knockout mice compare to wild-type mice in old group, while they were similar between two genotypes in young group. Insulin stimulated-hepatic glucose production tended to be lower in old mice but it was not significantly different among the groups. Oxidative stress was increased with aging in both genotypes and deficiency of Prx2 gene aggravates the oxidative stress in skeletal muscle. These results suggest that Prx2 prevents aging-associated insulin resistance in skeletal muscle.

ASSOCIATION OF THE PROTECTIVE FOXO3 LONGEVITY VARIANT WITH TELOMERE DYNAMICS DURING AGING

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Telomere attrition in proliferative tissues is a hallmark feature of human aging. To date, identification of genetic influence on the rate of telomere attrition is poorly understood. The two genes with the most robust effect on human longevity are FOXO3 and APOE. Notably, we discovered a genetic variant of the FOXO3 gene that is strongly associated with human longevity. This observation has now been reproduced in independent studies of over a dozen different populations around the world. In the present study, we sought to assess the effect of the longevity associated variant of FOXO3 (rs2802292 - G allele) as well as variants of APOE on telomerase activity and the rate of telomere attrition during aging. The preliminary results from a cohort of Okinawan Japanese (N=120) ranging in age from 25 – 90 years, indicates no substantial effect of the variants for either FOXO3 or APOE on telomerase levels in peripheral blood leukocyte (PBL) samples. Analysis of the rate of telomere attrition during aging as a function of the different variants of APOE also revealed no significant effect. In contrast, carriers of 1 or 2 copies of the rare longevity-associated G allele of FOXO3 showed markedly reduced rates of telomere loss in PBL during aging, as compared to carriers of the more common variant of FOXO3 (TT). Interestingly, no loss of telomere length was observed as a function of age for G allele carriers. These results mark the first report on genetic influence on slowing the rate of telomere attrition in humans.

H3K36ME3 PROMOTES LONGEVITY BY SUPPRESSING AGE-ASSOCIATED INTRAGENIC CRYPTIC TRANSCRIPTION

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Epigenetic effects are mediated by reversible DNA methylation, histone post-translational modifications, as well as changes

in nucleosome and chromatin conformation. These reversible alterations have been shown to involve in nearly all nuclear and cellular functions; their misregulation has been linked to aging and attributed to many age-related diseases. Through an unbiased lifespan screen in the budding yeast *S. cerevisiae* using a systematic histone mutant library, we identified that methylation of H3 lysine 36 (H3K36) promoted longevity. Eliminating this modification by either mutating H3K36 or deleting the methyltransferase Set2 shortened lifespan; whereas loss of the demethylase Rph1 extended lifespan. The levels of H3K36 trimethylation (H3K36me3) decreased as cells age, commensurate with a genome-wide increase in intragenic cryptic transcription in old cells. This is consistent with the function of H3K36me3 in suppressing such cryptic transcription mediated through deacetylation of histones in gene body by recruiting histone deacetylase complex RPD3S. Deleting components of RPD3S shortened lifespan, supporting this model. The increased levels of cryptic transcription were suppressed by *RPH1* deletion, suggesting that its longevity effect is mediated by improved genome-wide control of cryptic transcription. Furthermore, increases in intragenic cryptic transcription were also detected in aged *C. elegans* and mammalian cells. Knocking down the H3K36me3 demethylase JMJD-2 extended worm lifespan. Finally, decreased levels of H3K36me3 and increases in H3K4me1, H3K27ac, and RNA polymerase II were detected toward the 3'-ends of genes showing age-associated cryptic transcription in human mesenchymal stem cells.

ANALYSES OF LEUKOCYTE TELOMERE LENGTH IN THE BERLIN AGING STUDY II (BASE-II)

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Physical activity and sports have repeatedly been reported to be associated with telomere length. While this association is well investigated in the cross-sectional setting, very few longitudinal data are available on this topic. We studied the association of different types of sports across different stages of life on relative leukocyte telomere length (rLTL, measured at one time point) in advanced age. 815 participants from the Berlin Aging Study II (BASE-II) aged over 61 years were included in the analysis. Similarly, we studied the association between lean mass and rLTL. Telomere length was measured by real time PCR, physical activity was determined retrospectively by questionnaire and lean mass was estimated by dual X-ray absorptiometry. An overview on rLTL analyses in BASE-II with a focus on its association with physical activity and muscle mass will be presented. The results will be discussed with respect to possible mechanisms linking rLTL and physical activity on the molecular level.

CELLULAR STRESS RESPONSE GENES IN ALZHEIMER'S DISEASE: INSIGHTS FROM GENOME-WIDE ASSOCIATION STUDIES

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Recent molecular-biological studies provide compelling evidence that genes involved in cellular stress response play crucial roles in the late onset Alzheimer's disease (AD). These

genes, their properties, and possible mechanisms of their joint action that lead to AD are widely discussed in the literature. The genetics of AD is also investigated in the genome wide association studies (GWAS) using data from the case-control/longitudinal studies. Genes detected in these studies influence vulnerability of neurons to cellular stressors. Surprisingly, the results obtained in GWAS and in molecular-biological studies of AD rarely overlap, so the genetics of AD is not consistently described in the two types of studies. We hypothesized that such inconsistency in the research findings may be caused by heterogeneity in the AD-related genetic mechanisms of cellular stress response that reduces strength of genetic associations in traditional GWAS of this disorder. This means that if stress-related genes do influence AD they are likely to be found among those whose SNPs have low levels statistical significance. To test this hypothesis we performed GWAS of AD using Late Onset Alzheimer Disease Family Study data. We showed that substantial number of SNPs, linked to genes involved in cellular response to various stressors can be found in the results of GWAS with a nominal level of statistical significance. Together with traditional GWAS findings these results indicate that genetics of AD includes genes affecting vulnerability/resistance to AD-related cellular stresses as well as "stress response" (resilience) genes influencing cellular ability to repair damage and restore homeostasis.

CELLULAR SENESCENCE DRIVES FIBROTIC PULMONARY DISEASE

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Idiopathic pulmonary fibrosis (IPF) is a progressive, fatal disease characterized by interstitial remodeling, leading to severely compromised lung structure and function. Cellular senescence, a stress-induced state of replicative arrest, is causally implicated in numerous age-related diseases. Markers of senescence are detectable within parenchyma of chronologically aged and IPF lung tissue. Whether and how senescent cells mechanistically regulate IPF or if their removal may be an efficacious intervention strategy is unknown. Through examination of IPF tissue and transcriptome datasets, we discovered elevated abundance of senescence effectors and senescence associated secretory phenotype (SASP) factors, with select markers increasing concordantly with disease severity. Leveraging intratracheal administration of bleomycin to replicate aspects of IPF, we demonstrate that suicide gene-mediated ablation of p16Ink4a-expressing senescent cells in Ink-Attac mice improves pulmonary function, body composition, and physical performance. Senolytic DQ treatment replicates several benefits of transgenic clearance. Thus, our findings demonstrate for the first time that fibrotic pulmonary disease is mediated in part by senescent cells, which can be pharmacologically targeted to improve physical health and function.

ANALYSIS OF THE METABOLIC AND ANTIOXIDATIVE EFFECTS OF TAURINE

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Calorie restriction (CR) extends lifespan and delays the onset of a number of age-related diseases in multiple laboratory organisms. These anti-aging effects of CR may be mediated by increased lipid metabolism and oxidative stress resistance. Taurine (2-aminoethylphosphonic acid) is an amino acid that has been suggested to function as a regulator of both osmosis and lipid metabolism, and as an antioxidant. In this study, we aimed to evaluate the potential of taurine as a CR mimetic using rats and mice. Sprague Dawley (SD) rats were fed a diet supplemented with 0% (control), 0.5%, 1.0%, 3.0% or 5.0% (w/w) taurine for 2 weeks. SD rats fed a 5% taurine diet displayed a significant reduction in white adipose tissue mass compared with rats fed control diet ($p < 0.05$). Plasma and liver cholesterol and triglycerides were also significantly decreased in taurine-fed rats compared with controls ($p < 0.05$). Liver gene expression analysis showed decreased mRNA expression of fatty acid synthase and increased mRNA expression of carnitine palmitoyl-transferase 1A, a key mediator of beta-oxidation ($p < 0.05$). Furthermore, C57BL/6 mice fed a 5% taurine diet for 16 weeks showed increased survival under the oxidative stress induced by injection of 3-nitropropionic acid versus mice fed control diet ($p < 0.05$). These results suggest that taurine might have CR-mimetic effects through modulation of lipid metabolism and induction of oxidative stress resistance.

MICRORNA PROFILES OF IN VITRO CELLULAR SENESENCE OF HUMAN OSTEOBLASTS

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Introduction: Osteoporosis is characterized by loss of bone tissue while age is considered as the common risk factor. There is an impaired osteoblastic bone formation in comparison with osteoclastic bone resorption during aging. One of the possible cellular mechanisms of age-related bone loss is osteoblast senescence. MicroRNAs (miRNAs) regulate the expression of mRNA/protein targets and play an important part in cellular senescence. The purpose of this study was to investigate alternations in the miRNAs that are expressed in replicative senescence of human osteoblast cells.

Methods: Osteoblasts were grown in vitro and cultivated to the eighth generation cells. We then employed immunohistochemical techniques to identify the expression of senescence markers of senescence-associated β -galactosidase (SA- β -gal) activity. RNA isolation, small RNA library construction and deep sequencing were performed. The generated next-generation sequencing (NGS) data were analyzed using the miRSeq software package.

Results: In vitro aging model showed the positive cell number of SA- β -gal stained osteoblasts were enhanced in the eighth generation senescent cells. Morphological changes

of large, flat and multinucleated than earlier young cells (first generation cell as the control group) were observed. In the NGS profiles, 168 miRNAs demonstrated over 2-fold changes. For those read counts over 10 reads per million (RPM), 29 of these miRNAs (including 10 upregulated and 19 downregulated miRNAs) were detected in the senescent group.

Conclusions: We demonstrated differentially expressed miRNAs detected between senescent and young human osteoblast cells. Further studies to identify candidate miRNA-regulated genes regulating pathways of replicative senescence are required.

POSSIBLE LINK BETWEEN AGING AND MESENCHYMAL STEM CELL EXOSOMAL MIRNA

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Aging is a complex phenomenon with the number of contributing biological factors. Recently, important links have been reported between microRNAs (miRNA) and aging. miRNAs are short, non-coding RNAs that induce mRNA degradation or repression post-transcriptionally and thus affect a number of biological processes including stem cell maintenance, proliferation and metabolism. It is well established that for cell-cell and cell-tissue interaction, miRNAs are transported as cargo in exosomes. To identify specific differences between miRNA from young-adult (6 week C57BL/6 mice) and aged (78 week) mesenchymal stem cells (MSCs), we performed microarray analysis of exosomal miRNAs and found that a number of biologically relevant miRNAs were differentially expressed. miR-370 was overexpressed (4.49 fold) in exosomes from the older animals. miR-370 has been implicated in cholesterol homeostasis, fatty acid metabolism and lipogenesis. miR-214 was overexpressed (2.7 fold) in exosomes of old MSCs. miR-214 represses Wnt signaling which regulates adipogenesis. This may explain the possible shift of MSCs differentiation tendency from the osteoblast to the adipocyte lineage; such a shift is also reported in aging-related diseases.

In addition, we investigated the effect of aging on the function of exosomes. MSCs from young-adult and aged animals were exposed to hypoxic (2% oxygen) conditions and exosomes isolated. Under hypoxic conditions, tubule formation induced by exosomes from young-adult animals was greater than that from the older group ($p=1e^{-7}$). Thus, age-associated differences in miRNA expression may account, in part, for age associated differences in fatty acid metabolism, body composition, and the ability to respond to a hypoxic stress.

DNA DAMAGE RESPONSE IS ESSENTIAL FOR THE MAINTENANCE OF INTESTINAL HOMEOSTASIS WITH AGE

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The stem cell genomic stability forms the basis for robust tissue homeostasis, particularly in high-turnover tissues. For the genomic stability, DNA damage response (DDR) is

essential. This study was focused on role of the MRN complex (Mre11, Rad50, and Nbs1), two major DDR-related factors, ataxia telangiectasia-mutated (ATM) and ATM- and RAD3-related (ATR) kinases, and two transducer, Chk1 and Chk2 in the maintenance of intestinal stem cells in the adult *Drosophila* midgut. We explored the role of DNA damage response-related factors, utilizing immunostaining with an anti-pS/TQ antibody as an indicator of ATM/ATR activation, γ -irradiation as a DNA damage inducer, and the UAS/GAL4 system for cell type-specific knockdown of DNA damage response-related factors, or both during adulthood. Here we show that DDR is activated in the intestinal stem cells and enterocytes by DNA damage. ISC or EC-specific knockdown of DDR factors caused ISC or EC cell death, and induced intestinal stem cell proliferation. The results showed that the pS/TQ signals got stronger with age and after oxidative stress. The pS/TQ signals were found to be more dependent on ATR rather than on ATM in ISCs/enteroblasts. Furthermore, an ISC/EB-specific knockdown of DNA damage response-related factors decreased the number of ISCs and oxidative stress-induced ISC proliferation. EC-specific knockdown of DNA damage response-related factors increased ISC proliferation and centrosome amplification. These results indicate that DNA damage response-related factor is essential for the maintenance of intestinal homeostasis with age.

THE GENETICS OF FRAILITY: SUMMARY OF THE RESULTS OF THE GENETICS WORK IN THE FRAILL PROJECT

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Fraill Project (Frailty Resilience and Inequality in Later Life) is concerned with examining causal processes relating to frailty, examining social, psychological, metabolic and genetic processes. We present the results of the genetic work done so far: the results of the hypothesis-driven candidate gene association analysis, the hypothesis-free genome wide association analysis, and examine the proportion of phenotypic variance explained by the genome-wide genetic markers. We use the English Longitudinal Study of Ageing survey of individuals aged over 50 years and assess their frailty status using the two main methods, the Frailty Phenotype (Fried *et al.* 2001) and the Frailty Index (Searle *et al.* 2008). We chose 87 genes involved in cholesterol transport, cortisol metabolism and inflammation, analysed with linear regression against the Frailty Phenotype and the Frailty Index, using age and sex as covariates. Then we extend the analysis to 7000 individuals with 2.5 million genotyped variants, using the same phenotypic measures and covariates. Finally, for explained variance estimation we use a well-accepted genome-wide complex trait analysis (Yang *et al.* 2011). The candidate gene association results support that inflammatory pathways are implicated in frailty, whereas the genome-wide scan results reveal further pathways, such as the ones implicated in stress-response. The estimation of proportion of phenotypic variance explained by these common genetic variants will be available by the time of the presentation. Our results advance understanding of the genetic determinants of frailty and associated biological pathways.

IMPORTANCE OF AGE AND SEXUAL DIMORPHISM IN ADAPTIVE HOMEOSTATIC RESPONSES TO OXIDATIVE STRESS

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Previously we reported transient expansion of the homeostatic range of oxidative stress resistance, involving induction of Proteasome and the Lon protease, by low, signaling, levels of hydrogen peroxide (H_2O_2) in young *Drosophila melanogaster* flies (3 days). We described this physiological plasticity as 'Adaptive Homeostasis' (Davies, K.J.A. Adaptive Homeostasis. *Molecular Aspects of Medicine*. 49: 1–7, 2016) to differentiate it from damage-repair pathways. Now exploring potential sex differences in adaptation, we find both the inducible synthesis of Proteasome and Lon, and the transient increase in oxidative stress resistance caused by H_2O_2 only occur in female flies, whereas males are unable to adapt at any level of H_2O_2 exposure. In contrast, males adapt to very low levels of the redox-cycling agents paraquat or 2,3-Dimethoxy-1,4-naphthoquinone (DMNQ), whereas young females do not adapt to these agents. Importantly, the adaptive response to H_2O_2 is lost in 60 day old female flies, and adaptation to paraquat and DMNQ is lost in 60 day old male flies (as is oxidative stress adaptability in older C57BL/6J mice and older *Caenorhabditis elegans* worms). This appears to be part of a broader abrogation of Adaptive Homeostasis that occurs with age. We next transformed young males into 'pseudo-females' through over-expression of the female-specific transformer splicing factor (TraF). Pseudo-females recapitulated the female-specific pattern of Proteasome and Lon induction and oxidative stress resistance with H_2O_2 exposure, and lost the ability to adapt to paraquat or DMNQ. These studies allow us to begin to dissect interactions between sexual dimorphism and Adaptive Homeostasis in aging.

USING POISSON-NORMAL MODEL TO ASSESS LINK BETWEEN MICRORNA COUNTS AND PHENOTYPES IN CLUSTERED DATA

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Modeling epigenetic effects underlying the aging process requires data processing models that are fast and account for multiple hypothesis testing simultaneously. The array data collected from MicroRNA provide high-throughput data which need specialized statistical analysis strategies for drawing proper conclusions. The aim of this study was to investigate potential of Poisson-normal model on real data and to identify microRNA markers related to phenotype groups in clustered (twin) data. As a live data example, the method was applied to the outcome hormone replacement therapy (HRT).

The real data consisted of 241 microRNA target counts from 11 select monozygotic female twin pairs discordant for HRT-use and a control group of 10 young unrelated women of the SAWES study. The test groups included 11 HRT-users and 11 non-users and 8 controls. TMM-normalized read count data was considered Poisson-distributed with normal-distributed random effects accounting over-dispersion and familial dependency within twin pairs, and we

compared the average read counts across the three groups. False discovery rates computed to account for multiple testing. Simulations were conducted to investigate optimality of the model under two random effect distributions: normal and gamma.

HRT-users were found significantly different from users in 14 microRNAs. Users differed from the controls in 10 targets, and non-users differed from controls in 10 targets. Differences in hsa-miR-126-5p, hsa-miR-142-5p, hsa-miR484 and hsa-miR10b-5p were significant between all groups ($p < 0.001$).

Read counts differed in relation to HRT-use and age. Simulations confirmed that the Poisson-normal model provides a useful framework for analysis of clustered data.

AGE-RELATED CHANGES OF IRISIN LEVELS IN PLASMA AND CEREBROSPINAL FLUID OF HUMANS

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Background: Irisin, exercise-inducible myokine, is proposed to interact with other tissues, such as fat and brain to regulate the balance of metabolism, increase energy expenditure, weight loss and neurogenesis. Here, we investigated age-related changes of Irisin levels in CSF, and relationship to paired plasma and adiposity.

Methods: Irisin levels were measure in paired plasma and cerebrospinal fluid (CSF) of 77 normal human subjects (18 females and 59 males, age from 17 to 82) by ELISA assays.

Results: Using multiple linear regression analysis, we found Irisin levels in CSF and plasma gradually increased from young to high-aged stage and the levels of males were higher than that of females. Irisin levels in CSF and plasma were associated with gender and age, but not BMI. CSF Irisin levels were not associated with plasma levels. The relationship between plasma levels and CSF:plasma ratio was a quadratic curve. 19.7% of CSF:plasma ratio variance can be accounted for by plasma levels. No significant relationship between CSF:plasma ratio and age. The lowest value of CSF:plasma ratio were found in the age stage of 50–65 years old.

Conclusions: The levels of Irisin in CSF and plasma were increased with the increase of age. Males have higher Irisin levels in CSF and plasma. There is a saturable mechanism that regulates CSF irisin transport.

EFFECTIVE INTEGRATION OF BIOLOGICAL RESEARCH IN MEDICAL EDUCATION AND POLICIES IN AGING.

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This paper is to explore a potential “feedback loop” from patients to biological research proposed with an early-stage Alzheimer’s patient previously (Murakami, S. and Halperin, SA. 2014 *Frontiers in Genetics of Aging*. *Front. Genet.* 5:269. doi: 10.3389/fgene.2014.00269). Medical education has been undergoing a major change towards a single accreditation system for graduate medical education, which merges two types of medical schools, allopathic medical schools (MD schools) and osteopathic medical schools (DO schools). When implemented in 2020, medical education will share common competencies. Of them, scientific competencies have a highest priority, though it has a large gap in incorporating biological evidence into education. Research focuses on establishing specific evidence and may miss a wide variety of implications seen in the human systems. For example, our conversation between a researcher and a patient have led us to re-highlight early signs of behavioral problems in the Alzheimer’s disease, which are otherwise considered as late phase problems. In addition, we expect routine communication with patients can provide beneficial discussion about medical education and policies that are otherwise not considered. This paper will seek for suggestions for better use of biological evidence for education and policies.

SESSION 500 (POSTER)

CAREGIVING I

CAREGIVING ASSISTANCE PROVIDED TO OLDER ADULTS WITH AND WITHOUT DEMENTIA AND DISABILITY

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Studies examining the relationship between informal caregiving and caregiver burden have largely focused on samples defined by disease or disability, and on the provision of disability-related assistance. This study characterizes a broad range of caregiving activities provided to a nationally-representative sample of community-dwelling older adults. Participants were the primary caregivers (N=1,342) of individuals enrolled in the 2011 National Health and Aging Trends Study (NHATS) who responded to the associated National Study of Caregiving (NSOC). We estimated the prevalence of and associations between the number of tasks within three domains of assistance (instrumental activities of daily living (IADL)-related, health management, health systems logistics) and caregiver burden among caregivers of four groups of older adults: those with dementia and disability (n=261), dementia but not disability (n=230), disability but not dementia (n=229), no dementia or disability (n=622).

Caregiver burden was a composite measure of caregivers' emotional, physical and financial difficulties (dichotomized into any vs. no burden). Within each group, caregivers provided assistance with at least one task across domains of IADL-related assistance (>98%), health systems logistics (>78%), and health management (>54%). Unadjusted analyses using the Mantel-Haenszel trend test showed a significant linear association ($p < .05$) between the number of tasks provided and a higher risk of burden across the four groups for all but one domain in one group. These findings underscore the need for future research that addresses the full scope of assistance provided by caregivers to a broad spectrum of older persons, and call for an expanded conceptualization of the caregiver role.

ETHNIC DIFFERENCES IN POSITIVE ASPECTS OF CAREGIVING IN DEMENTIA CAREGIVER DEPRESSION AND BURDEN

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Previous literature shows the relation between resources available for caregivers and the number of stressors with higher levels of caregiver burden and depression in caregivers, being mediated or moderated by ethnicity (e.g., Pearlin, Mullan, Semple, & Skamp; Skaff, 1990; Pinquart & Sörensen, 2005). Moreover, positive aspects of caregiving, such as learning new skills and getting more meaning to life are associated with better mental health outcomes in caregivers (Kramer, 1997; Lin, Fee, & Wu, 2012). The present study examined ethnic difference in the relationships between positive aspects of caregiving, and caregiver depression and burden. This study sample included 643 elderly caregivers of patients with Alzheimer's Disease, including 321 Caucasians, 101 Latinos, and 214 African Americans. Two-tailed Pearson correlations indicated that positive aspects of caregiving were negatively associated with depression severity for all 3 ethnic groups ($r = -.204$, $p = .041$ for Latinos; $r = -.233$, $p = .001$ for African Americans; $r = -.273$, $p < .001$ for Caucasians). However, the relationship between positive aspects and caregiver burden was less strong for Latinos ($r = -.262$, $p = .008$) compared with African Americans ($r = -.408$, $p < .001$) and Caucasians ($r = -.409$, $p < .001$). Additionally, fewer positive aspect items (e.g., feeling needed and feeling appreciated) were correlated with depression and burden in Latinos compared to the other two ethnic groups. These results suggest that mental health professionals working with caregivers of dementia should consider ethnic differences when including the positive aspects of caregiving as a way to reduce caregiver depression and burden that ethnic minorities may encounter.

THE ROLE OF RELIGION IN CAREGIVER BURDEN AND DEPRESSION FOR FAMILY CAREGIVERS OF DEMENTIA PATIENTS

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Family members who care for people with dementia may develop both negative and positive coping strategies due to caregiver burden that can influence mood (Raggi et al.,

2015). This study examined ethnic differences in how religion as a coping strategy was related to caregiver burden and depression. From a larger study, 101 Latino, 214 African American, and 321 Caucasian caregivers were administered the Center for Epidemiological Studies Depression Scale, the Burden Interview, and Religiosity and Spiritual Coping Questionnaire. Multiple regressions found significant interactions between ethnicity and positive religious coping on caregiver depression and burden. Correlational analyses by ethnicity indicated that positive religious coping was related to lower caregiver burden and depression for Caucasians and African Americans, but not Latinos. In particular, African Americans who participated more in religious activities and used religion as positive coping reported less caregiver burden and depression. Furthermore, African Americans who used more negative religious coping endorsed more burden and depression. Similarly for Caucasians, the more they participated in religious activities and used religion to positively cope, the less depressed and burdened they felt. Negative religious coping also was related to greater depression in Caucasians. For Latinos, only religious negative coping was related to greater caregiver burden. These findings suggest that religion can have both positive and negative impacts on caregiver burden and depression, but these religious influences appear greater for Caucasians and African Americans, and less so for Latinos.

EFFECTS OF CHARACTERISTICS OF CARE RECIPIENT AND CAREGIVERS ON CAREGIVER BURDEN

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Objective: Caregiver burden has been associated with poor outcome for care-recipients and caregivers. This study examines caregiver and care-recipient characteristics associated with caregivers' burden. The caregiver stress model was used in this study. **Methods:** The data from the 2015 National Alliance of Caregiver the United States were examined for this secondary data analysis. The sample sizes included 1,404 survey participants who were caregivers for older adults. Multivariate logistic regression was used to analyze caregiver and care-recipient characteristics predicting caregiver's burden. **Results:** The burden predictor was 60.3% among 846 caregivers. After adjusting for covariates, care recipients with short term physical condition, long term physical conditions, emotional or mental health problems, and currently care providing had .38(95% CI:.26-.57), .39(95% CI:.26-.60), 1.55(95% CI:1.00-2.41), and 2.50 (95% CI:1.77-3.54) times higher odds of burden compared to those without the mentioned conditions, respectively. Caregivers who reported a primary caregiver, physical strain, and provide care 0-8 hours had 1.72(95% CI:1.24-2.38), 1.70(95% CI: 1.20-2.41), and 9.51(95% CI:7.24-12.48) times higher odds of burden compared to those who did not report the mention condition. **Discussion:** Findings suggest that recipients with short term-long term physical condition, emotional or mental health problems, and currently care providing contributed to greater caregiver burden. As the number of physical strain increased, burden increased. Alzheimer's and dementia people were found not to be associated with caregiver

burden. Future researchers might investigate factors such as care-recipients in difference of illness and caregivers' social support. Nurse practitioner should assess for these characteristics to intervene reducing caregivers' burden.

LIVING ARRANGEMENT AND TIME ASSISTANCE TO NON-CO-RESIDENT ELDERLY PARENTS IN CHINA

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Family eldercare provided by children in China is facing more and more challenges nowadays as an increasing proportion of adults and elderly parents are living independently. Using data from the 2013 China Health and Retirement Longitudinal Study, we firstly test the mediation effect of norms in predicting actual living arrangement. Next, we examine how time assistance to elderly parents living alone is related to children's geographic proximity, children's competing roles, type of relationship to parent, and several family characteristics including parent's severity of need and sibship size. We use generalized linear models with random effects to take into account the "nesting" of parents within children. Results confirm that effects of education and economic resource in predicting living arrangement are significantly mediated by norms. Parent's need, sib-ship size, geographic proximity and relationship type have significant effects on time assistance. The finding helps to understand the new patterns of eldercare in China as a consequence of arising neo-familism and individualization. Understanding such mechanism helps to impact China's future policy formulation, which should satisfy the needs of both individuals and elderly parents to better maintain the crucial role of family in eldercare provision.

E-HEALTH INTERVENTION FOR INTERGENERATIONAL CAREGIVERS OF CHRONICALLY ILL OLDER ADULTS

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Family-clinician communication is important for chronic disease self-management and improves outcomes for older adults and their family caregivers. In this e-health program based on principles from Social Cognitive Theory, adults assisting a parent with medical appointments and medication management were randomly assigned to one of two internet-based education interventions: (I.) Written didactics and video clips from medical experts, or (II.) Multimedia vignettes depicting actors responding to common healthcare challenges. Participants (N=136) had access to these materials for one month and completed pre- and post-intervention assessments. Post-intervention hierarchical regression analyses showed an intervention effect after controlling for pre-intervention scores. Relative to the didactics comparison group, the vignettes intervention reduced perceptions of caregiving role overload (F change (1, 133) = 4.68, $p \leq .05$). The ethnicity X condition interaction was also significant, with African American caregivers showing stronger reductions in perceptions of role overload in the vignettes condition compared to other caregivers (F change (1, 132) = 4.88, $p \leq .05$). When elders were identified as more physically

unhealthy (> 15 days in the past month), caregivers in the vignettes condition reported improved communication with the relative's health provider. When in the didactics condition, caregivers of comparably ill relatives described post-intervention decreases in effective communication (F change (1, 129) = 3.64, $p \leq .05$). These data suggest that the intervention holds most promise for caregivers of physically ill/frail elders. In keeping with Social Cognitive Theory, exposure to vignettes showing others successfully overcoming caregiving difficulties led to improved outcomes compared to information presented in didactic formats.

INFORMAL CAREGIVING AND HEALTH: LONGITUDINAL FINDINGS FROM THE HEALTH, WORK, AND RETIREMENT STUDY

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The present longitudinal study investigated changes in the mental and physical health of older caregivers over a 6-year period. Differences between patterns of caregiving were also examined. Data were collected in 2008, 2010, 2012, and 2014 from a sample of older New Zealanders ($N = 803$, 54% female) aged between 56 and 72 as part of the Health, Work, and Retirement study. Of participants, $n = 258$ were caregivers and $n = 545$ never provided care. Females were more likely to be caregivers. Analyses indicated that mental health declined over time for both caregiver and non-caregiver groups with the decrease being substantially larger for caregivers. There was also a gender effect suggesting that male caregivers' mental health declined to a greater extent. Non-caregivers reported more doctor visits over time and hospital admission increased for both groups but this increase was larger for caregivers. Male caregivers were admitted to hospital more often than female caregivers. Analyses were conducted to differentiate among different patterns of caregiving over the 6 year period (continued caring, stopped caring, on-and-off caring). There was no difference between caregiving groups in terms of gender, age, smoking and drinking behaviour. However, on-and-off carers had poorer mental health than those who provided care continuously. In sum, caregivers experienced more mental health problems over time, visited their doctors less but were more likely to be admitted to hospital. Male caregivers were more vulnerable to health decline. Furthermore, transitioning in and out of the caregiver role had a negative impact on wellbeing.

BURDEN AMONG CAREGIVERS OF OLDER ADULTS WITHOUT DEMENTIA OR DISABILITY: WHO IS AT RISK?

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The empirical literature on caregiver burden has been dominated by a focus on dementia and disease-specific samples, and the risk associated with providing disability-related assistance. In this study, we analyzed data from 611 community-dwelling older adults without dementia or severe disability who participated in the 2011 National

Health and Aging Trends Study (NHATS) and their primary caregivers who responded to the linked National Study of Caregiving (NSOC). Multivariable logistic regression models examined the relationship between the number of health-related tasks caregivers provided within three domains (instrumental activities of daily living (IADL), health systems logistics, health management) and caregiver burden, a composite measure of caregivers' self-reported emotional, physical, and financial difficulties associated with providing care (dichotomized into any vs. no burden). After adjusting for older adults' and caregivers' sociodemographic and health characteristics, separate models for each domain demonstrated that providing assistance with a greater number of IADL-related tasks (adjusted odds ratio(aOR)=3.5; 95% CI, 1.8–6.4), health systems tasks (aOR=1.8; 95% CI, 1.1–3.0), and health management tasks (aOR=1.6; 95% CI, 0.9–2.7) was associated with a higher risk of burden. In the full model including all domains of assistance, only IADL-related assistance remained significantly associated with burden; caregivers who reported poor health (aOR=2.0; 95% CI, 1.0–3.6), anxiety (aOR=2.4; 95% CI, 1.1–5.3), and cared for an older adult with self-reported depression (aOR=1.8; 95% CI, 1.0–3.0) were more likely to experience burden. Findings suggest that burden is associated most strongly with IADL-related assistance and with the physical and psychological well-being of caregivers and older adults.

CAREGIVER WORKSHOPS MAKE A DIFFERENCE IN THE LIVES OF RURAL ARKANSAS FAMILIES

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The challenges of family caregivers that reside in rural areas differ on many fronts than those who live in urban or microunban areas. Resources are scarcer and when available are harder to find and more difficult to access. Obtaining common services such as home health, home assistance, meals on wheels, or respite care can be difficult if not impossible in some of the most rural areas. Training is also harder to find and attending available caregiver education programs can be very difficult due to lack of transportation and alternative support systems.

The Schmieding Home Caregiver training program has trained over 1442 family caregivers since 2009 in 8 microunban and rural areas throughout Arkansas. In 2016, a phone survey study was completed with family caregivers who had attended a Schmieding caregiver workshop between 2009 and 2015. Family caregiver participants were first asked basic demographic questions about themselves and their care recipient. These questions were followed by open-ended yet focused questions on issues like length of time they were a caregiver, what skills and knowledge they had learned in the training that helped them the most, and what major challenges they faced as a caregiver. The participants were also asked about what factors were most important to them in their ability to keep their loved one in the home for as long as possible. Data was collected and a pragmatic process of thematic content analysis completed. Key findings and examples under each theme will be presented and linked to existing research.

A TYPOLOGY OF SPOUSE CAREGIVER QUALITY OF LIFE EXPERIENCES ACROSS NEURODEGENERATIVE DISEASE GROUPS

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There are few comparative studies of spousal caregiver experiences across neurodegenerative disease groups. This study used the Stress Process Model to (1) compare quality of life (QOL) experiences of Alzheimer's disease (AD), Parkinson's disease (PD) and PD dementia (PDD) caregivers; and (2) determine whether distinct care experiences are accounted for by disease diagnosis alone, or whether experiences are defined through a unique combination of symptom presentation, care demands, support across disease groups. Caregivers were recruited from community (PD=43, PDD=21) and a larger study examining Cholinesterase Inhibitor effectiveness (AD=43). Caregivers were English-speaking and provided 3+ hours of care per week for 1+ year to community-dwelling spouses. 105 questionnaires were completed on characteristics, symptoms, demands and supports. QOL experience of caregivers was measured as life satisfaction, burden, and depression. A hierarchical cluster analysis using Ward's method and squared Euclidean distances allocated every case to one cluster. Four caregiver experiences were revealed: Succeeding, Coping, Getting by with Support, and Struggling. Results demonstrated problem behaviours and expressive support had a greater influence on clustering of caregiver experiences than diagnosis. Life satisfaction was similar across groups, demonstrating that caregivers can be burdened without impacting how satisfied they feel about life.

This expands on knowledge of spouse caregiver QoL by revealing different types of experiences that go beyond disease diagnosis and take into consideration presenting stressors and available supports. Our findings have implications for community organizations that serve these diverse groups; notably, not all caregivers in the same group have the same needs for support.

PREDICTORS OF CARE-RELATED EMOTIONAL DISTRESS AMONG CAREGIVERS FOR INDIVIDUALS WITH DEMENTIA

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In the United States, 15 million adults serve as informal caregivers for a person with dementia (PWD). While caregiving has many rewards, reports of burden and mental health concerns are common. Pearlin's Stress Process Model posits both primary stressors relating to the PWD's impairment and secondary strains resulting from care predict health outcomes for caregivers. Using the National Study of Caregiving (NSOC), we examine contextual factors of the PWD and caregiver as well as caregiver health and intrapsychic strains as predictors of emotional distress related to the caregiving role. We also examine whether PWD level of functional impairment (categorized as low, moderate, or high) moderates the effect of other PWD and caregiver characteristics. Our sample included 1063 caregivers for 717 PWDs. The caregiving role was found to be very emotionally difficult by 17% of the sample. Two-level hierarchical linear models (caregivers

nested within PWDs) were run with PWD and caregiver level contextual factors, caregiver health and psychological well-being, and interactions entered consecutively. High PWD functional impairment, being female, higher education, more pain, sleep difficulty, and lower psychological well-being were associated with higher levels of care-related emotional distress. When testing for the moderating effects of PWD level of functional impairment, the association between providing routine (as opposed to as-needed) care and increased emotional difficulty was strongest for caregivers of PWD with moderate impairment. Caregivers with greater feelings of psychological well-being (control/adjustment) were less likely to report care-related distress, even controlling for PWD functional impairment and caregiver health.

BUILDING SOCIAL SUPPORT IN ADULT CHILD CAREGIVERS OF PERSONS WITH DEMENTIA: THE NYUCI-AC

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Psychosocial interventions for families of people with Alzheimer's disease or related dementias often focus on building coping skills, providing respite, or building social support to mitigate the potential negative effects of care provision. The NYU Caregiver Intervention (NYUCI), a multi-component psychosocial intervention that offers individual and family counseling, support groups, and ongoing consultation originally tested for spousal caregivers, was adapted for adult child dementia caregivers in Minnesota (NYUCI-AC). The current study examined whether the NYUCI-AC was effective in improving perceptions of social support among adult child caregivers of persons with dementia who received this intervention, a key clinical objective of this intervention. A single blind, randomized controlled study design was used, and 107 adult child caregivers participated up to a 3 years. Based on our prior analyses of NYUCI-AC outcomes, a series of individual growth curve models will suggest the complex effects of a multi-component intervention over time on various domains of social support. A documented mechanism of benefit of the NYUCI is its ability to build social support among spousal dementia caregivers; the present study is anticipated to demonstrate that the NYUCI-AC will exert similar effects, but also deviate in important ways from the parent NYUCI. Process evaluation data as well as a counselor case study will further document how the NYUCI-AC did or did not enhance social support among adult child caregivers of persons with dementia.

MEASURING BURDEN WORRY: DEVELOPMENT OF CARE RECEIVER BURDEN WORRY SCALE

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The concept "Burden Worry" is described as anxiety or unease arising from feelings related to becoming a physical, emotional, spiritual or financial drain on a caregiver leading to altered or strained relationships and the potential for loss of ongoing care. Burden worry can contribute to caregiver burden by limiting care receiver-caregiver communication, shared decision making, and satisfying care engagement. By

measuring effects of burden worry on the dyadic relationship, interventions can be designed to maintain or enhance a positive care receiver-care giver dynamic to promote higher quality care, improved decision making, enhanced relationship satisfaction, and extended length of caregiving. Few tools measuring care receiver burden worry are available for research or clinical use. The Care Receiver Burden Worry Scale guided by Life Transition and Social Ecology theories was developed from interviews with older adults receiving care from adult children. The original 24-item scale focused on four dimensions emerging from the interviews. This was later reduced to 18 items ($\alpha = .87$) explaining 58.2% of the variance. Factor analysis led to three factors: burden worry, maintaining self, and minimizing feelings of burden. The purpose of this presentation is to describe the original study and item development, testing procedures with older care receivers, correlations with demographic data and activities of daily living, and discussion of potential benefits of tool to examine effects of care receiver burden worry on caregiver burden, care receiver-caregiver communication, and decision making processes related to care needs of older adult.

PLANNING FOR AGING IN THE MIDST OF ENDURING CAREGIVING FOR PARENTS OF ADULT CHILDREN WITH ASD

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Despite the growing wave of children diagnosed with autism spectrum disorder (ASD) reaching adulthood, very little is known about adults with ASD and their parental caregivers. These adults with ASD often require some form of lifelong reliance, often necessitating parents to continue their caregiving duties for their adult children. For many older parents, their parental duties become an enduring role as they simultaneously undergo their own aging processes. To date, there is a lack of information regarding the needs of parental caregivers of adult children with ASD as they, too, age. This study is the follow up to a larger, quantitative study ($n = 320$) which seeks to examine the experiences of parents (50+) of adult children (18+) with ASD. Using semi-structured interviews, 51 interviews were conducted nationally to understand parent perspectives, including those surrounding service availability, utilization, and satisfaction. Interviews were transcribed and analyzed using grounded theory and line-by-line analysis. A major finding of the study uncovers serious deficits in availability, accessibility, accommodation, and affordability of services. For many of the parental caregivers, a lack of service options inhibited them in planning for future care of their adult child. This presentation includes recommendations for next steps to improve supports and service delivery for aging parents of adult children with ASD who must balance their own aging and potential care needs with the demands of caregiving obligations.

FORMAL OR INFORMAL? THE IMPACT OF INFORMAL CAREGIVING ON FORMAL HOME CARE

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As the rapid growth of aging populations in both developed and developing countries, public long-term care policies become increasingly important. Much of long-term care is provided informally. As needs expand and expenses rise, understanding the role of informal care in meeting this escalating demand becomes crucially important. To develop and refine long-term care policies, we investigate the substitutability of informal for formal care. We set up the theoretical framework according to the work of Van Houtven and Norton (2004, 2008). We use latest three waves of Chinese Longitudinal Healthy and Longevity Survey (CLHLS 2005, 2008 and 2011) to investigate the effects of family informal caregiving on the utilization and expenditure of the formal care. Using the classical Two-part Model, we find that informal care reduces formal home health care. The reductions are heterogeneous across the physical function level and lifetime. Therefore, public policies should encourage and support family caregivers, rather than replace or attenuate the role of informal care. Public long-term care must be provided when informal care is not available.

JOB SATISFACTION AND PSYCHOSOCIAL WORK CONDITIONS: GENERATIONAL DIFFERENCES AMONG HEALTHCARE WORKERS

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Previous research in the area of healthcare workers has demonstrated associations between job satisfaction and psychosocial conditions of work. Psychosocial conditions of work include co-worker/supervisor support, bullying, job flexibility, and job demands and control. There is a growing body of literature in the aging and work domain that points to the unique factors of the psychosocial work environment that are valued distinctly by different generations. Despite the strong foundations of these two bodies of literature, there is relatively less empirically-driven research about the ways in which job satisfaction is associated with psychosocial working conditions for different age groups. From this lack of information, the research question arises: Is job satisfaction driven by different psychosocial working conditions or work organizational factors depending on the worker's age?

All data have been collected and analyses are forthcoming. We will use data from a cross-sectional study of 1,596 patient care workers at two large East Coast hospitals. Linear regression models will examine associations between several psychosocial work characteristics (people-oriented culture, work flexibility, supervisor/co-worker support, workplace harassment, and job demands and control) and job satisfaction, and then we will test for statistical interaction between these work characteristics and worker age. We will then stratify analyses by age group to test whether the direction, magnitude, and significance of predictors of job satisfaction is different for younger, middle-aged, and older workers. Based on findings, participants will have a basis for understanding methods for optimizing job satisfaction and managing and retaining an age-diverse workforce.

SESSION 505 (POSTER)

CHRONIC CONDITIONS

OSTEOPOROSIS PREVENTIVE BEHAVIORS AND BONE MINERAL DENSITY AMONG OLDER WHITE AND ASIAN WOMEN

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Background and Purpose: With the growing aging population, osteoporosis has become an increasing public health problem. White and Asian women are at greater risk of developing osteoporosis/low bone mineral density comparing to black women. This study is to explore: 1) differences of Osteoporosis Preventive Behaviors and 2) Bone Mineral Density (BMD) among non-Hispanic White and Asian Women Age 50 and over.

Methods: 2816 subjects from Louisiana Osteoporosis Study are included in this study. Bivariate analysis is used to examine differences of osteoporosis relevant behaviors and BMD. Multiple linear regressions are adopted to explore hip and spine BMD differences considering physiological and/or behavioral factors.

Results: White women have both higher hip and spine BMD than Asians. Meanwhile, whites are more likely to engaging in milk consumption, Vitamin/calcium supplements use, sun exposure, and smoking. No exercise difference is found between the two groups. Hip BMD difference disappears when controlling for either physiological or behavioral factors. While, spine BMD difference still exists after adjusting for either physiological or behavioral factors, but disappears when controlling for both.

Conclusions and Implications: Bone health disparity exists between white and Asian women, with different magnitude in different bone sites. Though physiological factors play an important role in BMD, engaging in healthy behaviors can largely decrease this disparity. More interventions to improve bone health are needed in Asians. In addition, the relevant contributions of physiological and behavioral factors to different bone sites needs to be further studied.

FACTORS RELATED TO THE RELATIONSHIP BETWEEN URINARY INCONTINENCE AND HOMEBOUNDEDNESS IN OLDER-ADULTS

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Psychosocial effect generated by urinary incontinence (UI) might be a contributing factor related to homeboundness. The aim of the study was to determine whether there was a significant association between the UI and homeboundness older-adult and what factors influenced this association. The aim of the study was to determine whether there was a significant relationship between homeboundness and the presence of UI in the elderly, and what factors could influence this correlation. The dependent variable was reporting leaving the home less than twice a week in the last 6 months and the independent variables were UI, sex, marital status, age, health perception, cognition, and number of morbidities. Of the participants, 51.8% were women and 3.7% had

UI. UI increased the risk of homeboundness in 2.66 times in the simple model and 1.9 after controlling for co-variables. Being man was a protective factor (confidence interval 0.66 to 0.86). Single older-adult, divorced in relation to married had the marital status as a protective factor ($p < 0.01$). Increasing age was an independent risk factor ($p < 0.01$). Poor and regular self-perception of health were also considered a risk factor ($p < 0.01$) when comparing with good status. The number of comorbidities showed no significant correlation. We conclude that older-adult with UI has greater risk of being restricted to home especially when female, older age, low perception of health. Having good cognition and living without a partner were protective factors.

SIGNS OF EXACERBATION DETECTED BY FAMILY CAREGIVERS OF DEMENTED ELDERLY WITH CHRONIC HEART FAILURE

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The purpose of the present study is to clarify the signs of exacerbation of heart failure detected by family caregivers of the demented elderly suffering from chronic heart failure. Semi-structured interviews were conducted with 10 family caregivers living with demented elderly persons suffering from chronic heart failure. The details of the interviews were analyzed in a qualitative and descriptive manner. Consequently, as the signs of exacerbation of heart failure detected by the family caregivers, the following three categories were extracted: presence of visible physical changes, having difficulty in speaking, dressing and moving, and appearance of physical disorder in the patient's own manner. Family caregivers living with patients who were having difficulty in recognizing and indicating their intentions could detect signs of exacerbation of heart failure. These signs were minor changes or subtle differences that only the family caregivers knowing the patients' daily speech habits and living conditions could notice. Taking a collaborative approach with family caregivers, we should confirm the patient-specific signs of exacerbation of heart failure detected by family caregivers. In this manner, we should provide appropriate support that prompts patients to visit a hospital and prevent aggravation of heart failure.

PHENOTYPIC CHARACTERISTICS AND RISK FACTORS ASSOCIATED WITH EXACERBATOR-PRONE ASTHMA IN OLDER ADULTS

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Preventing asthma exacerbations is a goal of National Asthma Guidelines, but identification of at-risk individuals is difficult, especially in older asthmatics. We aimed to characterize exacerbation-prone asthma in older adults to identify characteristics and predictive biomarkers associated with high-risk phenotypes to facilitate precision medicine approaches. 70 non-smoking subjects ≥ 60 years old in

the Severe Asthma Research Program underwent characterization (comprehensive questionnaires, lung function with bronchodilator reversibility, atopy assessment, biomarker collection). Using patient-reported exacerbations two phenotypes were defined; Exacerbation Prone Asthma (EPA, ≥ 1 /past year) and Very Frequent Exacerbations (VFE, ≥ 3 /past year). Risk and biomarker associations were assessed with odds ratios (OR) using logistic regression. 44% of older asthmatics had EPA. Healthcare utilization and treatment with higher corticosteroid doses were more frequent in EPA compared to non-exacerbating subjects ($p < 0.02$). Female gender (OR=2.90), respiratory infections (OR=2.90), and post-bronchodilator FEV1 $<65\%$ (OR=2.72) were associated with EPA ($p < 0.05$). In contrast, sinusitis (OR=5.42), treatment with long-acting beta-agonists (LABA, OR=5.37), and pre-bronchodilator FEV1 $<68\%$ (OR=3.48) were associated with VFE ($p < 0.04$) compared to subjects with fewer exacerbations. While sputum eosinophils $\geq 3\%$ was associated with VFE (OR=6.19, $p=0.027$), blood eosinophils and exhaled nitric oxide were not associated with either phenotype. In conclusion, the EPA phenotype was associated with less reversible airflow obstruction, greater steroid use and respiratory infections. Persistent airway eosinophilia was associated with the VFE phenotype suggesting a role for targeted therapy with anti-IL5 immunomodulators in these patients. The association of LABA treatment with the higher-risk VFE phenotype suggests a possible adverse outcome of this drug class in older asthmatics that requires further investigation.

ACCELERATED PHYSICAL AND COGNITIVE AGING IN A CHRONIC PAIN CONDITION VS. NORMAL AGING

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Chronic pain conditions affect more Americans than diabetes, cancer and heart disease combined. Individuals with chronic pain disorders such as Fibromyalgia (FM) often experience declines in both physical and cognitive functioning, but for aging individuals, whether declines are a result of the chronic condition or senescence is unclear. To tease apart the impact of age and chronic pain on physical and cognitive functioning, the multidisciplinary research team of the Fibromyalgia and Chronic Pain Center at California State University, Fullerton, conducted a longitudinal study across five data collection waves (every two years for 8 years). Participants included 222 men and women (82% female) aged 50–87 years ($M = 63.4$, $SD = 8.9$) with and without FM (56% FM). Participants completed several physical performance measures (e.g., Senior Fitness Test, Fullerton Advanced Balance scale, 30-ft walk) and cognitive tasks (e.g., Digit Span Forward and Backward, Stroop Color-Word test, Trails A and B, Digit Symbol Substitution Task). Controlling for age, a multilevel model indicated that having FM was a significant predictor of physical and cognitive decline across time. Those with FM showed poorer performance across

both physical and cognitive domains, but over time, the FM group also experienced significantly more accelerated rates of decline compared to their healthy counterparts. Findings suggest that chronic pain conditions like FM exacerbate declines in physical and cognitive performance beyond normative aging changes. Understanding issues related to aging with chronic pain may help reduce disability and medical costs, improve physical and cognitive performance, and enhance quality of life.

SARCOPENIA IN PERIPHERAL ARTERIAL DISEASE: PREVALENCE AND IMPACT ON FUNCTIONAL STATUS.

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Peripheral arterial disease (PAD) results in ischemic related pathological changes in the affected muscles. To alleviate exertional leg symptoms, those with PAD decrease physical activity resulting in a vicious cycle of decreased activity and accelerated mobility decline. These changes may place individuals with PAD at greater risk for sarcopenia. Sarcopenia has a prevalence in other clinical populations of ~1–22% and increases the risk for disability. This study sought to 1) determine the prevalence of sarcopenia in males with PAD and 2) compare the functional status of individuals with PAD with and without sarcopenia. Sixty-three participants with PAD (38% African American, age: 70.1 ± 0.7 years, BMI: 28.1 ± 0.5 kg/m², ABI: 0.65 ± 0.01 X $\pm$ SEM) underwent DXA scans to assess appendicular lean mass (ALM), and performed a six-minute walk test to determine six-minute walk distance (6MWD) and a treadmill test to measure claudication onset time (COT) and peak walking time (PWT). Sarcopenia was defined as ALM/ht² of less than 7.4 kg/m². Independent t-tests were used to compare 6MWD, COT and PWT. Sarcopenia prevalence in our PAD cohort was 17%. Individuals with sarcopenia (N=11) had lower 6MWD ($p < 0.05$; 345 ± 21 vs 392 ± 10 meters) and COT ($p < 0.05$; 106 ± 10 vs 183 ± 19 seconds) compared to individuals without sarcopenia (N=52). There was no difference in PWT between the groups ($p = 0.4$; 345 ± 21 vs 392 ± 10). Men with PAD demonstrate a prevalence of sarcopenia consistent with other clinical populations and those with sarcopenia and PAD demonstrate decreased function.

ASSOCIATION OF MIDLIFE HYPERTENSION WITH LATE-LIFE HEARING LOSS

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The contribution of hypertension to hearing impairment (HI) in older adults is poorly understood. Hypertension could plausibly contribute to impaired circulation in the

cochlea and thereby disrupt metabolic activity related to hearing. However, results from previous epidemiologic studies of the association of hypertension and hearing loss have been inconsistent, and the relative importance of midlife versus late-life hypertension is unknown.

We analyzed data from 248 men and women (45–64 years at baseline, 1987–1989) in the Atherosclerosis Risk in Communities (ARIC) Study to quantify the relationship of mid- and late-life hypertension with late-life HI. Blood pressure was measured over 5 visits that were interspersed from 1997–2013. Hypertension was defined as systolic blood pressure (SBP) ≥ 140 mmHg, diastolic blood pressure (DBP) ≥ 90 mmHg, or antihypertensive use. SBP and DBP were also modeled continuously. Hearing was assessed using pure tone audiometry in 2013. A better-hearing ear pure-tone average (PTA) in decibels hearing level (db HL) was calculated using thresholds from 0.5–4 kHz and modeled continuously. The difference in PTA associated with hypertension was estimated using multivariable linear regression.

47 participants (19%) had hypertension at Visit 1 (1987–89) compared to 183 (74%) at Visit 5 (2013). In analyses adjusted for demographic and clinical covariates, midlife SBP was associated with HI, but late-life SBP was not (difference in PTA per 10 mm Hg SBP measured at Visit 1 (1987–89): 1.43 dB HL (95% CI: 0.32, 2.53) vs. Visit 5 (2013): -0.43 dB HL (95% CI: -1.41, 0.55)).

Our results demonstrate that midlife, but not late-life, SBP was independently associated with poorer hearing.

SELF RATED HEALTH IS ASSOCIATED WITH SERUM GLUCOSE AMONG ELDERLY LIVING AT RURAL AREA IN GUINEA

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Aim: SRH is an important outcome measure along with mortality, morbidity, and clinical outcomes. To our knowledge, however, little is known about the association between SRH and comprehensive geriatric functions in Guinea. We examined the association between SRH and comprehensive geriatric functions in rural area in Guinea.

Methods: The study population consisted of 129 people aged 60 and older (men=42, women=87, mean age 68.59 ± 7.5) living in Bossou, Nzerekore prefecture, Guinea in 2009. They were screened by the self-reported questionnaire contain SRH, basic ADL, moods, life styles and medical conditions. Furthermore, medical doctor checked blood serum and hemoglobin simply. SRH was assessed with the following question, “How would you rate your current health status?” using a 100-mm visual analogue scale (worst=0 to best=100). Mood was assessed with the following question, “Do you often feel discourage yourself?” Using the median SRH score of 43, we defined participants with a SRH score > 43 as the high SRH group and those with a score ≤ 43 as the low SRH group.

Result: Elderly people with low SRH had significantly higher glucose serum, lower scores for each ADL item, functional reach length and self-rated happiness compared to those with low SRH.

Conclusion: Our findings demonstrated that SRH is associated not only physical disabilities but also serum glucose among the community-dwelling elderly in Guinea.

This suggests that SRH reflects some unperceived medical conditions especially diabetes. Medical examinations are useful for detecting early unperceived medical conditions and prevention of disease.

HEARING AID ACCLIMATIZATION BY OLDER ADULTS; THE EFFECT OF NOISE REDUCTION ON LISTENING EFFORT

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The objectives of this study is to investigate acclimatization of older adults (OA) listeners with hearing loss (HL) to hearing aids (HA) using listening effort measures with and without noise reduction algorithms (NRA). The dual-task paradigm was used to measure the effort to understand speech in noise. The primary task will be the Hearing In Noise Test (HINT). The HINT is an adaptive speech perception in noise test that identifies the Signal-to-Noise (SNR) necessary for a performance of 50%. The second task will be a tactile pattern-recognition task (TPRT) in which participants have to identify the three pulse combinations (i.e. short-short-short, short-short-long, etc.). There will be 8 testing sessions over a period of 16 months to measure the effect of acclimatization. The participants, aged between 60 and 75 years of age, will have a bilateral mild to moderately-severe sensorineural hearing loss. 30 participants will be new HA users (sub-divided in two groups; with NRA and without NRA) and the other 15 participants will be experienced hearing aid users who will be our control group. Cognitive skills, including working memory and the processing speed will be evaluated using the Reading Span Test (RST) and the Digit Symbol Substitution Test (DSST), respectively. Our hypotheses are that acclimatization as measured by listening effort will be significant for all new HA users and that it will be correlated with cognitive abilities. Moreover, we believe that the presence of NRA will extend the acclimatization period since it distorts the auditory signal.

ASSOCIATION OF CARDIOVASCULAR AND NEUROPSYCHIATRIC MULTIMORBIDITY WITH MOBILITY AND DISABILITY

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Cardiovascular (CV) and neuro-psychiatric (NP) diseases are highly prevalent in the elderly and frequently co-occur. Which is the impact of their combination on mobility limitation and disability is not known. We here assess the longitudinal association between CV and NP multimorbidity and mobility limitation and disability in older adults.

Population-based study involving 3353 60+ year-old participants from the Swedish National Study of Aging and Care

(SNAC-K). Multimorbidity was defined as the presence of 2+ diseases. We used linear mixed models to assess the impact of CV and NP multimorbidity on walking speed (m/s) and 6 activities of daily living (ADL), over a 9-year follow-up period. Trajectories of walking speed and ADL are provided.

In our sample, (mean age 75 years; 65% females), participants with one CV disease (-0.14 m/s; 95%CI -0.22 to -0.06) and those with CV multimorbidity (-0.12 m/s; 95%CI -0.22 to -0.01) presented the highest decrease in walking speed after 9 years, as compared with participants free from CV and NP diseases. Conversely, participants with NP multimorbidity, alone (-1.58 ADL; 95%CI -1.09 to -2.08) or in association with CV diseases (-1.70 ADL; 95%CI -1.15 to -2.24) presented the highest decrease in ADL after 9 years, as compared with participants free from CV and NP diseases.

Cardiovascular and neuro-psychiatric multimorbidity affect differently mobility and functional ability of older adults.

USE OF ANTI-GOUT AGENT AMONG CHRONIC KIDNEY DISEASE PATIENT WITH HYPERURICEMIA

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Background: Chronic kidney disease (CKD) and hyperuricemia are mutually aggravating conditions worldwide. Very little is known of the use of antigout agents among CKD patients with hyperuricemia.

Objectives: To describe the use of antigout agents and concomitant medication among CKD patients with hyperuricemia.

Methods: We conducted a retrospective study using the electronic medical records from an integrated CKD care program of a tertiary teaching hospital from January 2003 through December 2015. Patients who developed hyperuricemia (serum uric acid concentrations > 7mg/dL in men and > 6mg/dL in women) at baseline and within 3 years of enrollments and treated by allopurinol, febuxostat, benzbromarone, colchicine or sulfinpyrazone were included in this study. We excluded patients who were <20 or >90 years of age or treated with multiple antigout agents on the index date defined by the first day of prescription.

Results: During the study period, we identified 1,460 patients prescribed antigout agents in the final analysis. The range of mean age at index date was 66.0–71.2 in the five antigout agent groups. Compared to other antigout drug groups, patients in the benzbromarone group tended to have a higher estimated glomerular filtration rate (P=0.001). Patients in the allopurinol group exhibited greater concomitant use of oral hypoglycemic agents (p=0.006), fibrate (p=0.008), angiotensin-converting enzyme inhibitors (p=0.001) and calcium channel blocker (p<0.001). Users of febuxostat were more likely to receive acetaminophen.

Conclusion: To further evaluate the role of antigout agents in predicting CKD progression, researchers need to consider these unbalance potential confounding factors.

CARDIOVASCULAR AND NEUROPSYCHIATRIC MULTIMORBIDITY AND 11-YEAR HOSPITALIZATION AND DEATH

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Cardiovascular (CV) and neuro-psychiatric (NP) diseases are the most prevalent chronic conditions in the elderly and frequently co-occur. Which is the prognostic value of their different combinations is not known. We aim to investigate the prognostic role, in terms of hospitalization and mortality, of CV and NP multimorbidity in older adults.

Population-based study involving 3353 60+ year-old participants from the Swedish National Study of Aging and Care (SNAC-K). Multimorbidity was defined as the presence of 2+ diseases. Hazard ratios (HRs) for 11 years overall survival and proportional sub-distribution hazard ratios (sHRs) were calculated for the first hospitalization and competing risk mortality according to different combinations of CV and NP diseases.

Among the study participants (mean age 75 years; 65% females), 70% experienced at least 1 hospitalization and 38% died during the follow-up time. Participants with CV multimorbidity (sHR 1.52 95% CI 1.27–1.82) had higher risk of hospitalization, which increased (sHR 1.64 95%CI 1.32–2.03) if they had also NP diseases, as compared with those without CV and NP diseases. Similarly, the highest mortality rate was detected among participants with mixed (CV+NP) multimorbidity (HR 2.21 95%CI 1.74–2.81). Consistent results were obtained when a composite outcome of hospitalization plus death was considered.

In conclusion, CV and mixed multimorbidity are associated with the highest risk of hospitalization and death in the elderly.

MEDICARE PART D—COST BURDEN OF INHALED DRUGS FOR CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Chronic Obstructive Pulmonary Disease (COPD) causes significant morbidity worldwide and affects 1 in 8 elderly persons in the U.S. Inhaled drugs are highly effective, but cost hundreds of dollars. Since high cost can lead to medication nonadherence, we studied out-of-pocket costs for COPD inhalers for the 39 million beneficiaries covered by Medicare Part D.

Cross-sectional analysis using the June 2015 Centers for Medicare and Medicaid Services Prescription Drug Plan Formulary and Pharmacy Network Files. We examined 2,652 Part D plans nationwide and their coverage for short acting beta agonists (SABA), short acting muscarinic antagonists (SAMA), combination SABA/SAMA, long-acting muscarinic antagonists (LAMA), long-acting beta agonists

(LABA), inhaled corticosteroids (ICS) and combination LABA/ICS.

Between 93% to 100% of plans covered at least one inhaler in each class but required patients to pay \$30 to \$105 per inhaler. Under a standard 2015 Part D plan, beneficiaries would pay \$494 to \$1197 annually to fill one inhaler per month. Patients with moderate to severe COPD needing two or three inhalers would average \$1622 to \$2811 yearly in cost-sharing. It will be critical to examine how such high cost-sharing impacts COPD treatment adherence and health outcomes. Policymakers need to consider whether Medicare Part D, which provides drug coverage to 70% of the elderly and disabled persons in the U.S, can still adequately protect elderly persons from financial burden in the face of rising drug prices.

DEVELOPMENT OF QUALITY INDICATORS FOR CONTINUITY AND COORDINATION OF CARE IN ELDERLY IN JAPAN

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This study is a part of a larger study on development of quality indicators (QIs) for continuity and coordination of care in elders and establishing a system that embodies quality. The study aimed to develop QIs for continuity and coordination of care in elders in Japan.

The QIs were developed based on systematic literature reviews. First, we searched CINAHL (1982–2013) using keywords “elderly,” “quality,” “transition of care,” and “continuity of care.” We extracted care contents and make indicators as form of IF, THEN, and BECAUSE referred to QIs of ACOVE-3. Thereafter, we reviewed Japanese literatures to make indicators suited to Japanese care situations, such as insurance system, policy, and care guidelines. We assembled an expert panel (home-care doctor, pharmacists, home-visiting nurse, policymakers) that provided suggestions on making the QIs relevant with the current situation.

Consequently, 16 QIs in 9 categories were developed. These categories were (1) identification of the source of care, (2) guaranteeing elders and their family participation in consultation of care, (3) providing information for care transition, (4) communication for continuity of care, (5) sharing information for continuity of care, (6) continuity and proper use of medication, (7) utilizing means for assisting with language barriers, 8) acquiring fundamental knowledge of care providers, and (9) developing tools for sharing information.

The QIs thus developed not only ensured continuity of medical regime, but also assured the quality of care provided to elders helping them live life on their own terms despite of changes in their physical condition.

POOR SLEEP NEGATIVELY IMPACTS PAIN, MOOD AND QUALITY OF LIFE IN ADULTS WITH AND WITHOUT FIBROMYALGIA

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More than 100 million Americans suffer from chronic pain, with an estimated 50% also experiencing poor sleep quality. Fibromyalgia (FM) is a chronic pain condition characterized by widespread pain and fatigue, often accompanied by sleep, mood, and cognitive disturbances. Despite a great deal of evidence documenting the existence of sleep and fatigue issues in FM, few studies have attempted to link these symptoms with psychosocial outcomes, and even fewer include a healthy comparison group. The current investigation utilizes data from both FM and healthy control participants from a longitudinal study conducted by a multidisciplinary research team at the Fibromyalgia and Chronic Pain Center at California State University, Fullerton. Participants included 222 adults (82% female) aged 50–87 years ($M = 63.4$, $SD = 8.9$) with and without FM ($n = 122$ and 100 , respectively). Sleep variables included trouble falling asleep, staying asleep, and feeling rested. Outcome measures included pain, anxiety, depression, and quality of life. Hierarchical regression analyses controlling for age and gender revealed significant results ($p < .05$) for both sleep and FM status; poorer sleep and having FM were related to higher levels of pain, anxiety, and depression, as well as lower quality of life. For anxiety, FM status moderated the impact of sleep, where those with FM who also reported poorer sleep quality had significantly higher anxiety levels than their counterparts. Poor sleep quality appears to exacerbate the impact of FM across a variety of psychosocial outcomes; clinical implications and the possibility of symptom clusters are discussed.

REAL WORLD SAFETY AND EFFICACY OF SGLT-2 INHIBITORS IN ELDERLY TYPE 2 DIABETIC PATIENTS

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We would like to evaluate the real world experience in safety and efficacy of adding SGLT-2 inhibitors to Elderly DM2 patients with an inadequate glycemic control. Elderly patients are frailer, have been diabetics for longer, have more diabetic complications, comorbidities and polypharmacy and therefore might be more susceptible to the effect of SGLT-2 inhibitors.

We studied 67 elderly DM2 patients who had been treated with SGLT-2 inhibitors for more than 6 months in our Health Department during 2015. Safety data was collected on most frequent and harmful events in this frail group as recorded in the computerized Primary and Hospital Care Medical Records. Patients' data: mean age: 67 years, 39% women, mean period diabetes: 12,5 years. 79% had hypertension, 81% had Hypercholesterolemia, 51% had a BMI > 30 and, 33% had a previous cardiovascular event. Antidiabetic treatment: 36% on insulin, 75% on Metformin, 45% on sulphonilurea (SU), 37% on DPP-IV inhibitors, 12% on pioglitazone and 13% on GLP-1 analogues. Mean treatment period was 8 months

Results before and after SGLT-2 inhibitors treatment were: HbA1c. 8,48 (SD 1,1) vs 7,44 (SD 0.8) % ($p < 0,01$);

(37% achieved HbA1c < 7%) Weight: 91,0 (SD 18) vs 88,8 (SD 17) kg ($p < 0,01$); Systolic BP: 134 (SD 9) vs 131 (SD 8) mmHg ($P: 0,04$). There were no statistical significant changes in e-GFR, lipid profile, hematocrit, diastolic BP and heart rate. No severe hypoglycemia, falls, diabetic ketoacidosis, or fungal infections were recorded during this period. Only 3 patients were treated for urinary tract infections. Two patients had thiazide treatment withdrawal during summer period because of symptomatic hypotension. No new cardiovascular events during treatment period. Hypoglycemia records were associated to insulin and SU treatment.

SGLT-2 inhibitors are safe and effective in not well controlled elderly DM2 patients in a real world experience. Effect on systolic BP should be considered as antihypertensive treatment might need to be reviewed.

THE BURDEN OF CHRONIC SYMPTOMS ON DISABILITY AND QUALITY OF LIFE IN OLD AGE

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The impact of multiple diagnoses on disability and quality of life (QoL) is well documented in older people, but less is known about chronic symptoms – the submerged part of the iceberg. This study aimed to determine the prevalence of chronic symptoms in community-dwelling older people, their associations with disability in basic activities of daily living (BADL) and QoL, and their public health impact. Data were compiled from the Lc65+ cohort study and two additional, population-based, stratified random samples of community-dwelling older people ($N=5,300$). Participants were asked whether they were disturbed for more than 6 months by 14 chronic symptoms (joint pain, back pain, chest pain, dyspnea, persistent cough, swollen legs, memory gaps, difficulty concentrating, difficulty in making decisions, dizziness/vertigo, skin problems, stomach/intestine problems, urinary incontinence, and impaired sexual life). Only 17.1% of participants were not disturbed by any of these chronic symptoms. The weighted prevalence ranged from 3.1% (chest pain) to 47.7% (joint pain), with substantial gender differences. Similarly, chronic symptoms that were significantly associated with BADL disability or unfavorable QoL, adjusting for socio-demographic characteristics and the number of other chronic symptoms reported, varied between genders. The number of chronic symptoms was significantly associated with BADL disability and unfavorable QoL, with dose response relationships. For both outcomes, joint pain and back pain had the highest population attributable fractions. In conclusion, chronic symptoms are associated with BADL disability and unfavorable QoL, particularly when they accumulate. Due to their high public health impact, musculoskeletal chronic symptoms are good candidates for preventive interventions.

CARDIO-CEREBROVASCULAR COMPLICATIONS IN OLDER DIABETICS WITH ARTERIAL HYPERTENSION

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Introduction: Both diabetes mellitus (DM) and hypertension (HTA) are often encountered in elderly and impact on quality of life and morbidity. Aim of the study was to compare cardio-cerebrovascular risk and complications in elderly and adults diagnosed with DM and HTA.

Material and method: We analyzed 2 randomly selected groups of adults (50–64 years) and elderly (>75 years) diagnosed with both DM and HTA, total 600 subjects, 150 men and 150 women in each group; 2/3 resided in urban areas. 37% adults had higher education and 63% elderly medium education.

Results: Longstanding DM combined with HTA was a significant factor for complications. Insulino-dependent DM was more prevalent in elderly and correlated with duration of disease. Almost half of elderly had high cardiovascular risk, while most adults had low risk. More elderly (58%) as compared to adults (43%) had over 10 complications and comorbidities concomitantly. Chronic kidney disease was significantly more prevalent in adults ($p < 0.01$), possibly due to impact of this complication on survival. Adults had significantly lower prevalence of left ventricular hypertrophy ($p < 0.001$) and heart conduction abnormalities ($p < 0.01$). More elderly had chronic atrial fibrillation, and congestive heart failure was statistically significant more prevalent in elderly ($p < 0.01$) who also had higher NYHA classes. Moreover, heart rhythm disorders were more prevalent in elderly ($p < 0.01$). Neurocognitive disorders, stroke, peripheral arterial obstructive disease and neuropathy were more prevalent in elderly ($p < 0.001$).

Conclusions: Chronological age has an important impact on cardiocerebro-vascular complications in diabetics with hypertension. This highlights the importance of early diagnosis and monitoring.

HOME HEALTH AIDES' ROLE IN PRESSURE ULCER PREVENTION AMONG THE ELDERLY AT HOME: A SCOPING REVIEW

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The purpose of this scoping literature review was to explore current knowledge about the role of home health aides (HHAs) in pressure ulcer prevention among the elderly receiving home care. HHAs are unregulated care providers that constitute 70% of the home care work force in Canada. They are part of the patient's circle of care but not members of the interdisciplinary pressure ulcer prevention team. The literature review was used to identify sources of evidence, map key concepts, and determine research gaps. Key search terms “home care services”, “pressure ulcers”, “home health aides”, and “aged” were used to search 11 databases. Eight sources were retrieved: one textbook chapter and seven peer-reviewed journal articles. All documents were charted and analyzed using a descriptive summary and qualitative content analysis. The results suggest that HHAs' role in pressure ulcer prevention at home is unclear. Five themes emerged from literature: need for training and education, nurse as an educator, interdisciplinary care approach, relationship between HHAs patient and family, and beliefs of HHAs

about their role. Potential for enhancing HHA roles were identified in: observing patient's health condition; coaching patients and family on positioning, ambulation, and nutrition; assisting health care providers; and reporting to the interdisciplinary team, patients and caregivers. In conclusion, the HHAs could play more important role in pressure ulcer prevention in home care. Further research is recommended to create interventions with increased engagement of HHAs and explore their efficacy.

THE RELATED FACTORS OF SUCCESSFUL CATHETER REMOVAL IN A CHINESE HOME CARE POPULATION

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In Taiwan, home visit and long term care for the disable have been implemented for decades. However, functional preservation and catheter removal rate are still far from satisfactory. The aim of our study is to clarify the independent factors associated with successful catheter removal and also the detrimental factors related to mortality of home care patient.

In this cross-sectional study, 514 home care subjects aged from 40–104 with mean age of 83 years old were enrolled at a home care unit of a southern Taiwan teaching hospital (January, 2011 to December, 2015), after excluding subjects diagnosed as terminal cancer and life span <6 months.

Data were analyzed using SPSS (version 17.0; SPSS, Chicago, IL). In multivariate analysis, caregiver education <6 years vs. education beyond college (OR: 3.33, 95% CI: 1.16–9.52) and ADL (OR: 1.07 95% CI: 1.04–1.10) were positively associated with successful catheter removal after adjustment for other clinical variables. Cancer (OR: 0.30, 95% CI: 0.11–0.86) and underweight (OR: 0.43, 95% CI: 0.20–0.95) had detrimental effects on catheter removal. There is an insignificant association between catheter removal and patient age, sex, number/type of catheters, diseases, caregiver (relatives/local caregiver/foreigner caregiver), etc. Age (OR: 1.05, 95% CI: 1.02–1.08), cancer (OR: 4.49, 95% CI: 1.98–10.17), cardiovascular disease (OR: 6.91, 95% CI: 1.46–32.64), foreign caregiver (OR: 2.99, 95% CI: 1.32–6.77) were independently associated with mortality, whereas ADL was inversely associated with mortality.

In conclusion, age, disease categories and foreign caregiver increased the risk of mortality in home care subjects. Caregiver education and functional status of the patient were important correlates of successful catheter removal.

IMPACT OF DIABETES ON THE PREVALENCE OF MALNUTRITION AND SARCOPENIA IN AGED HOSPITALIZED PATIENTS

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The prevalence of diabetes is expected to rise sharply worldwide in the coming decades, due not only to obesity and sedentary lifestyles, but also to aging per se. Diabetes is associated with a higher incidence of decreased skeletal muscle mass (sarcopenia) and physical disabilities. Sarcopenia and physical disabilities may be due to the combined effects of reduced physical activity, inflammation, obesity and insulin resistance. Further, malnutrition may be frequent in very old diabetic patients, and contribute to the risk of sarcopenia and physical disabilities. At the same time it may paradoxically lead to a “false” improvement in insulin sensitivity and glycemic control, in a phenomenon of reverse causality.

Results were prospectively collected during a case-control study involving 580 consecutively hospitalized patients with a bioimpedance assessment. Age ranged from 70.2 to 101.8 years (84.8 ± 6.2), with 184/396 male/female.

The prevalence of malnutrition, assessed by the Mini Nutritional Assessment (MNA), was similar in diabetic (13.1%) and control patients (11.2%).

Sarcopenia, was previously defined by a Fat Free Mass Index $<15.1 \text{ kg/m}^2$ and 17.5 kg/m^2 in European women and men, respectively. Its prevalence in our cohort amounts to 57.2% in the 383 control versus 34.5% in the 197 diabetic patients ($p < 0.0001$). Diabetics were 2.7 years younger and counted more men, but even after adjusting for age and sex in a logistic regression model the odds ratio of sarcopenia remained unchanged at 0.41 (95% CI: 0.28 - 0.59).

COPD IN COSTA RICAN ELDER OLDER ADULTS AND ITS ASSOCIATION WITH SARCOPENIA

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Background: Sarcopenia is associated with to multiples comorbidities, including moreover those with some degree of inflammation. Chronic inflammatory states generate hypercatabolism and replacement of lean muscle mass for adipose tissue, decreasing muscle strength, power and function leading to disability and dependence. Here we study COPD as an important chronic inflammatory disease Strong associations have been reported between COPD and sarcopenia. The aim of this study is to evaluate the associations of COPD and sarcopenia with clinical outcomes, pulmonary function and health status and mortality.

Methods: Data was taken of the CRELES- retirement cohort survey, a longitudinal study taken place in Costa Rica with a representative sample of 2820 elder adults born before 1945. Starting in 2010 with a second wave starting in 2012. The variable ‘presence of sarcopenia in patients with COPD’ was used to identify associations with independent variables (sociodemographic factors, self-rated health, comorbidities, functional status, cognitive status, pulmonary function, hospitalizations and mortality).

Results: From a total of 2,827 60-year or older adults, 9.83% ($n=278$) were categorized as sarcopenic. A total of 18.09% referred as having a lung disease, from which 24.82% had sarcopenia ($p=0.002$). When grouping with

sarcopenia and lung disease status, 74.24% did not had any of the conditions, 15.56% had just lung disease without sarcopenia, 7.67% had only sarcopenia without having lung disease and 2.53% had both conditions. The only group that had a higher risk of mortality was that having both conditions, with a hazard ratio of 1.81 (95% CI 1.27–2.58, $p=0.001$), after adjusting for age and sex.

Conclusions: Older adults with lung disease have a significant higher prevalence of sarcopenia and a higher risk of mortality, than either any of the conditions alone. Special care to older adults with lung disease is important in order to detect sarcopenia and emphasize on those interventions that could impact this condition along with the regular treatment of the lung disease.

This in turn could ameliorate prognosis of older adults with both conditions.

CARDIOVASCULAR AND NON-CARDIOVASCULAR MULTIPLE CHRONIC CONDITIONS AND OUTCOMES IN OLDER ADULTS

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Background: Multiple chronic conditions (MCC) are common in older adults and often underlie poor health and outcomes. 14% of Medicare beneficiaries with ≥ 6 MCCs account for 70% of readmissions. We examined impact of cardiovascular (CV) and non-CV MCCs on outcomes in community-dwelling older adults.

Methods: Of 5795 Cardiovascular Health Study (CHS) participants age ≥ 65 years, 375, 955, 1409, 1253, 858, 536, 245, 115, 35, 10 and 4 had 0 to 10 MCCs, respectively based on 8 CV and 7 non-CV MCCs. Multivariable Cox regression models were used to estimate HRs associated with any MCCs, CV MCCs, and non-CV MCCs, adjusting for 25 baseline characteristics.

Results: One-year hospitalization occurred in 7%, 11%, 14%, 17%, 21%, 30%, 31%, 40%, 46%, 50%, and 25% of those with 0 to 10 MCCs (HR associated with each MCC increase, 1.20; 95% 1.15–1.25). Respective rates for one-year mortality were 0.3%, 0.2%, 0.7%, 1.0%, 2.8%, 3.7%, 5.3%, 7.0%, 20.0%, and 25.0% (HR associated with each MCC increase, 1.41; 95% 1.25–1.59). HRs for one-year hospitalization and mortality associated with each CV MCC increase were 1.16 (95% 1.09–1.22) and 1.31 (95% 1.12–1.54), respectively. HR for one-year hospitalization and mortality associated with each non-CV MCC increase were 1.19 (95% 1.12–1.26) and 1.50 (95% 1.26–1.79), respectively.

Conclusion: Among community-dwelling older adults, number of MCCs had a significant independent association with both hospitalization and mortality. CV and non-CV MCCs generally had similar associations with hospitalization, though non-CV MCCs appeared to have stronger association with mortality.

SESSION 510 (POSTER)

COGNITION I

THE VALUE AND EXTENT OF ENGAGED LIFESTYLE ACTIVITY AND COGNITIVE PERFORMANCE IN LATER LIFE

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The meaning assigned to as well as one's predisposition toward an engaged lifestyle in later life in concert with the extent of participation in such activities has yet to be explored as each relates to cognitive functioning. Seventy-seven community-residing older adults completed measures of crystallized and fluid ability, rated the extent of their participation in a variety of 84 everyday activities, rated each activity regarding the extent to which they found it mentally stimulating, and completed a 20-item measure of the extent to which they were predisposed to lead an engaged lifestyle. Lifestyle predisposition, lifestyle activity participation, and the stimulating quality of such participation were moderately related ($p < .05$). Lifestyle predisposition was weakly but reliably ($p < .01$) related to vocabulary and letter sets performance, while lifestyle enrichment related more strongly to letter sets and letter series ($p < .01$) performance. Rated lifestyle activity was also related, but more weakly to such performance ($ps < .02$) and was weakly related to abstruse analogies performance ($p < .02$). Regression analyses indicated that both attitudinal, activity-related, and enrichment predicted both letter series and letter sets performance most powerfully relative to abstruse and common analogies and vocabulary performance ($p > .05$). They also indicated that enrichment was more important in this respect than either predisposition or participation. These findings suggest that not only engaged lifestyle participation, but also the perceived enrichment value of such participation and one's lifestyle predisposition may predict cognitive (fluid ability) performance in later life.

THE EFFECTS OF CULTURE, LIFE DOMAIN, AND AGE-RELATED ATTITUDES ON SUBJECTIVE AGING

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Cross-cultural differences in aging attitudes may lead to variability in how people feel about and experience their own aging in specific contexts. These differences could consequently result in variability in specific age-related behavioral and health outcomes associated with subjective aging (SA) experiences. We explored how SA varies across domains of functioning in three different cultures and factors, such as perceptions about the age of being old and the situation of older people in society, that explain might observed variability. American ($n = 573$), Hong Kong Chinese ($n = 495$), and German ($n = 827$) adults aged between 26 and 95 years ($M = 58.17$, $SD = 14.5$) in the Aging as Future Project completed a questionnaire designed to capture subjective perceptions of aging, including general attitudes and SA, in eight different domains of functioning (e.g., family, work, health). Factor analyses showed consistency in the domain-specificity

of SA across cultures, but differences in the amount of variance shared between domains. GLM-based tests indicated that country moderated the effect of age group on perceptions of older adults' situations, with Chinese young adults reporting more negative perceptions than same-aged Americans and Germans. Additionally, perceptions of the age of being old explained unique variance in SA within each domain and was found to diminish the effects associated with culture on SA in some domains but not others. Initial results suggest that context-specific differences in age-related attitudes can account for cross-cultural variability in felt age. Findings may have important implications for adaptive aging within cultures.

THE ROLE OF AGE, INTEREST, AND COGNITION ON MIND WANDERING DURING READING

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Previous research has suggested that age differences in mind-wandering during reading may be partly explained by interest in the text; however, those studies relied on post-hoc ratings of interest. In the present study, the authors directly manipulated interest and examined how that influenced age differences in mindless reading. Participants included 26 younger adults ($Age=19.15$) and 27 older adults ($Age=68.43$) who completed a battery of cognitive tests, and also read two computerized texts for 30 minutes each. The texts were based on topics they had previously rated as the most boring and the most interesting on a survey of various book topics. While reading the texts, they were randomly probed (every 2–4 minutes) by the computer to report their current thoughts. Participants reported being on-task or off-task; if the latter, they chose from several types of off-task thought categories (e.g., daydreaming, hungry, worried, etc.). A main effect of Age showed that older adults ($M=0.31$, $SE=0.05$) mind-wandered less than younger adults ($M=0.57$, $SE=0.05$), $F(1,51)=16.32$, $p < 0.01$, $\eta_p^2=0.24$. There was also a main effect of Interest, which showed that texts rated as boring ($M=0.55$, $SE=0.04$) engendered greater mind wandering than texts rated as interesting ($M=0.33$, $SE=0.03$), $F(1,51)=27.55$, $p < 0.01$, $\eta_p^2=0.35$. The interaction between age and interest was not significant, $F(1,51)=0.20$, ns . Participants also reported more cases of daydreaming when the text was boring, $F(1,51)=4.10$, $p < 0.05$, $\eta_p^2=0.07$. These data suggest that age differences in mindless reading exist; however, topic interest seems to be much more influential on mind-wandering frequency.

REDUCED VARIABILITY DURING TIME ESTIMATION IN OLDER ADULTS THROUGH TRANSCRANIAL MAGNETIC STIMULATION

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Accurate time estimation abilities are important to proper performance of many daily activities. Previous study suggested a significant correlation between ability to measure

time passing and ability to execute independent activities of daily living. The scalar timing theory proposes that the ability to perceive time is underlaid by a biological internal clock. Normal aging is commonly associated with reductions in the speed and increased variability in the internal clock, as a result of impairments in attention and memory as well as other cognitive functions.

The repetitive transcranial magnetic stimulation (rTMS) is one of the commonly used brain stimulation methods, which could modulate memory and executive function of the older adults. Here we were interested in whether the rTMS could modulate the perception of time in older adults. We applied ten sessions of rTMS to the right dorsolateral prefrontal cortex (DLPFC) of the participants in a randomized, double-blind, placebo-controlled design study. An interval production task was conducted, which included three different intervals of 2, 5 and 8 seconds, respectively. The mean time estimates, absolute error values (ABS) and the coefficient of variance (CV) were measured before and after the rTMS or sham stimulation. Results showed that rTMS reduced the ABS and CV of longer intervals (5 and 8 seconds), however, it didn't modulate the estimation of 2 seconds, indicating that rTMS modulate the estimation of longer intervals through reducing the variability caused by aging. These findings suggested that rTMS is a promising technique to ameliorate cognitive aging.

BASELINE INTERLEUKIN-6 AND LONGITUDINAL PROCESSING SPEED CHANGE IN THE ELDERLY

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Inflammation is suspected to play a role in neurodegeneration and is associated with worse memory and smaller medial temporal volumes in controls. Many of the studies, however, have been cross-sectional and little is known about longitudinal changes in cognition due to inflammation. Our objective was to determine if baseline levels of inflammation predicted a steeper slope of cognitive decline longitudinally. Participants were cognitively normal, community dwelling, older adults (mean age = 73.28) followed over multiple visits spanning 4 to 6 years. Participants underwent a fasting blood draw and had their plasma analyzed for interleukin-6 (IL-6) using the Mesoscale platform. At each timepoint, participants completed a series of computerized reaction time tests that yielded a single composite processing speed score. The IL-6 values were log transformed and slope values of the processing speed scores were calculated using linear mixed models. 199 participants were included in this analysis.

Higher baseline IL-6 levels predicted greater increases in processing speed slope ($p < .01$), while controlling for age and baseline processing speed. These findings suggest that higher levels of systemic inflammation are associated with increased rates of cognitive slowing over time in healthy older adults. These results highlight the importance of inflammation in cognitive aging and the need for further research to elucidate the exact relationship between markers of inflammation and cognitive decline.

ACTIVE MEMORY WORKS™: WEB-BASED MEMORY TRAINING FOR OLDER ADULTS

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Mounting evidence suggests that cognitive training interventions can improve cognitive performance in older adults. This randomized pilot trial tested a new web-based intervention, ACTIVE Memory Works™ (AMW), an online version of the evidence-based ACTIVE (Advanced Cognitive Training for Independent and Vital Elderly) memory intervention. Participants were cognitively normal, community-dwelling older adults age 65 and older ($N = 211$, M age = 71.1, range 65–89 yrs) and were randomly assigned to one of three conditions: 1) AMW; 2) ACTIVE classroom-based training; or 3) wait-list control. Participants completed measures of memory, executive function, and speed of processing at baseline, immediately following training, and 6 months later. The AMW and ACTIVE training groups both showed pre-post test improvements on memory performance (AVLT immediate recall and Rivermead paragraph recall), and maintenance of training gains at 6 months, but Treatment Group X Time interactions fell short of significance (p 's = 0.16 and 0.53, respectively). Consistent with previous findings, training effects were target-specific and showed little transfer to non-trained executive (Word Fluency, Animal Naming, Word Series, Digit Span Backwards) and speed of processing (Digit Symbol Substitution Test) abilities (p 's > 0.05). Over 96% of participants in the two intervention groups were satisfied with the assignment, compared to 76% in the control condition. Results suggest that web-based training programs like ACTIVE Memory Works™ may be viable alternatives to traditional in-person, cognitive training programs. Online cognitive-training programs extend the public health reach of cognitive interventions, are cost efficient, and hold promise for improving cognitive abilities in community elderly.

THE EFFECTS OF AGING BELIEFS AND PERCEPTIONS OF EFFORT ON TASK ENGAGEMENT UNDER COGNITIVE FATIGUE

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Normative, age-related declines in cognitive ability can increase the costs associated with task engagement, and thereby increase the importance of motivation to deploy cognitive resources (Hess, 2014). Additionally, beliefs about aging related to different domains of functioning may differentially influence perceptions about the costs associated with engagement, affecting effort expenditure. We examined the impact of age-related attitudes and perceptions of effort on engagement in a cognitively-demanding task. A sample of 153 older adults aged 64–81 completed a computerized memory scan task that was designed to induce fatigue by increasing in difficulty across four trial sets. During a fatigue phase which followed, they completed a five-minute letter comparison task. Participants rated their perceptions of task load and motivation to engage in the task, and completed a questionnaire about their aging-related beliefs. Systolic blood pressure reactivity (SBP-R) was also recorded continuously throughout the course of the study in order to obtain an index of effort expenditure.

GLM-based analyses examining performance revealed an age by SBP-R interaction. High responsivity predicted strong performance across all ages, but low responsivity was a better predictor of poor performance for old-old than young-young individuals. Additionally, endorsing beliefs that cognitive declines happen as a normal part of aging predicted better performance among those who perceived high levels of mental demand in the task, but predicted worse performance among those who perceived less demand. Preliminary results suggest that expectations regarding aging in combination with perceptions of task demand may affect motivations to engage in cognitively-demanding and potentially beneficial activities.

POSITIVE EMOTION BOOSTS MEMORY TRAINING EFFECTS: A RANDOMIZED CONTROLLED TRIAL

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Older adults with subjective memory complaints (SMC) have high risk of dementia. Although plasticity of aging brain is well-established, relatively little is known about the efficacy of memory training for elderly with SMC. Positive emotion is supposed to boost training effects. This randomized controlled trial examined (1) the effects of a memory training program for elderly with SMC and (2) whether a positive emotion promoting group counseling would facilitate training effects. A sample of 124 older adults with SMC were randomly assigned into three groups. The first group (G1, n=42) received 6-hour group counseling and then 4-week memory training. The second group (G2, n=38) completed 6-hour reading followed by 4-week memory training. The third group (G3, n=44) received 6-hour group counseling and 4-week health lectures. All three groups completed cognitive assessments at baseline, mid-test and post-intervention. G1 and G3 had resting-state functional magnetic resonance imaging scanning at mid-test and post-intervention. Compared with G3, G1 demonstrated decreased memory complaints and improved performance on both lab memory tests and everyday memory tasks after training. When compared with G2, group counseling enhanced positive emotion in G1, and positive emotion boosted cognitive benefits from training, leading to larger memory improvement in G1 (Cohen's $d = 1.17$) than in G2 (Cohen's $d = 0.63$). Moreover, the boost effects of emotion on training gains were correlated to amygdala-hippocampus connectivity. The results suggest that memory training could enhance memory function in elderly with SMC, and positive emotion may facilitate the effects of memory training.

DEVELOPING A HEALTH NUMERACY SCALE TO ASSESS MEDICAL DECISION MAKING AMONG OLDER ADULTS

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As physical health and cognitive capacities decline in late adulthood, older adults need to be able to make sound decisions regarding medical matters to maintain an acceptable level of well-being. As health information is often presented

numerically, the ability to work with such information (health numeracy) is extremely important in these decision making processes. Unfortunately, while general numeracy (i.e., basic mathematics abilities) has gained attention from aging and decision making researchers, the construct of health numeracy was rarely studied. This research aimed to develop a tool for measuring health numeracy in older adults, and then to investigate health numeracy's effectiveness in predicting medical decision making. In study one, a pool of 16 health numeracy items was developed and tested through an online older adult sample ($N = 262$). By using a Rasch analysis, items with difficulty scores that were too high or too low were excluded, and 6 items remained. The refined numeracy scale was validated by comparing to general numeracy and medical decision making. Both convergent validity and predictive validity were satisfied. In study two, the refined scale was cross validated in a community sample of older adults ($N = 108$). It was found that the health numeracy scale was a better tool over the general numeracy scale used in predicting medical decision making in older adults from the community sample. Overall, this study developed a practical way of measuring health numeracy, and provided evidence in the benefits of health numeracy over general numeracy in medical decision making research.

THE JOINT INFLUENCE OF STRESS AND HEALTH ON COGNITIVE FUNCTIONS AMONG U.S. CHINESE OLDER ADULTS

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The Stress Paradox suggests that stress could have either facilitating or impairing influence on cognitive functions, depending on context. Age is positively associated with stress and negatively associated with health and cognitive functions, while education is positively associated with cognitive functions. The present study aimed to examine: 1) the impacts of age and education on cognitive functions; and 2) the joint influence of stress and health on cognitive functions above and beyond the impacts of age and education. The Population Study of Chinese Elderly in Chicago (PINE) used culturally and linguistically appropriate methods to study cognitive functions of Chinese older adults. Preliminary studies found that U.S. Chinese older adults reported higher levels of stress and lower levels of health than the general American older adults. About 3,159 Chinese older adults participated in the present study (58.9% female, age range 60 to 105 years old). They rated their current health status and used the Chinese Perceived Stress Scale to rate their stress levels over the past two weeks. In addition, their cognitive functions (i.e., working memory, perceptual speed, and episodic memory) were assessed during the face-to-face interviews. Controlling for the impacts of age and education, hierarchical regression analyses revealed significant effects of stress and health on cognitive functions, respectively. However, the individual effects of stress and health were no longer significant after entering the interaction terms of stress and health. Results are discussed in lights of the joint influence of stress and health on cognitive functions among U.S. Chinese older adults.

ASSOCIATION BETWEEN IMPAIRED SWALLOWING AND COGNITION IN HEALTHY OLDER ADULTS

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Impaired swallowing, termed dysphagia, is a common morbidity of neurologic and non-neurologic diseases, but can also affect up to 63% of older adults without known disease. Among patients with neurologic disease like stroke or dementia, dysphagia co-occurs with impaired cognition; but, in community-dwelling elderly without disease, the relationship between dysphagia and cognition is unknown. This cross-sectional study examined associations between dysphagia and cognition in community-dwelling elderly.

Participants were community-dwelling older adults enrolled in the Rush Memory and Aging Project (MAP), a longitudinal study of aging and dementia. MAP participants complete a comprehensive cognitive assessment battery; scores from 19 tests are consolidated into a composite Z-score. For this study, 88 MAP participants (mean age=83.62±6.86 years) without any disease known to result in dysphagia, underwent dysphagia screening using the Modified-Mann Assessment of Swallowing Ability (MMASA), a validated and objectively scored dysphagia screening tool. Scores ≤93 indicate dysphagia. Univariate and multivariate analyses (adjusted for age, sex, education) explored associations between swallowing, dysphagia, and cognition.

Mean MMASA score=95.43 (SD=3.76); mean cognitive Z-score=0.31 (SD=0.53). Swallowing was positively correlated with cognition ($r=0.40$, $p<.0001$). Adjusted for demographics, lower swallowing scores remained associated with lower cognitive scores ($R^2=0.30$, $\Delta R^2=0.16$, $B=0.042$, $SE=0.014$, $p<.0001$). Dichotomizing MMASA scores into “dysphagia/no dysphagia” revealed that participants with dysphagia [$n=21$ (24%)] had lower cognitive scores [$F(1,83)=5.59$, $p=.020$].

Dysphagia was associated with lower cognitive function in community-dwelling older adults without disease known to result in dysphagia. Age-related dysphagia and impaired cognition may follow similar pathophysiologic processes or share common neurologic substrates.

RECEIPT OF FINANCIAL SUPPORT FROM ADULT CHILDREN AND COGNITIVE FUNCTION AMONG CHINESE OLDER ADULTS

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Changes in China's cultural, economic, and family systems require further study of support options available for older Chinese adults. This study examined the relationship between receipt of financial support from adult children and older parents' cognitive function. Rural and urban differences were also investigated. Data were drawn from two waves of the Chinese Longitudinal Healthy Longevity Survey (2005–2008). The study sample was restricted to older parents who were alive at both waves and were 65–105 years old having at least one living adult child. Cognitive function

was measured by a modified version of the Mini-Mental State Examination, with scores equal to or less than 18 indicating cognitive impairment. Prevalence models showed receiving financial support from adult children was associated with a lower likelihood of cognitive impairment. A similar result was found among rural older parents. Bivariate analyses of incidence models showed a negative association between receiving money from adult children and cognitive function. However, the relationship became insignificant when social demographic characteristics were controlled. Among rural older adults, those who received financial support from adult children had lower risk of becoming cognitively impaired than those who did not receive financial support. Being younger, married, having higher education, being economically independent, and having higher self-rated health were also associated with a lower risk of cognitive impairment. The findings indicated the examination of prevalence and incidence models yields different conclusions about the relationship between receiving support and cognitive health, especially when taking into consideration rural-urban contexts.

SOCIAL FRAILITY HAS NEGATIVE IMPACT ON COGNITIVE FUNCTION AMONG OLDER PEOPLE

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Social frailty as well as physical frailty may increase risk of disability in older people. However, it is not clear whether social frailty is associated with cognitive function for older people. This study determined relationships between social frailty and cognitive functions using cross-sectional data. In the present study, 4,425 community-dwelling older people (mean age: 72, 49% male) were included. We operationalized social frailty using the following components: living alone, going out less frequently than last year, not visiting friends sometimes, not feeling helpful to friends or family, and not talking with someone daily. Participants who replied to none of these questions were non-frail; those replying to one question were pre-frail; those replying to two or more questions were frail. We used the National Center for Geriatrics and Gerontology-Functional Assessment Tool including tests of word list memory, attention, executive function, and processing speed. Participants with one or more scores at least 1.5 standard deviations below the age- and education-adjusted reference thresholds were defined as declining in cognitive function. The overall prevalence rates of social pre-frailty and social frailty were 25% and 11%, respectively. We found significant relationships between declines in cognitive function and social pre-frailty (odds ratio [OR] 1.28, 95% confidence interval [95% CI] 1.09–1.50) and social frailty (OR 1.55, 95% CI 1.25–1.93). Socially frail individuals had higher risks of cognitive decline than those without social frailty.

THE RELATIONSHIP BETWEEN COGNITIVE FUNCTIONING AND HEARING ABILITY IN OLDER ADULTS

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Built on the recent epidemiologic evidence of the association between hearing loss and cognitive impairment, the present study aimed to investigate the relationship between cognitive functioning and hearing ability in a group of healthy community-dwelling older adults with a wide range of ages and hearing status. Montreal Cognitive Assessment (MoCA), a cognitive screening test for detecting mild cognitive impairment (Nasreddine et al., 2005), was used to assess cognitive functioning. Hearing ability was measured by clinical audiometric and speech-in-noise testing. The study included eighty older participants with an age range of 56–89 years and hearing status ranging from near-normal hearing to moderate hearing loss. The results showed that older individual's MoCA score was strongly associated with hearing ability. Hearing (i.e., pure tone threshold) significantly predicted individual performance on MoCA, particularly for those test items that rely heavily on auditory input. Taken together, these findings highlight the intimate relationship between cognitive functioning and hearing ability, which should be recognized by the medical professionals in order to better serve the aging community (Work supported by NIH).

BMI, COGNITION, AND EXERCISE RELATIONSHIPS IN THE SEATTLE LONGITUDINAL STUDY

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According to body mass index (BMI) statistics, current data show that 34.9% of all adults in the U.S. are obese, with levels increasing in adults across income and education levels (Center for Disease Control; CDC, 2010). Prior literature on the relationship between BMI and cognition has revealed inconsistent findings, with some variation based upon ability investigated. Using a subsample of 759 middle-aged and older adult participants (mean age=60.91 years; SD=12.18; Range=40–93 years; 54.4% female; mean education level=15.80 years) from the 1998 and 2005 waves of the Seattle Longitudinal Study, BMI-cognition relationships were examined for six cognitive abilities. Participants were categorized by weight based on the CDC's BMI standards: normal weight (n=305), overweight (n=261), and obese (n=193). Participants were stratified by the amount of days exercised in the past week: 0–3 days (n=455) or 4–7 days (n=274). Repeated measures MANCOVAs were employed, controlling for gender and education. A significant two-way interaction of BMI and exercise groups ($F(5, 3529)=2.44, p=.032$) indicated that both normal weight and obese adults bolstered cognitive performance when exercising 4–7 days rather than 0–3 days; however, overweight adults performed worse when exercising 4–7 days compared to 0–3 days. Current findings indicate that past exercise amount may play a role in cognitive performance. Discussion will consider possible reasons for these cognitive differences between exercise and BMI groups in the current sample.

UNDERSTANDING COHORT DIFFERENCES IN COGNITIVE FUNCTIONING: EVIDENCE FROM THE MIDUS NATIONAL STUDY

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There is evidence that more recent birth cohorts show better cognitive performance than earlier ones. Our goal was to use data from two representative samples in the MIDUS national study in order to examine possible sources of cohort differences for multiple cognitive tests on the BTACT (Brief Test of Adult Cognition by Telephone). Two samples of the same age range were tested, on average, 8 years apart. The first sample (N = 3,929; age range: 32 to 76, M = 54.38, SD = 11.02) was assessed between 2004 and 2006 (participants born between 1928 and 1974). Participants from the second sample (N = 2,512, age range 32 to 76, M = 54.48, SD = 12.71) were tested between 2010 and 2014 (born between 1934 and 1982). Consistent with past research, significant cohort differences were obtained using a time-lag design on the majority of the BTACT tests. In addition, our results revealed stronger cohort effects in older age groups. Older individuals from the more recent birth cohorts showed better cognitive performance than those of the same age from the earlier cohorts. On average, the more recent cohorts were also characterized by higher levels of education, better functional and self-rated health, and also by a greater frequency of physical and cognitive activity. We will consider the role of increases in health-promoting behaviors such as an active and engaged lifestyle in addressing the mechanisms involved in cohort shifts in cognitive performance.

LONG-TERM EFFECT OF SUBJECTIVE HEARING ASSESSMENT ON SELF-RATED MEMORY

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Recent research demonstrates an association between hearing ability and dementia. Despite these findings, mechanisms underlying the relationship remain unclear. Here we examine one such mechanism: the effect of subjective hearing assessment on subjective memory functioning. Data for the study come from the University of Michigan's Health and Retirement Study. Rs include persons 60 and older at T₁ (in 1992) who remained in the study at T₁₁ (2012) (total N = 1,136). Using latent growth curve modeling, we examine the effect of self-rated hearing on self-rated memory at baseline and the effect of rate of change in self-rated hearing on rate of change in self-rated memory controlling for age, gender, education, marital status, and subjective health. Principal findings include the following: (1) there are strong and significant relationships ($p<.001$) between self-rated hearing and self-rated memory and between their rates of change net of the control variables; (2) the R²s indicate that 44% of the variance in self-rated memory is explained by self-rated hearing and the controls and that 33% of the variance in the rate of change in self-reported memory is explained by the rate of change in self-rated hearing and the controls; and (3) goodness of fit tests (CFI and RMSEA) are satisfactory. That there is a clear linkage between subjective dimensions of hearing and memory and changes therein suggests

the value of pursuing this connection as one mechanism by which hearing problems might lead to dementia. Practical implications for areas such as providing informed consent are also considered.

SLEEP EARLIER IN LIFE AND LATE LIFE COGNITION: MULTICENTER POPULATION DATA FROM SWEDEN AND FINLAND

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Sleep disturbances are associated with mental wellbeing and physical health. Few studies have examined the long-term associations between sleep and cognition. In this study we assess the associations between sleep disturbances and cognition using population-based data.

Using four population-based studies (three Swedish, one Finnish), we analyzed data on insomnia. The short-term follow-up analyses (9–11 years follow-up time) used all four studies (N=3058). Midlife mean ages in the four datasets were 70, 70, 70 and 83 years. The long follow-up analyses used a Swedish dataset and the Finnish dataset with 21 and 22 years follow-up respectively (N=2068). Mean age was 50 and 58 years. Cognition was assessed using the Mini-Mental State Examination (MMSE).

We performed ordinal logistic regressions for the associations between sleep and cognition. The following potential baseline confounders were adjusted for: Data material, follow-up time, baseline age, sex, years of education (linear), alcohol consumption (linear), presently smoking, physically active, cohabitation, cardiovascular conditions, hypnotics (yes/no), and hopelessness (for short follow-up).

Short follow-up results using all four datasets showed similar significant associations in all models; insomnia was associated with poor cognition (fully adjusted model (all above covariates), $\beta = -0.14$, $p = 0.013$). Long follow-up results using the Finnish dataset showed significant associations controlling for follow-up time, age, sex, and education ($\beta = -0.20$, $p = 0.040$; Fully adjusted, $\beta = -0.18$, $p = 0.076$). No significant associations were found in the Swedish datasets (fully adjusted $\beta = -0.06$, $p = 0.585$).

In conclusion, insomnia in late adulthood is associated with worse late-life cognition.

LONG-TERM CALORIC RESTRICTION PREVENTS AGE-RELATED LEARNING IMPAIRMENT VIA SUPPRESSION OF APOPTOSIS

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Caloric restriction (CR) is the most reliable intervention to extend lifespan and prevent age-related disorders in various species from yeast to rodents. However, the underlying mechanisms have not yet been clearly defined. Therefore, we aimed to identify the underlying mechanisms of long-term CR on age-related learning impairment in C57/BL mice. Thirty six-week-old male C57/BL mice were randomly divided into three groups: normal control group (NC group, $n = 10$), high energy group (HE group, $n = 10$), and CR group ($n = 10$).

After 10 months, the average escape latency was lower in the CR group compared with the NC group, and the average time taken to first cross the platform in the CR group was significantly shorter than the HE group. Both Bcl-2 protein and mRNA expression levels in the CR group were significantly higher than those of the NC group and HE group. The expression of Bax, Caspase-3 and PARP protein in the CR group was significantly lower than the NC group. Our findings demonstrate that long-term CR may prevent age-related learning impairments via suppressing apoptosis in mice.

SESSION 515 (POSTER)

COGNITIVE IMPAIRMENT, FRAILTY, AND END OF LIFE

TRANSLATING EVIDENCE-BASED DEMENTIA INTERVENTIONS TO THE COMMUNITY

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Efforts to translate evidence-based dementia interventions into community practice aid in determining effective programs and services. Randomized clinical trials are important to identify efficacy of a treatment or intervention, but translation studies provide useful findings about its impact in the community. Translation studies provide valuable information about care practices that can be successfully delivered in the community and help identify needs for adjustment of the intervention to suit different groups of people. However, even with evidence supporting the benefits, only a small portion of published interventions developed become widely disseminated, implemented, and sustained in either clinic or community settings. Many factors should be considered when deciding whether a program or intervention is appropriate for a community such as congruence with respect to agency mission and organizational practices, staffing expertise needed for implementation, capacity to maintain fidelity, and a reliable source of funding to ensure sustainability. Most of the translation studies of dementia interventions have been funded by the Administration on Aging through the congressionally mandated Alzheimer's Disease Services and Supports Program (ADSSP) followed by the U.S. Department of Veterans Affairs (VA); and the Rosalynn Carter Institute for Caregiving in partnership with Johnson and Johnson. This presentation will provide a brief overview of barriers and considerations for community translation and focus primarily on the ADSSP grantee experience translating evidence-based dementia interventions to the local community.

A NATIONAL DEMENTIA REGISTER FOR IRELAND: THE RIGHT APPROACH TO MEETING OUR DEMENTIA DATA NEEDS?

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With dementia prevalence set to increase as our population ages, there is an urgent need to gather valid epidemiological data in Ireland that provides accurate and reliable estimates of current and future dementia prevalence and facilitates the

development of effective dementia health and social policy. This study examined the feasibility of developing a national dementia register for Ireland. A rapid review of national and international patient registry literature was undertaken to identify registry functions, underlying design and process models, best-practice guidelines for their development, and the legal, ethical, clinical, technology, and financial issues relevant to the creation of an Irish dementia registry. Following ethical approval, we also conducted two focus groups with people with dementia and twenty-one expert stakeholder interviews with clinicians, and representatives from research, health, and social care organisations in Ireland and the UK, existing Irish patient registries, and international dementia registries. Discussions followed an agreed structure, were audio-recorded, transcribed, and analysed using inductive content analysis. Common themes that emerged from the literature review and stakeholder discussions were: registry function; registry data; benefits and risks; governance; legislation; barriers and facilitators; lessons learned; best practice; and complexities within the Irish system. Given the government strategy of addressing research and information systems as part of the 2014 National Dementia Strategy, it is opportune to examine the best approach to improving dementia data recording in Ireland. These results provide an evidence-base on which to progress this debate.

WHAT CONSTITUTES STABILITY OF HOME-BASED CARE ARRANGEMENTS FOR PEOPLE WITH DEMENTIA? A META-STUDY

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Worldwide, most people with dementia live at home. The stability of home-based care arrangements is discussed as a crucial factor in health care policy and dementia research. For informal carers maintaining stability is an ever-changing challenge throughout the caring trajectory. We will be presenting a currently conducted synthesis of quantitative and qualitative studies with the primary research question: What constitutes and influences stability of home-based care arrangements for people living with dementia? The methodology of meta-study will be used (synthesis of meta-data-analysis, meta-method, meta-theory). For details see PROSPERO registration number CRD42016041727. First results show that the dynamic nature of stability as a continuous process is a broadly overlooked phenomenon and there is a lack of studies with a trajectory perspective. The majority of quantitative studies focuses on risk factors for institutionalization, but fails to comprehend the dynamics behind it. Qualitative research aims at understanding informal caregiving as a social construction, but pays little attention to its direct impact on whether a care arrangement can be maintained or not. From this synthesis a lot can be learned about how the phenomenon of stability has been understood and approached in dementia research within the last decades. The final results will help to define research gaps that have been overlooked in the past and to develop research questions and study designs that will be able to meet the methodological and theoretical requirements of this complex phenomenon.

Finally, they will provide an empirical and theoretical basis to develop stability promoting interventions.

DESIGN A RESTROOM SUITABLE FOR THE SENIORS—DEVELOP THE DESIGN SPECIFICATIONS FOR TAIWAN'S RESTROOM

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The present paper, through the comparison of restroom design specifications between the US and Japan as well as the review of decrees, case investigations and expert interviews, explored how to target on the restroom in buildings and home to conduct design in order to improve the seniors living security and satisfaction after Taiwan enters an aging society in the future. Research conclusions: 1. This study found that Japan restroom specification include wheelchair toilets, inner-toilet equipped with colostomy equipment and multi-functional toilets, while the United States adopts accessible toilet. Therefore, Taiwan shall be in response to the building types and their usages to design restrooms of simple type and multiple-function type, respectively. 2. In addition to personal use, the elderly restroom may involve in issues of the assistance provided by carer and the usage of men and women as well as the conflicts with wheelchair users. Therefore, it is suggested that the development of such design specifications should be conducted from several dimensions of gender equality, accessibility, safety and comfort etc. and take into account of space planning and toilet room design, including how to accommodate different needs for toilet room, accessible facilities, toilet subsidiary accessory contents, washbasin, guide signs, etc. In the future, Taiwan should consider the economic factor and public acceptance to adopt demonstration site for setting, and then incorporate it into legislation in order to cope with the coming aging society.

SOCIAL EXCLUSION, SOCIAL CAPITAL, AND LIFE SATISFACTION OF OLDER ADULTS WITH DISABILITY

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This study aims to address social exclusion on life satisfaction of older adults with disability. Also, it is to identify moderating effects of social capital. Authors conducted a secondary analysis using 4th waves of Korean Longitudinal Study of Ageing (KLoSA). The sample in this study was 438 older adults with disability. Income, work, health, living arrangement, and education were included as social exclusion factors. The dependent variable, life satisfaction, was measured through a question asking, "how are you satisfied with your life in general? (0–100)". Finally, interaction with neighbors, attending religious meeting, and social gathering with friends were included as moderators, social capital. Gender, age, marital status, and place of living were included as control variables. Multiple regression results showed that health, housing, and education were statistically significant to life satisfaction. Thus, those who reported health condition was poor, lived in a rented house, and had less than middle school degree were less satisfied with their life than their counterparts. Among social capital factors, interaction with neighbors and social gathering with friends were significant.

Testing moderating effects was significant only for housing and attending religious meeting. When moderating effects were included in the model, all the social exclusion factors were not significant. Based on the findings, authors discussed social work implications to enhance life satisfaction of older adults with disability through reorganizing social services programs and developing social policies.

THE ASSOCIATION BETWEEN PAST FALLS AND SELF-RATED BALANCE ON THE SETTING OF GOALS AMONG OLDER PEOPLE

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Goal-setting may be used to facilitate health behaviour change. Balance-challenging exercise can prevent falls. We investigated the association between the types of physical activity (PA) goals selected and the fall history and self-rated balance of people aged 60+ years participating in a randomised controlled trial aimed at increasing PA and preventing falls. Participants nominated two PA goals at baseline, which were summarised into categories (fitness; muscle strength; balance; weight loss; or flexibility). Chi-square analysis compared the proportion of participants with poor/fair self-reported balance, and those with past falls who set balance-related goals compared with other types of goals. Participants were 130 people with mean age of 69 years (SD=6.4, 69% females). Forty-two participants (32%) rated their balance as poor/fair and 36 (28%) had fallen in the past year. Overall fitness was the most common PA goal (57%), followed by weight loss (14%). Thirty-seven people (28%) set balance-related goals which comprised a significantly higher proportion of participants with poor/fair self-reported balance compared to the proportion with good balance (n=22, 52% versus n=15, 17% respectively, $p<0.001$). The proportion of past fallers who nominated a balance-related goal (n=12, 33%) was similar to the proportion of non-fallers nominating a balance-related goal (n=25, 27%, $p=0.45$). These results show that participants who had poor/fair self-rated balance were more likely to nominate balance-related PA goals, however participants who had fallen in the past year were not more likely to set a balance-related PA goal than non-fallers.

FRAILITY IN OLDER ADULTS: COMPETENCE CARE, INNOVATIVE PERSPECTIVES IN ELDERLY CARE

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To access collectively funded institutional care the government has put the bar very high. For this reason residents of care institutions have a great need for support in caring. Because of their multiple disorders every day institutional practice shows that the residents often only be seen as people with disabilities and not as people with abilities, ambitions and important social networks. This is a persistent evil in institutional care in a lot of European countries. A short moving film, called 'See me', will be shown to demonstrate what this means for the frail older people who live in a care facility. In order to ensure that frail elderly people are seen as individuals with qualities and ambitions, or as 'ordinary people', who are seen, it must change in care facilities. Emphasis

should be placed on a dignified and meaningful life for frail older people in care facilities. To realize that seven pillars for competence care are developed, namely:

1. Strengthen the resilience
2. Pay attention to experiences of loss and focus on resistance
3. Encourage reciprocity
4. Focus on talent development
5. Enjoy today and look forward to tomorrow
6. Pay attention to the role of relatives
7. Pay attention to a dignified end of life

After two years working with this new care concept in two care facilities in The Netherlands living and working in the care institution has been given a different look. A short film will be shown to demonstrate how a care facility is transformed into a meeting place and live studio.

AID IN DYING: QUESTIONS AND CONCERNS OF PROVIDERS AND THE PUBLIC

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Aid in dying (AID) is a practice whereby a person at the terminal stage of a serious illness may request a prescription meant to hasten death. AID is now legal in five states across the United States and many additional states will consider similar laws over the next year. While interest in aid in dying has grown, questions about how to best carry out the practice, how to support patients to make end-of-life decisions that are best for them, and how to ameliorate disparities in quality of life at end-of-life continue. This presentation will briefly summarize what we know about the practice of aid in dying, what laws in the U.S. entail, and concerns of providers and the general public. Using a new survey of physicians, we will show that providers are most concerned about carrying out their obligations in an ethical and safe way. This includes knowing the legal process, understanding options for providing end-of-life care, explaining medications used in aid in dying, and having support through the process. Some concerns vary by provider type. In addition, we use data from focus groups with community members to show that the general public is concerned about patients knowing all options, possible coercion, how practices fit with religious beliefs, and how aid in dying will affect their family members. We summarize findings related to improving AID implementation as well as enhancing end-of-life care generally.

ADHERENCE TO ADVANCE CARE PLAN IN AN END-OF-LIFE PROGRAM FOR ELDERLY FROM NURSING HOMES IN HONG KONG

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Background: In Hong Kong, dying in nursing homes will trigger a Coroner's referral, and over 11,000 nursing home residents were sent to acute hospitals to die every year. End-of-life (EOL) care in Hong Kong developed rapidly in recent years. An EOL Program for nursing home residents was

established, aiming to promote advance care plan (ACP) discussions and facilitate care in place.

Objective: To evaluate the adherence to patients' ACP preferences, and where and how their death occurred.

Design: Retrospective clinical audit of data from clinical notes and electronic patient records for the period October 2015 to March 2016.

Results: 83 nursing home residents were enrolled into the program during this period, with a mean age 92.4 years (median=93) and 87.8% of which had dementia. Advance care plans were established in all residents, mostly with their next-of-kins. All (100%) indicated their preference of do-not-attempt CPR (DNACPR). 32.9% indicated their preference against the use of both naso-gastric tube (NGT) feeding and non-invasive positive pressure ventilators (NIPPV). 51 participants (61.4%) accepted using NGT as a mode of feeding. During the patient journeys, adherence to ACP regarding NGT and NIPPV use were both 98.8% respectively. There were 35 (42.2%) deaths within this 6-month period, and the average duration of care per death case was 120.7 days (median=125). 26 (74.3%) of these deaths occurred in an extended care hospital, in particular 15 (42.9%) participants died in designated EOL wards.

Conclusion: Participants of this EOL program had their ACP preferences honored and deaths occurred in place.

PREVALENCE OF ADVANCE CARE PLANNING AMONG ELDERLY HEART FAILURE

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Purpose: Elderly heart failure (HF) patients are increasing, they have a significant symptom burden and palliative care needs including advance care planning (ACP). End-of-life discussion is needed to improve quality of life among elderly HF patients, little is known about factors related to promoting ACP and completion of advance directives (AD) in HF patients. This study examined completion rates of AD and predictors of ACP process in HF patients by conducting a systematic review.

Methods: We searched PubMed and CINAHL from 1992 to 21 June 2016 using keywords "congestive heart failure", "heart failure", "advance care planning", "advance directives", "completion", "factors", and "predictors". Abstracts of the search results were reviewed according to inclusion criteria which refer to completion rates of AD and factors related to ACP process.

Results: Fourteen articles were selected according to the criteria. Participants were 6 inpatients, 3 outpatients, 1 community-dwelling persons, 1 family, and 4 physicians or providers. Completion rates of AD were from 12.7% to 49%. Factors related to completion of AD were older age, gender, race, marital status, education, perceived health, informed about ADs, knowledge, discussed AD with family, and discussed AD with physician.

Conclusion: AD Completion rates were not high in HF patients. Few patients were not ready to talk about ACP in outpatients, therefore, patient and provider discussion before is important to promote ACP and completion of AD in elderly HF patients.

IMPLEMENTING A PROCESS OF RISK-STRATIFIED CARE COORDINATION FOR OLDER ADULTS IN PRIMARY CARE

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Primary health care may be the best place within the health system to coordinate care for older persons, but at present is poorly equipped to do so. Recent reviews found that an effective primary care model for complex patients requires appropriate targeting, engagement of patients and caregivers, and coordination with other services. This project aimed to understand the perceptions and experiences of providers, patients and caregivers with implementation of processes to achieve these aims. The Chronic Care Model and a multi-level framework for implementation of health innovations guided this study. Data collection and analysis followed a developmental evaluation approach. Data were collected using observations, individual interviews, a risk-stratification tool and tracking forms. Six patients, two family caregivers, and 13 providers were purposefully sampled from three primary care settings (rural and urban). Following implementation of a risk screening tool and an online referral mechanism, 560 patients were screened for level of risk, with care coordinated based on level of need. Although the screening and referral process took additional time in a busy practice context, health care providers, patients and caregivers identified many benefits. These included early identification of service need, greater awareness of community services available, and improved relationships between patients and providers. A process of risk-stratified care coordination offers potential benefits for older patients, caregivers and providers. However, taking the time to have meaningful conversations with patients was a challenge, and organizational structures and funding models may need to be modified to support fuller implementation.

AWARENESS OF ORGANIZATIONAL CULTURE AMONG STAFF OF A NEW DEMENTIA-CARE SPECIALIZED HOSPITAL IN JAPAN

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This study aims to identify differences in the awareness of the organizational culture among nurses and care workers at a newly established dementia-care specialized hospital. A self-rating questionnaire survey was administered to 150 nurses and care workers working at a dementia-care specialized hospital in August, 2014, three months after the opening of the hospital. A scale by Harrison & Stokes (1992) of 15 items was used to measure the organizational culture orientation with four answer options for levels of power, role, achievement, and support orientations. Of the 105 responses (70%) 75 (50%) were valid (nurses, 53.3%; care staff, 46.7%). The mean age of respondents was 40.4±8.0years. The existing organizational culture was ranked from achievement, support, role, to power orientations. The scores of the organizational index were 10.4 for nurses and 6.0 for care

workers, showing significant differences. For the preferred organizational culture, achievement orientation was highest in both groups. A newly established dementia-care specialized hospital showed a strong achievement oriented organizational culture with a common vision or purpose, suggesting that staff engages in duties with a strong sense of responsibility. The achievement orientation of the preferred culture was stronger than that of the existing culture. The results suggest that staff would act from a common view of duties, suggesting the importance to make organizational arrangement to maintain the orientation. The awareness of the power orientation among care workers was stronger than for nurses.

DIRECT AND INDIRECT EFFECTS OF SOCIAL ENGAGEMENT ON COGNITIVE IMPAIRMENT AMONG CHINESE OLDER ADULTS

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Objective: To decompose the total effect of social engagement on cognitive impairment through psychological well-being and to explore gender differences.

Methods: A total of 6,998 older adults aged 65 and over were obtained from the latest two waves of Chinese Longitudinal Healthy Longevity Survey. Social engagement was constructed by marital status, living situation, availability of help, availability of confidant, and social participation. Cognitive impairment was defined as ≤ 18 of the Mini-Mental State Examination. Psychological well-being was measured by seven items concerning mood-related and personality-related concepts of affect. The total effect was decomposed into direct and indirect effect by using logistic regression based on the Karlson, Holm, and Breen (KHB) method.

Results: The prevalence of follow-up cognitive impairment among the whole population was 15.69%, with 10.19% and 20.93% among male and female sub-sample respectively. The majority of old men scored 4 in social engagement while a majority of old women score 3. Old men had a better average score of psychological well-being than old women (19.52 vs. 18.44). The mediating effect was 15.38%, with 13.07% and 21.43% in the whole sample, male and female sub-sample respectively. However, the mediation was only significant in male sub-sample.

Conclusions: Social engagement was associated with an increased risk of cognitive impairment in old men. Moreover, part of the effect was significantly mediated by psychological well-being among male older adults. It helps us to pay more attention to old men when interventions are proposed to improve their cognitive function and quality of life.

PROMOTING ADVANCE CARE PLANNING IN COPD

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Purpose: Chronic Obstructive Pulmonary Disease (COPD) is one of the few causes of mortality and COPD patients are increasing especially aged 75 years and older in Japan. Advance care planning (ACP), which involves patients-provider communication about end-of-life care, is important for COPD patients to promote end-of-life discussion. This study

reviewed completion rates of advance directives (AD) and related factors to ACP discussion in COPD patients.

Methods: A systematic review was conducted searching of PubMed and CINAHL from 1992 to 30 June 2016. Keywords such as “Chronic Obstructive Pulmonary Disease (COPD)”, “advance care planning”, “advance directives”, “completion”, “factors”, and “predictors” were used to select the articles. Abstracts of the search results were reviewed according to inclusion criteria which described completion rates of AD and factors related to ACP process.

Results: Ten articles were included for the review regarding the study purpose. Qualitative research design was used in 5 studies of 10. Completion rates of AD were from 17% to 61%. A study of outpatient palliative care program for COPD reported that documented advance care plan at the initial appointment 0% changed 61% at follow-up. A multicenter, prospective, longitudinal study showed preferences regarding CPR or MV changed in 38.3% of the patients during the follow-up period, and related factors were generic health status, mobility, symptoms of anxiety and depression.

Conclusion: AD Completion rates and factors related to ACP process were well-not examined in COPD. Professional support to COPD patients is important, therefore, respiratory practitioners must choose the right time to promote ACP discussion.

SESSION 520 (POSTER)

DEMENTIA AND ALZHEIMER'S DISEASE I

ETHNIC DIFFERENCES IN FORMAL AND SOCIAL SUPPORT AND QUALITY OF CARE ON MOOD IN PEOPLE WITH DEMENTIA

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Ethnic differences have been found in caregivers' level and type of formal and informal social support offered to people with dementia. Both types of social support influence the emotional wellbeing of people with dementia. This study examined the influence of ethnicity on the relationship between the depression severity of people with dementia and the factors of social support and quality of care. As part of a larger study, 101 Latino American, 214 African American, and 321 Caucasian older adults with dementia of the Alzheimer type (DAT) were evaluated using the Mini Mental Status Exam. Caregivers were administered the Center for Epidemiological Studies Depression Scale, the Revised Memory and Problem Behavior Checklist, the Quality of Care questionnaire, and questions pertaining to the frequency of Formal Care and Social Support. A multiple regression model revealed that after controlling for patients' mental status and caregiver depression, a composite variable that combined quality of care and social support significantly explained an additional 2% of the variance in this sample. When examining these factors by ethnic group, caregiver depression remained an important predictor of the person's depression severity. However, only quality of care significantly predicted depression for Latino older adults with dementia, whereas, only frequency of social support predicted depression in African

American older adults with dementia. For Caucasians, neither quality of care or social support significantly predicted depression. These findings suggest that mental health professionals should consider ethnic differences when considering the relationship of quality of care and social support on the level of depression in people with dementia.

A LONGITUDINAL STUDY OF COGNITIVE DECLINE AND ITS FACTORS AMONG OLDER KOREANS: LATENT MIXTURE MODEL

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As Alzheimer's disease continues to place enormous burden on both the individuals and society, an identification of the patterns of cognitive change over time receives growing attention. This study identifies a mixture of heterogeneous trajectories of cognitive changes in the population-based longitudinal panel survey. Data came from a four-wave panel survey; Korean Longitudinal Study of Ageing (KLoSA) from 2006 to 2012. A sample of 2,445 is selected; 60 years of age or older who did not show cognitive impairment (i.e., MMSE-K greater than 24) in 2006. Cognitive function was assessed by MMSE-K. The latent growth mixture models (LGMM) were estimated in Mplus 7 to identify heterogeneous groups with cognitive change over time. Two distinct classes of patterns of change in cognitive functions show the best model fit. Class 1 (Stable group) represents 91.5% of the study sample, indicating relatively stable, yet somewhat downward trend over six years as noted by mean scores of MMSE-K (T1 = 26.9, T2 = 25.9, T3 = 24.9, T4 = 25.7). On the other hand, Class 2 (Rapid decline group; 8.5%) shows sharp decline from T1 to T3 (26.3, 20.2, 16.6) and stay around 16.7 at T4. A post-hoc analysis indicates that the rapid decline group were more likely to be female, have lower educational level, have more IADLs, and have lower participation with social activities. Disentangling two heterogeneous patterns of cognitive changes over time among older adults has significant implication for research, practice, and policy for older individuals with Alzheimer's disease and their family.

POTENTIALITIES OF MEMORY CAFÉS IN SUPPORTING PEOPLE WITH DEMENTIA AND THEIR CARERS

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Alzheimer/Memory Cafés recently emerged in several European countries and in North America as an initiative that involves people with dementia, their family/friend carers, and all others interested in dementia, focused in socialization with an educational component. The sessions occur monthly and include a presentation on a different topic alternately with a stimulation/recreation activity, as well as refreshments, in a very informal and café-like atmosphere. The present study gathers evidence from eleven *Cafés* groups developed across Portugal in order to present the impact of this type of intervention in supporting people with dementia and their family members/carers. During the last three years of program implementation, 177 persons with

dementia and 737 family members/carers, as well as 142 persons with memory problems and 272 persons interested on this topic have participated on the 226 *Cafés* sessions that were developed. Qualitative data was collected with a subgroup of family members (N= 50) regarding their opinion on the main benefits of attending sessions to themselves and their relatives with dementia. Main key themes from the analysis, such as dementia-friendly environments, where family can be together with their relatives, other caregivers and persons with dementia socializing in the community, and the potential of *Cafés* for reducing the stigma, obtaining information and discussing the disease openly with other persons (e.g., family, carers, professionals, volunteers) are presented and discussed as important potentialities of this type of support available to people with dementia and their carers.

WHAT DO WE NEED TO KNOW? A CONTENT ANALYSIS OF INTERNET-BASED DEMENTIA RESOURCES

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With the rise and popularity of the Internet, information about virtually any topic is readily accessible to anyone with computer access and a basic understanding of navigating the Internet. Approximately 80 percent of Internet users have used the Internet to search for health-related information. However, not every website on the Internet is monitored or reviewed for accuracy, readability, or usability. While research has investigated the qualities and elements of health education websites, little research has focused specifically on dementia websites. Exploration in this area is critical, as millions of Americans are expected to experience dementia within the coming decades and may seek information predominantly online. In this study, a content analysis was conducted with dementia websites to investigate how the depth of information provided in each website is associated with website rank, reading level, navigability, website domain, and types of dementias mentioned. Websites were coded by two graduate students using a predetermined codebook; interrater reliability was calculated. Correlational analyses and a standard multiple regression analysis were conducted on the variables. Results revealed that many dementia websites present information at a reading level too difficult for the average American to comprehend. Furthermore, results demonstrated that websites that are clearly marked and well-organized tend to provide information about multiple types of dementia, which may allow consumers to glean deeper information about dementia and enhance their online learning experience. Future research should strive to investigate full websites rather than initial pages and the extent that each website discusses each type of dementia.

SPATIAL, TEMPORAL, AND VARIABILITY NORMS FROM THE GAITRITE SYSTEM PREDICT MILD COGNITIVE IMPAIRMENT

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Mounting evidence indicates associations among temporal, spatial, and variability metrics of gait and clinical outcomes including fall risk, mild cognitive impairment (MCI), and movement disorders.

Data from the Victoria Longitudinal Study (VLS) for select cohorts and retest waves were employed as a cross-sectional reference sample of older adults with intact cognitive performance and no history of falls. Participants ($n=213$) were 70 to 85 years of age ($M=77.00$, $SD=4.22$), with 152 women and 61 men. Regression-norming techniques were employed in the PREVENT Study, a multifactorial investigation of dementia, to identify participants with MCI. PREVENT participants (Controls=23, MCI=11) were 72 to 83 years of age ($M=77.45$, $SD=4.23$) with 20 women and 14 men. Select gait metrics were gathered from both samples using a 16-foot GAITRite computerized walkway. Participants walked across the mat at a self-determined normal pace a total of 8 times comprising 2 conditions: a walk-only condition (4 passes at a normal pace) and walking under cognitive load (4 passes counting backwards).

The combination of velocity (under both conditions), single support time (walk-only) and Stride Time SD (walk-only) yielded a 90.6% MCI-classification accuracy (81.8% sensitivity; 95.2% specificity). Each SD increase in velocity under cognitive load was associated with a 25-fold decreased risk of MCI classification, while each SD increase in single support time was associated with a 17.75-fold increased risk. Findings provide strong preliminary evidence that regression-derived norms of specific GAITRite indicators can facilitate identification of MCI risk within an independent sample.

DCRC_ABC RESOURCES TO SUPPORT THE MANAGEMENT OF BEHAVIOURAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA

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In 2011 the Australian Government funded the Dementia Collaborative Research Centre–Assessment and Better Care (DCRC-ABC) to develop Behaviour Management, A Guide to Good Practice, Managing BPSD. We systematically reviewed academic and grey literature to examine the evidence for psychosocial, environmental and biological interventions for managing BPSD. Intervention studies were critically evaluated to determine the strength of the evidence. The document provides guidance for the Australian Government funded Dementia Behaviour Management Advisory Services (DBMAS). Additional considerations for Aboriginal and Torres Strait Islander peoples and those from Culturally and Linguistically Diverse (CALD) backgrounds were incorporated. Training packages support the implementation of the evidence and practice-based principles of the Guide.

DCRC-ABC subsequently developed summary versions; A Clinicians' Field Guide to Good Practice, Managing BPSD and A Guide for Family Carers, Dealing with Behaviours in People with Dementia for family carers. Electronic resources followed with the BPSD Guide App for clinicians and the Care4Dementia App for family carers and frontline staff. Evaluation of the BPSD Guide App demonstrates its capacity to support clinicians.

In collaboration with Northern Territory DBMAS, DCRC-ABC developed BPSD posters to assist clinicians supporting those living in remote Aboriginal communities. A national knowledge translation (KT) project with the Australian Government funded Dementia Training Study Centres supports the implementation and evaluation of DCRC resources based on the Guide. A project to develop and evaluate an eLearning resource highlighting additional considerations for those managing BPSD in lesbian, gay, bisexual, transgender and intersex (LGBTI) people is underway. (www.dementiaresearch.org.au/bpsdguide.html) APPS - search 'BPSD' 'Care4Dementia'

EFFECTIVENESS OF A COLLABORATIVE CONTINUUM OF CARE MODEL FOR PATIENTS AND FAMILIES WITH DEMENTIA

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Patients, families, and providers struggle with the complexities of Alzheimer's disease and related dementias as families report poor understanding and poor support for care planning. A quality improvement model was established at Stanford Health Care in 2008 to follow patients and families through the continuum. The model has since been strengthened with collaborations from Stanford's Center for Memory Disorders and the Stanford NIH Alzheimer's Disease Research Center. This poster outlines the results of a survey from caregivers receiving transitional care coordination and home visits. Survey revealed effectiveness of the program. The importance of integration (rather than fragmentation) of services and providers was stressed, along with knowing there was a number to call for support through the continuum. Of the 50% of respondents who completed the surveys: nearly 100% of respondents felt that consultations, family meetings, referrals, guidance and support during transitions of care were 'Very Helpful'; that information on coping and understanding complex behavior was 'Very Helpful'; that the information provided improved the quality of life for the patient; that the caregiver understood the disease better; and that the program helped their family avoid future problems. Nearly 100% 'Strongly Agreed' that they felt comfortable requesting help from staff in the future and had an overall satisfaction with being "heard" as new problems arise. At a junction where a cure is still far away, all efforts to support families and improve quality of life are strongly welcomed by families, most of whom have little or no preparation for a caregiving role.

THE KINTUN PROGRAM IN CHILE: EFFECTS IN OLDER PERSONS WITH MILD TO MODERATE DEMENTIA

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The Kintun Program is an innovating health intervention project launched in Chile in 2013. It aims to enhance participation of persons with dementia (PwD) in everyday activities, respite for the caregivers and improve home-based care. The program involves different components including day care center, home visits, training for caregivers, counseling

and community education. These actions are developed by a multidisciplinary team. This program represents a novel approach to dementia care in Chile as a country with policies and dementia care strategies still under development. To analyze the effect of the Program Kintun on the PwD, a quasi-experimental study was conducted during the implementation of the program, with repeated measures at baseline (T.0.) and after 10–14 weeks of intervention (T1) during September 2013 and June 2014. Data were collected using: ADCS-ADL (activities of daily living), MMSE (cognition), TUG (fall risk) and NPI-Q (neuro-psychiatric behaviors and distress). Data were analyzed with t-student considering $p < 0.05$ and 95% CI. Final sample included 35 PwD, mean age 77.3 ± 8.14 , 54.3% (19) women. Dementia severity 51.4% (18) mild, 42.9% (15) moderate, and 5.7% (3) moderate-severe. Cognition, activities of daily living, and distress scores show no difference (MMSE: T.0 = 13.7 ± 5.51 and T.1 = 13.9 ± 5.64 , $dif = 0.27$, $p = 0.713$; ADCS-ADL: T.0 = 46.7 ± 16.34 and T.1 = 48.7 ± 17.46 , $dif = 2.0$, $p = 0.293$; NPI-Dis: T.0 = 14.7 ± 10.40 and T.1 = 12.9 ± 11.49 , $dif = 1.85$, $p = 0.267$). Fall risk and neuro-psychiatric behaviors scores show improvement (TUG: T.0 = 16.7 ± 7.18 and T.1 = 12.68 ± 3.18 , $dif = 4.05$, $p < 0.001$; NPI-Q: T.0 = 23.4 ± 11.92 and T.1 = 18.5 ± 11.51 , $dif = 3.92$, $p < 0.45$). The Kintun Program shows positive effects on neuro-psychiatric behaviors, fall risk and maintain cognition and activities of daily living.

PROACTIVE DEMENTIA CARE: EARLY INTERVENTIONS WITH PERSONS WITH DEMENTIA AND THEIR CAREGIVERS

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Background: Psychosocial interventions addressing caregiver burden in moderate-to-severe neurocognitive disorders have been extensively studied and use an array of validated outcome measures. Technological advances in imaging and biomarker technology allow for earlier diagnosis; however, psychosocial interventions and related outcomes measures have not kept pace. Current knowledge gaps include research on psychosocial interventions for: 1) early stages of the disease; and 2) caregiver-care recipient dyads. This presentation reports findings from a pilot study addressing these gaps.

Methods: This study examined the effects of Proactive Dementia Care (PDC), an intervention for individuals with early-stage neurocognitive disorders, and their caregivers, conducted over a 3-year period at a University Cognitive Disorders Clinic in a metropolitan area in the Intermountain West. Eighty dyads (an individual diagnosed with a progressive dementia and a designated caregiver) were enrolled. Study subjects were randomized into either the PDC treatment arm or the Standard Dementia Specialist Care (SDSC) treatment-as-usual arm. The PDC intervention allowed clinicians to partner with care dyads at the time of diagnosis to develop a comprehensive set of planning steps and to support families in proactively completing these steps.

Results: Data from multiple outcome measures was collected at 4 time-points for this study: baseline ($n = 80$), 4 months ($n = 58$), 12 months ($n = 54$), and 18 months ($n = 54$). Analyses were run to identify differences between the intervention and the treatment as usual group. This presentation

will describe multiple outcome measures, report key findings, discuss lessons learned, and summarize next steps.

SEEING WHAT THEY SEE: COMPENSATING FOR CORTICAL VISUAL DYSFUNCTION IN ALZHEIMER'S DISEASE

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This poster reports on a study of brainsight in Alzheimer's disease (AD), integrating findings from three preparatory studies lead by neuropsychologists, engineers and social scientists. The work relies on unique insights offered by those with Posterior Cortical Atrophy (PCA) – a rare dementia usually caused by AD, but characterised by early, progressive visual impairment in contrast to relatively spared memory and language function.

A total of 27 people with PCA and a comparative sample of 23 people with typical AD completed (i) a battery of cognitive tests assessing memory, language and visual function, (ii) tasks involving navigation and object finding within a simulated environment (PAMELA) and (iii) in-depth individual and dyadic interviews in the home.

Neuropsychological and PAMELA studies identified people with PCA had particular difficulty in recognising and locating objects presented among visual clutter. PAMELA studies provided suggestions on the optimal environmental conditions for people to navigate and locate objects.

The interviews concurred that perceptual problems in AD result in numerous physical challenges in daily life (e.g. dressing, reading) but the management of these difficulties was mediated by complexities within the social environment (e.g. identity maintenance).

We conclude that widely varying profiles of cortical visual dysfunction in AD can result in a range of challenges for individuals and families, and that the physical environment can be moderated in ways which support performance of everyday activities. This project highlights the need for interventions to bolster existing capital within the family system and acknowledge the changing nature of AD-related difficulties over time.

EQUINE GUIDED SUPPORT PROJECT: WORKSHOPS FOR PEOPLE LIVING WITH EARLY STAGE DEMENTIA AND CARE PARTNERS

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There are 35 million people living with dementia worldwide. This number is expected to triple by 2050. Family caregiving remains the most common form of care, although researchers from around the world find that stress significantly typifies this experience. Additionally, persons are diagnosed earlier in the process, so that living with early-stage dementia is becoming more of a global reality. Yet few specific services exist to meet the needs of this population and their

family caregivers. This project is an innovative approach that offers considerable promise for application beyond the San Francisco Bay area where it was conducted.

A guided tour of the equine facility, followed by two 5-hour workshops, focused on activities with horses, discussion groups and mindfulness practices led by trained staff. Activities with horses included observing herd behavior, grooming, leading them, and connecting with them over the fence - all were intended to teach non-verbal communication skills to both care partners and the person living with dementia (PWD). Reflection on these experiences was the discussion groups' goal.

Pre/post-test design used standardized measures of stress, burden, mood, and social support for both care partners and PWD. Eighteen completed assessment (n=26): 9 dyads of care partners and PWD. Quantitative and qualitative findings indicated significantly increased positive perception of social support; greater reciprocity, awareness, upliftedness and appreciation of one another in dyads. Trends for improved mood in both members of the dyad were also noted. Future plans include partnering with other sites, expanding program's positive outcomes on a larger scale.

ARE NEIGHBORHOODS ASSOCIATED WITH THE LIKELIHOOD OF DEMENTIA? A STUDY IN THE TOKYO METROPOLITAN AREA

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Background: Although several risk factors associated with dementia have been investigated on individual levels, little is known regarding whether neighborhood factors affect dementia. This study explored the relationship between neighborhood-level variables and dementia among elderly people.

Methods: A cross-sectional questionnaire survey was conducted in 2015. The participants were all residents aged 65+, living in a ward in the Tokyo metropolitan area, which comprises 262 neighborhood areas (n=132,005). We measured demographics, socioeconomic status, health status, and social capital (SC), in addition to providing a self-administered dementia checklist. The checklist consisted of 10 items, and its validity and reliability have been confirmed. The cut-off point was 17/18, and a score of 18+ indicated being demented (Clinical Dementia Rating of 1+). SC comprised three indicators: social cohesion, social network, and social participation. Neighborhood-level variables included the aging rate and educational level (proportion of people graduating from junior high school; higher proportions indicated lower neighborhood educational level). Neighborhood SC was an aggregate of the individual scores of each SC indicator.

Results: The analysis included 75,358 questionnaires. A multilevel logistic regression analysis stratified by sex showed that higher neighborhood educational level was associated with less likelihood of dementia occurring in both sexes, after controlling for individual-level and other neighborhood-level covariates. Moreover, women living in

neighborhoods with larger social networks were less likely to be demented.

Conclusions: Higher educational levels and denser social networks at the neighborhood-level were associated with less likelihood of dementia in older Japanese. Our findings provide valuable evidence regarding contextual factors of dementia.

BEHAVIORAL IMPACT OF TAKING AN ONLINE DEMENTIA RISK ASSESSMENT

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Preventive strategies for dementia may be most effective if started early, though their implementation is a challenge. This longitudinal study examined behavioral intentions and behavior change in 118 older adults (M age = 69 yrs) who used an online dementia risk assessment tool. Participants provided health information on the website and received a personalized report that described their risk of developing dementia and recommended actions. Before and immediately after using the tool, participants indicated their intention to make health promotion changes. Then, 30 days later, they indicated which actions they had taken. At baseline, 50% of participants intended to take at least one action, which rose to 62% after reviewing their personalized report. Significantly more people intended to change their alcohol intake, diet, exercise, speak with family about risk, see their primary care physician, and obtain information about dementia after reviewing their report. One month later, 64% of participants reported they had taken at least one action, though not always the people who intended to. Participants who received more urgent risk information were more likely to endorse behavioral intentions ($r = .25, p < .01$) and report having made changes ($r = .26, p < .01$). However, one month after using the tool, 37% of the sample had taken no actions. Results from this study suggest that using an online dementia risk assessment tool has an inconsistent impact on behavior change that might reduce the risk of dementia.

HOW THE MINDFULNESS CONCEPT COULD BENEFIT THE CAREGIVING OF OLDER ADULTS

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Publications about mindfulness are growing exponentially since 2000 and are dominated by two major theoretical frameworks. The first one, related to meditative practices, defines mindfulness as paying attention in a purposeful and non-judgmental manner to the present moment. The second, more related to information processing, defines mindfulness as the processes of actively making new distinctions about a situation and its environment by avoiding to rely on automatic categorizations. With respect to the interaction between the caregiver and the person receiving the care, mindfulness might exert both direct and indirect benefits on the psychosocial well-being of both. We introduce in our presentation an information-processing approach that elaborates and identifies the mechanisms of how mindfulness can directly improve the interaction quality between the cared-for person and the caregiver. The notions of the present moment and as well as non-judgmental attention are the essential factors in

this process. As factors that lead to such an attitude we propose an integrative heuristic model that takes into account characteristics of both the caregiver and cared-for person.

PAIN INTERFERENCE IN PERSONS WITH DEMENTIA: A BEGINNING EXPLORATION OF ITS ASSESSMENT

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There is strong evidence that pain is highly prevalent in persons with dementia (PWD), yet under detected and poorly treated. Pain interference, the degree to which pain interferes with a person's ability to function, is a key pain treatment outcome, yet little is known about how to assess pain interference in PWD. Accurate assessment of pain in PWD is challenging because dementia makes PWD progressively less able to accurately self-report; caregiver proxy reports are thus an important part of pain assessment for PWD. The present study examined discordance between PWD and proxy reports of pain interference in a sample of 203 community-dwelling veterans with pain and dementia and their caregivers. Results indicated only a moderate association between PWD and proxy report for pain interference, $r=.37$, $p<.0001$. In comparison, the PWD/proxy report association for pain intensity was somewhat higher, $r=.46$, $p<.0001$. Next, predictors of PWD/proxy discordance were explored using two multivariate regression models with (1) pain interference discordance as the dependent variable and (2) pain intensity discordance as the dependent variable. Burden, mutuality, and cognitive impairment were simultaneously entered as predictors in both models. There were no significant predictors of pain interference discordance, and mutuality emerged as the only unique significant predictor of pain intensity discordance ($\beta=-.20$, $p=.0092$). In summary, pain interference PWD/proxy discordance is considerable and not well characterized. Because the effects of pain treatment efforts cannot be fully understood without valid assessments of pain interference, it will be important for investigators to conduct additional research in this area.

INFORMATION AND COMMUNICATIONS TECHNOLOGY IN DEMENTIA CARE: ACCEPTANCE AMONG PROFESSIONAL CAREGIVERS

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When it comes to dealing with symptoms associated with dementia, a number of studies have established the effectiveness of psychosocial interventions. However, in view of

limited financial and human resources, implementing effective interventions in daily practice can be a major challenge for care providers. Recently, there has been a growing interest in the use of Information and Communication Technologies (ICTs) for supporting psychosocial interventions in nursing home settings. ICTs are cost-effective and widely available, and using them could potentially ease the burden of dementia care delivery. Therefore, in order to assess acceptance and attitudes of professional caregivers regarding ICTs in dementia care, a sample of $N = 205$ professional caregivers ($M = 38.81$ yrs; 70% female) from 10 residential care facilities located in Berlin completed a standardized questionnaire (TA-EG) on factors associated with technology use and acceptance. Additionally, 11 semi-structured interviews were conducted. Results showed that older and female caregivers, respectively, reported less Competence ($z = -4.21$, $p < .01$ and $z = -4.44$, $p < .01$, resp.) and Enthusiasm ($z = -2.38$, $p < .05$ and $z = -4.01$, $p < .01$, resp.) regarding the use of technology in their work environment. Furthermore, qualitative content analysis of the interview transcripts revealed both factors promoting the use of ICTs in residential dementia care, and potential barriers. Important recommendations for the development of ICT-based interventions in dementia care will be reported and general implications for their design and successful adoption will be discussed.

GENTLE PERSUASIVE APPROACHES IN DEMENTIA CARE: BUILDING STAFF CONFIDENCE AND EFFICACY

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Literature suggests that patients living with dementia in the hospital are complex to care for, and staff are under-prepared to meet their unique needs. This proportion is expected to significantly increase, creating an urgent call to action. The *Gentle Persuasive Approach* (GPA) in Dementia Care: Supporting Persons with Responsive Behaviours is an evidence-based Canadian curriculum that is designed to help provide person-centered care for patients living with dementia in residential care, and offers a potential solution for other areas of practice. This poster highlights the benefits and limitations of introducing GPA in acute medicine and mental health units at Vancouver General Hospital.

We used mixed methods to evaluate a GPA education program delivered through a 7.5-hour workshop for staff members from acute medicine and mental health units. After the GPA workshop, 112 staff completed the standardized GPA program evaluation survey. Using semi-structured open-ended questions, we interviewed 22 staff that completed the GPA education. Staff responses were thematically analysed.

Eighty five percent of staff that attended the GPA workshops had no previous formal dementia care education. All staff agreed that the GPA course would improve how they cared for people with dementia in the hospital. Results of the interviews revealed useful information for future facilitation of GPA implementation in the hospital setting.

Supporting the facilitators and addressing limitations around GPA implementation can further improve the confidence, efficacy and capacity for staff to successfully care for patients living with dementia in the hospital.

CAREGIVING ACTIVITIES OF FAMILY CARERS AFTER TRANSITION TO NURSING HOME: FINDINGS OF A SURVEY

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The period after nursing home admission is particularly challenging. Family carers of people with dementia have to cope with their changed role in the new setting. To support them in maintaining their caring role, their contribution in the nursing home must be better understood.

This secondary analysis used German data from a prospective cohort study which was part of the European project RightTimePlaceCare (2010–2013). Personal interviews were performed using a standardized questionnaire focusing on frequency and lengths of visits during the past 14 days, and the frequency of 15 predetermined care activities during the past 30 days. Baseline interviews took place 1–3 months after admission (T0), and follow-up 3 months later (T1). Descriptive data analysis was conducted.

The answers of n=119 family carers, mainly children, were analyzed. On average, they visited their relative 6–7 times a fortnight, usually between 1–2 hours. Siting and talking (T0=77%/T1=69%) and taking the person with dementia for a walk (T0=62%/T1=59%) were mainly reported. Support in ADL was provided constantly by around 20% of the relatives. Activities like crafts and sports were mentioned only rarely (T0=0%/T1=3%). No significant change in the behavior of family caregivers was noted over the observation period. However, most activities were reported less often at T1. A few activities slightly increased, such as supporting the person with dementia in crafts, sports and music. The results provide a detailed picture of family carers activities, indicating that involvement in more active everyday activities in the nursing home could be increased.

RICE-FARMING CARE FOR PEOPLE WITH DEMENTIA; A NOVEL WAY OF SOCIAL PARTICIPATION FOR THE ELDERLY

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Background: Although the collaboration between care and agriculture has been seen in the European context, little has been reported about the effect of care farm for the people with dementia. Rice-farming has been embedded in Japanese cultural traditions. We propose the novel method of social participation for dementia which uses rice-farming in its program.

Aim: To conduct a pilot study that assesses the effect of rice-farming care on the QOL and social participation of the people living with dementia.

Methods: Eight elderly persons (7 men, 1 woman) have been included in the study. Their mean age was 68.3 ± 6.2 years. Their diagnoses were MCI (n=2) and Alzheimer's disease (n=3), and the others (n=3). Their mean of MMSE score was 22 ± 4.8 points (range 14–27). They participated in the rice-farming program with the experienced facilitators every week, followed by the problem-solving group work. We observed and evaluated their degree of independence and their interaction each other during the program. Questionnaire about QOL, social participation, and physical health was collected prior to the study.

Results: All of them are continuing the program at now, and attendance rate of 10 weeks was 92.5%. There was no unexpected events including injuries or rejection. All of them enjoyed the rice-farming subjectively and objectively, but those with less impaired ADL showed more participation to the program.

Discussion: Our study revealed that people living with dementia can enjoy rice-farming safely. Compared with traditional day-care services, they could participate in the program more spontaneously.

CONCERNS OF ALZHEIMER'S DISEASE IN OLDER CHINESE AMERICANS: THE ROLE OF ALZHEIMER'S LITERACY

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Purpose: This study aims to understand the concerns of Alzheimer's disease (AD) in a sample of Chinese American elders aged 55 or older living in senior housing facilities. Focus of this study is the role of Alzheimer's literacy (encompassing actual knowledge of AD and cultural beliefs of AD) in influencing elders' concerns of AD.

Methods: Survey was delivered to 207 Chinese American elders (Mean=75.3, SD=7.5) through face-to-face interviews. Participants were recruited from four subsidized senior housing facilities in Phoenix metropolitan areas. About two thirds were female, and 38.1% had less than high school education.

Results: Participants had moderate levels of concerns about AD; the younger age group (55 to 64) was more concerned about AD than the older age group (age 80 or above). Participants who had more actual knowledge of AD had higher levels of concerns of AD; and those who embraced more traditional Chinese beliefs of AD (e.g., AD determined by one's fate) reported higher levels of concerns of AD. Other significant risk factors included individuals' depressive symptoms and lack of inter-generational support.

Conclusion: Efforts should be made to address worries of Alzheimer's in Chinese American elders in subsidized housing facilities. Emphasis should not be limited to enhancing individuals' knowledge of AD. Special attention needs to be paid to reducing culturally biased perceptions of AD and addressing emotional disturbance that could arise in this group after they acquire information of AD, such as that AD is not curable at this point of time.

SESSION 525 (POSTER)

DEMENTIA I

ANTIPSYCHOTIC USE PATTERNS AMONG PATIENTS WITH DEMENTIA DURING TRANSITIONS FROM HOSPITALS TO SNFS

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Transitions from a hospitals-to-skilled nursing facilities (SNF) for patients with dementia (PwD) are fraught with challenges for patients, caregivers, and their providers. Research suggests that these transitions are further complicated by antipsychotic medications commonly used to manage dementia-related behavioral symptoms. Some SNF providers report being unwilling/unable to accept PwD requiring antipsychotics to manage behavioral symptoms and describe routinely receiving inaccurate/incomplete medication histories regarding antipsychotic utilization during hospitalization highlighting abrupt withdrawal of antipsychotics prior to discharge as a common problem. No research has examined patterns of antipsychotic usage among PwD during hospital-to-SNF transitions. This retrospective cohort study identified changes in antipsychotic medication administration during the last 48 hours of hospitalization as compared to antipsychotics ordered upon discharge. Patients with dementia and primary discharge diagnosis of stroke/hip fracture who were discharged from one of two hospitals to a SNF (N=343) between 2003–2008 were included in the analyses. Overall 21% of patients received an antipsychotic within the last 48 hours of discharge. Twenty-five percent of patients who received an antipsychotic within the last 48 hours of hospitalization had potentially abrupt discontinuation of antipsychotics on discharge. These rates varied by medication, with Haldol and Seroquel having the highest rates of potential abrupt discontinuation at 65% and 27% respectively. Future research should examine inter-setting communication regarding these medication histories as limited information about the level of medication interventions required to manage complex symptoms and related therapeutic benefit or adverse events may hinder the timely development of individualized care plans in the SNF setting.

KNOWLEDGE, BELIEFS, AND WILLINGNESS: INGREDIENTS TO PREVENT ALZHEIMER'S DISEASE

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Modifiable risk factors for Alzheimer's disease (AD) have been actively sought and identified in recent years. Despite this, it remains a challenge to encourage risk-reducing lifestyle and health behaviors in individuals at risk. The aim of this study was to investigate whether AD knowledge, beliefs, and willingness to reduce risk would be the key determinants of AD preventive behaviors. These data were drawn from Alzheimer's Universe (www.AlzU.org), an online course and educational program developed in the USA. One hundred and forty four people (mean age=61.1; SD=9.1) who completed

both baseline and follow-up (3 months after completion of the program) questionnaires were included in these analyses. Eighty three percent of participants were female, the majority (96.5%) were Caucasian and sixty eight percent had tertiary education. Linear regression suggested that changes in willingness ($\beta=.539$, $p<.01$), changes in perceived susceptibility ($\beta=-.565$, $p<.05$), baseline knowledge ($\beta=.030$, $p<.05$) and baseline perceived susceptibility ($\beta=1.159$, $p<.001$) were significantly related to an increase in AD preventive behaviors. These factors were adjusted for age, gender, education, ethnicity and smoking status. Further analysis demonstrated that change in knowledge was a significant moderator ($p<.05$) of the relationship between willingness at baseline and behavioral changes. This study suggests that an increase in knowledge and willingness is linked to increased AD preventive behaviors. Promoting effectiveness-proven educational programs such as Alzheimer's Universe may encourage additional AD preventive behaviors and therefore reduce the risk of developing AD.

"WORK IS LIKE A CONVEYOR BELT": FINDINGS FROM AN ETHNOGRAPHIC STUDY OF ACUTE TRAUMA WARDS

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Older people and their families consistently place high value on hospital care which promotes personalised relationships between staff and patients; often termed Person-Centred Care (PCC). PCC features in care guidelines from across Europe, North America and the Asia-Pacific region, evidencing the value placed on approach emphasising 'personhood' enacted via PCC approaches.

PCC practices can often become displaced in hospital care settings, relying upon highly routinized and task driven care orientations which prioritise physical rather than psychological health needs. This paper reports on an ethnographic study undertaken as part of an international research programme exploring ways to better deliver care to people living with dementia who are admitted to secondary care with hip fracture.

Observations were undertaken by five academic and three trained 'lay' researchers in Emergency Departments and Trauma wards in three hospitals from across the United Kingdom, generating a data corpus of 144 hours of observations (48 observations, 3 hours per observation). Applying a thematic lens to fieldnotes collected from the differing spaces, practices that were 'socially malign' featured regularly alongside 'positive person work' (Kitwood, 1997). The paper will present examples and provide recommendations for the amplification of PCC opportunities that can to buffer the task driven emphasis of acute care environments. We concluding that, being task orientated and providing PPC are not mutually exclusive phenomena.

I'M STILL HERE: THE EXPERIENCE OF LIVING WITH EARLY ONSET DEMENTIA

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Dementia is a growing social and health care concern in today's world. Although dementia is most often associated with the aging process, younger people can also be diagnosed with the disease. Early onset dementia (EOD) is dementia onset before the age of 65. Dementia's degenerative nature is particularly challenging for younger people, as the disease tends to occur during a phase of life occupied with and characterized by middle-age tasks. In effect, younger people with dementia are forced to navigate and live a health experience normally encountered later in life. This presentation will summarize a Master's of Nursing research study that examined the EOD experience from the point of view of four adults under the age of 65 living with dementia, in particular examining how these individuals perceived their own personhood. Using Interpretative Phenomenological Analysis (IPA) as the research method, as well as integrating an arts-based approach, this qualitative study revealed that the EOD experience can be incorporated into six themes: *A Personal Journey, Navigating the System, The Stigma of Dementia, Connecting to the World, A Story Worth Telling* and *I'm Still Here*. The participants' stories as presented via these six thematic threads show that despite the challenges of living with dementia, people with EOD can have a strong sense of personhood. Implications for practice and policy making, as well as recommendations for future dementia research will be discussed.

INCREASED CARDIOVASCULAR CAPACITY IS ASSOCIATED WITH CORTICAL THICKNESS IN OLDER ADULTS WITH VCI

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Vascular Cognitive Impairment (VCI), also known as vascular dementia, is after Alzheimer's Disease (AD) the most common type of dementia worldwide. A common biomarker of AD is a decrease of cortical thickness. Hypertension and diabetes are common risk factors for cerebral small vessel disease, which contribute to the development of cognitive vascular impairment. Exercise is a promising strategy for altering the trajectory of dementia by altering brain structure and function. The aim of this study was to investigate the association between general cardiovascular capacity (Six-Minute Walk Test) and changes in cortical thickness in older adults with VCI. Seventy-one older adults aged 56–96 years with VCI were randomly assigned to either a 6-month trice-weekly aerobic training program, or a 6-month nutrition program (i.e., control). Participants performed a 3T MRI scan at baseline and trial completion to determine cortical thickness. Results showed that improved general cardiovascular capacity in the aerobic training group, measured by an increase in performance on the Six-Minute Walk Test, was correlated with a higher cortical thickness at six months ($r = 0.56$, $p = 0.045$). Thus, a 6-month aerobic training program might be a good strategy to prevent cortical thinning in older adults diagnosed with VCI.

MULTIVARIATE TRAJECTORIES OF COGNITIVE DECLINE IN OLD AGE: CLUSTERS AND RISK FACTORS

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This exploratory study aimed to identify clusters of deceleration trajectories in terms of longitudinal multi-domain measurements of cognitive function, which would be related to common or specific risk factors. We conducted annual health check-ups for aged residents in Kusatsu, Japan, in 2002–2014, which included the Mini-Mental State Examination (MMSE). This analysis utilized a part of the data composed of up to 10 observations for 887 participants who scored 25 or higher on the baseline MMSE. We applied the group-based multi-trajectory model to the repeated measurements of six sub scores of the MMSE to identify four typical trajectories, which were characterized by (1) intact cognitive function, (2) lower attention, (3) lower attention, early decline in recall and declining orientation, or (4) lower attention and declining recall, orientation, language and construction. The trajectories were taken by 49%, 39%, 7%, and 4% of the subjects, respectively. The logistic regression analyses revealed that membership in each of the latter three trajectory groups was associated with (2) older age, lower education, diabetes mellitus, hypertension, and high white blood cell counts; (3) older age, low ankle-brachial blood pressure index, diabetes mellitus, and low hemoglobin levels; or (4) lower education, history of stroke, low hemoglobin levels, high white blood cell counts, tooth loss, and hypertension. There appeared two different trajectories of steep cognitive decline, one of which was related to diabetes mellitus and atherosclerosis; the other, to hypertension, inflammation, and stroke. In addition, tooth loss may be relevant to the latter, and anemia, to both.

E-INTERACTION WITH CONSENSUS-BASED RESOURCES FOR DETECTION AND MANAGEMENT OF DEMENTIA IN PRIMARY CARE

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Recognition of dementia in primary care remains challenging even as national attention to the issue has risen. Despite the clear ethical, safety, health, and financial planning benefits of addressing cognitive health early, identification of dementia in at risk patients mostly happens at a time of crisis, hospitalization, or late in the disease. The goal of this project was to bring together high performers in Primary Care and Gerontology to streamline the profuse dementia care resources into a coherent framework for stimulating best practices in recognition and management of cognitive impairment in primary care. Participants were identified using the DARTNet Practice Performance Registry to rank high performers in diagnosis of dementia (prevalence of ICD-9/10 codes). Ten practicing primary care physicians were recruited from geographically diverse locations across the United States. A mixed methods approach was applied to resource evaluation and focus group domain-based moderated discussion. The work of the panel produced

an adaptable algorithm and identified resources included in a web-based interactive toolkit readily accessible and disseminated to primary care clinicians through the American Academy of Family Physicians' website and other conference and meeting venues, free of charge. Evaluation and reach of the toolkit is measured by ongoing web-analytics (visits, repeat visits, pages viewed, time in toolkit, etc.) and user surveys. Analysis is underway to fully characterize the user value of the toolkit. Development and availability of the toolkit is creating a greater awareness and ability to detect cognitive impairment at an earlier stage in disease progression among primary care physicians.

EFFECTS OF AMYLOID ON CHANGES IN COGNITIVE AND PHYSICAL FUNCTION IN VASCULAR COGNITIVE IMPAIRMENT

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Alzheimer's disease (AD) and subcortical ischemic vascular cognitive impairment (SIVCI) are the two most common causes of cognitive impairment and often patients present with mixed AD-SIVCI pathology. Currently, much of our knowledge on the effects of co-existing amyloid pathology in SIVCI are based on cross-sectional studies and little is known about their effects on changes in cognitive and physical function over time. Thus, the objective of this study was to assess the impact of amyloid pathology on global cognitive, executive functions, and physical function over a 12-month period in people with SIVCI. This was a planned secondary analysis of data acquired from a proof-of-concept randomized controlled trial of aerobic activity in people with SIVCI. A hierarchical multiple linear regression analysis was conducted to determine the unique contribution of amyloid pathology on cognitive/physical function after controlling for age, experimental group assignment, and baseline cognitive/physical performance. We found that amyloid pathology significantly predicted decreased performance in: 1) Attention (Stroop Test – adjusted R-square change of 32.0%, $p < 0.05$); 2) Set shifting (Trail Making Test – adjusted R-square change of 34.7%, $p < 0.05$); 3) Processing speed (Digit Symbol Substitution Test – adjusted R-square change of 35.0%, $p < 0.05$) and; 4) Falls risk (Physiological Profile Assessment – adjusted R-square change of 9.0%, $p < 0.05$). However, amyloid did not predict changes in global cognition or working memory ($p > 0.05$). Our study suggests that amyloid plaques might be a marker for future decline in cognitive and physical performance among older adults with a primary diagnosis of SIVCI.

HOSPITAL ADMISSIONS OF PERSONS WITH DEMENTIA: RESULTS OF THE EUROPEAN RIGHTTIMEPLACECARE PROJECT

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Persons with dementia are at high risk of hospital admission. Although often unavoidable, the referral to an emergency department (ED) or admission to an acute hospital

represents an unfavorable discontinuity of care with threats to persons with dementia, e.g. nosocomial complications and deterioration of mobility and cognition. There may be different patterns of hospital admission in persons with dementia across Europe because of different health care services. We conducted a secondary analysis of data assessed through the Resource Utilization in Dementia within the European project RightTimePlaceCare (countries: DE, EE, ES, FI, FR, NL, SE, UK). The study population comprised 2014 persons with dementia living at home and being at risk of institutionalization ($n=1223$) or admitted to a nursing home during preceding 3 months ($n=791$). Mean age was 82.9 ± 6.5 years and mean MMSE 13.2 ± 6.8 ; 67% were women.

Out of 1719 persons with dementia assessed at three months follow-up, $n=194$ (11.4%) had experienced at least one admission to ED and/or hospital; 70% were living at home. Most often reasons of admission were medical diagnoses, pulmonary infections, and fractures. Differences between countries in terms of admission frequency, reasons and wards referred to were only small. Few characteristics were associated with an increased risk of hospital admission (setting home care, weight loss, decreased Katz Index).

Our results contribute to the body of knowledge about the frequency and reasons of hospital admission of people with dementia in different countries and settings and therefore to the foundation of intervention development aimed to decrease avoidable hospital admissions.

SAFETY AND EFFICIENCY OF ANTI-PARKINSON DRUGS FOR DLB/PDD PATIENTS

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One of the characteristic features of DLB (Dementia with Lewy Body) is high sensitivity to medicine, including not only neuroleptic drugs but also anti-parkinson drugs. Once hallucinations or systematized delusions were induced, it is too difficult to control psychiatric disorders as well as parkinsonism. The aim of this study is to decide the best anti-parkinson drug(s) for the treatment of parkinsonism with DLB and PDD (Parkinson's disease with Dementia) patients.

28 patients diagnosed with DLB and 20 diagnosed with PDD were examined. Their histories of prescription medication and those of side effects were obtained retrospectively from medical records. [Results] Among 48 patients, 9 cases were not prescribed any anti-parkinson drugs at all. Another 21 cases had some side effects, such as temporary hallucinations, delusions or nausea. Antiparkinson medications causing frequent side effects included trihexyphenidyl (100%), amantadine (67%), istradefylline (63%), selegiline (50%) and dopamine agonists (33%). On the other hand, entacapone (10%), zonisamide (11%) and levodopa with carbidopa or benserazide (13%) seemed to be relatively safer for DLB/PDD patients. As to dopamine agonist, rotigotine (25%) showed lower rate of side effects than pramipexole (45%) and ropinirole (40%).

In conclusion, for the treatment of parkinsonism in cases of DLB/PDD, levodopa/carbidopa or benserazide is the first choice, however, if more anti-parkinson therapy is necessary, the second candidate is zonisamide and/or entacapone from the viewpoint of safety.

PSYCHO-EDUCATION FOR INFORMAL DEMENTIA CARE-GIVERS: IS REFRAMING THE MOST IMPORTANT STRATEGY?

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Persons with dementia are often reliant on care given to them by close relatives or friends. These informal care-givers play a key role in helping their loved ones remain living at home but they can experience a heavy burden, putting them at high risk for exhaustion and health challenges which often leads to early institutionalization of the person with dementia. Psycho-educative interventions are effective in improving quality of life for care-givers, they typically teach a range of coping techniques but we know little about how these strategies are implemented in daily life. Our aim was to evaluate a validated psycho-educative program for informal care-givers for persons with dementia (15 sessions focused on three coping strategies: reframing, problem-solving and support-seeking). We did a pre-post analysis using mixed-methods design. Eighteen of 24 care-givers completed the program (drop-out 21%). Results showed a reduction in burden ($t=2.13$, $p=.025$, $d=0.41$) and psychological distress ($t=1.94$, $p=.035$, $d=0.54$) and an increase in self-efficacy ($t=-2.33$, $p=.016$, $d=0.47$). We used interactive software to record implementation strategies used by the care-givers over 15 weeks. They improved their identification of unhelpful thoughts ($\beta=0.10$, $p=.045$), tried more often to reframe them ($\beta=0.24$, $p=.005$), and became more successful at doing so ($\beta=0.24$, $p=.018$). In contrast, problem-solving and support-seeking remained stable. In post-intervention interviews care-givers consistently mentioned that reframing was a helpful strategy which may, in part, explain the quantitative findings. In conclusion, having informal care-givers conceive the challenges they face differently seemed to be a promising core component of an efficient psycho-educative program.

RESULTS OF A MODERATE-INTENSITY EXERCISE PROGRAM FOR IWDs: IMPLICATIONS AND FUTURE DIRECTIONS

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Individuals with dementia (IWDs) experience difficulties across cognitive and functional domains resulting in disability. Non-pharmacological interventions aimed at reducing disability are greatly needed. Exercise is a low-cost and easily implemented approach for addressing disability but has not received extensive investigation. The aim of the current study was to develop and evaluate a novel and innovative moderate-intensity functional strength and balance program for IWDs using a randomized-controlled intervention trial. The sample consisted of 23 IWDs with an average age of 76.63 years demonstrating mild to moderate cognitive impairment (MMSE: $x=20.83$). Data indicated a high level of acceptability and feasibility of the current intervention with 99.04% treatment adherence suggesting that IWDs can participate in a moderate-intensity exercise program. Efficacy was examined using multiple linear regression. Group assignment significantly predicted performance in key outcome measures. IWDs in the intervention group demonstrated improvements in lower-extremity strength ($B=5.92$,

$t=3.26$, $p=.004$), balance ($B=4.04$, $t=4.13$, $p=.001$), and fast gait speed ($B=.32$, $t=2.61$, $p=.02$). These findings highlight the role exercise can be used to address IWDs' disability. Clinical implications and future research directions will be discussed including: 1) translating findings to clinical practice; 2) extending the protocol to include modifications that would potentially impact cognitive domains and psychological well-being; and 3) inclusion of physiological biomarkers to understand the underlying mechanisms of exercise on IWDs.

OPEN LABEL TRIAL OF MAGNESIUM L-THREONATE IN PATIENTS WITH DEMENTIA

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In the United States, there are an estimated 5.2 million cases of Alzheimer's Disease (AD), with AD and other dementias affecting nearly 1 in 3 senior adults. With the mounting financial and emotional burden of patient care, finding safe and efficacious treatments is essential. Emerging research on the cognitive effects of Magnesium L-Threonate (MGT) suggests that supplementation may benefit individuals with AD. Although limited, existing animal and human clinical trial data regarding the neural and cognitive outcomes after MGT supplementation, a mechanistic explanation of MGT effects is beginning to emerge, including upregulation of NMDAR signaling pathways. The current open label trial explored the effects of MGT use in patients with mild to moderate dementia. Fifteen patients underwent 18F-FDG-PET imaging, cognitive testing, and blood draws at baseline and at 12 weeks of treatment in order to assess the acute effect of MGT supplementation on hippocampal and prefrontal cortex mediated cognitive abilities including executive function, attention, processing speed, verbal fluency and memory. Cognitive testing and blood draws were also performed after 8 weeks of MGT discontinuation. Findings showed a significant improvement in regional cerebral metabolism along with improvement in a global index of cognitive functioning in the total sample after 12 weeks of MGT treatment. Increased red blood cell magnesium levels were associated with improvements in overall cognition and executive functioning in some but not all patients. Larger placebo controlled clinical trials are warranted to evaluate MGT as an effective, easily accessible, and affordable treatment supplement for individuals with AD.

SCIENTIFIC EVIDENCE FOR POSITIVE EFFECTS OF FAIRY TALE TELLING FOR PEOPLE WITH DEMENTIA

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The Tales+Dementia+Study accompanied the project "Once upon a time... FAIRY TALES AND DEMENTIA", initiated and conducted by the German Center for Fairy Tale Culture. The project, financed by the German Federal

Ministry of Family Affaires, offered regular events of fairy tale narrations twice a week in five nursing homes located across Germany in Berlin, Frankfurt/Main and near Hamburg. 62 nursing home residents with dementia took part in the project.

The major aim was to analyze and better understand the effects of fairy tale narrations on people with dementia and challenging behavior living in nursing homes. The leading questions was: Do fairy tale narrations as psychosocial intervention improve the participants' well-being?

Data were collected through video recordings of the participants and storytellers, short memos of the events, free observations of the participants in everyday situations, guideline interviews with health professionals and storytellers as well as through documentation analysis. The data was analyzed via video interaction and content analysis – always organized as group sessions.

The analysis of 20 hrs. of videos and 21 interviews proved that activity and social interaction were encouraged by fairy tale narrations and competences were (re)activated. Challenging behavior, especially agitation, fear and apathy, were significantly reduced. A well-being became apparent.

The study provides scientific evidence that structured and free fairy tale narrating addresses the needs of people with dementia, reduces their challenging behavior, activates resources and should be offered regularly to enhance the well-being.

MAIN REASONS FOR EMERGENCY DEPARTMENT AND HOSPITAL ADMISSION IN PATIENTS WITH COGNITIVE IMPAIRMENT

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Patients with cognitive impairment are frequent users of Emergency Department (ED) and acute hospital units.

The main objective of this study was to analyze main reasons that lead patients with cognitive impairment or dementia to an ED or acute hospital admission. A second objective was to determine whether there were differences in the frequency of visits depending on age and the existence and severity of cognitive impairment.

The cohort of the study included 459 people attended by the Diagnosis and Treatment of Cognitive Disorders Unit (DTDU) of Badalona Serveis Assistencials for the first time (from 2004 to 2008) and followed during 5 years.

There were 154 men and 305 women, with a mean age of 75.9 years. Initial diagnosis were Mild Cognitive Impairment (MCI) (35.1%), Alzheimer's Disease (22.4%), Vascular Dementia (13.7%), Non cognitive impairment (13.5%), Mixed Dementia (Vascular Dementia and Alzheimer Disease) (10.2%) and Other dementias (5.1%).

380 people were attended at ED (1742 total visits) with a mean of 4.6 visits per patient. Main reasons for visits were falls, injuries and joint pain (29.6%), respiratory disorders (10.5%), digestive disorders (9.4%), urinary infection (3.5%), dizziness (3.3%), behavioural symptoms (2.9%), and other reasons (40.8%). 248 people were admitted at least 1 time in the acute hospital with a mean of 1.2 admissions per patient. Main causes were surgical conditions (28%), respiratory diseases (17.6%), heart diseases (9.1%), injuries (7.1%) and other medical reasons (38.2%).

We found that age was related to higher frequency of ED admission. MCI was found associated with both ED and hospital admission.

EATING DYSFUNCTION ACCOMPANYING DETERIORATION OF AD ON THE BASIS OF FUNCTIONAL ASSESSMENT STAGING

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Background: The eating dysfunction is caused by deterioration of dementia. It causes malnutrition, and raises a risk of frailty and mortality rate. However, its details are unrecognized. We examined the eating dysfunction and nutrition states in elderly people with Alzheimer's disease (AD) on the basis of Functional Assessment Staging (FAST).

Methods: Subjects included 146 elderly AD females (mean age: 86.7±6.2 years) requiring care in Japan. They underwent vital function tests (Barthel index and self-feeding assessment), severity of AD (e.g., FAST), nutritional status (e.g., MNA®-SF) and a basic information survey. All data were classified by FAST and used to draw approximate curves. The protocol in the present study was designed according to the Declaration of Helsinki.

Results: Barthel index showed S-shaped curve ($y = 0.0729x^3 - 2.0573x^2 + 10.333x + 65.523$, $R^2 = 0.7505$). Self-feeding assessment showed the eating difficulty came to arise from the stage of their FAST6e, and a slow curve ($y = 0.0032x^3 - 0.0176x^2 + 0.1781x + 19.308$, $R^2 = 0.6051$). On the other hands, MNA®-SF showed very slow drop line ($y = 0.0016x^3 - 0.0568x^2 + 0.1909x + 11.329$, $R^2 = 0.4327$).

Conclusions: An aspect of each functional decline became clear by putting each approximate curve on top of one another. Eating dysfunction became much more pronounced severity of AD on the basis of FAST. It is necessary to offer predictive support for elderly patients with AD, after comprehending consideration of functional decline over time and the differences in the cause of dementia.

CLINICAL VIDEO TELEHEALTH (CVT) FOR DEMENTIA: RURAL PROVIDER AND VETERAN RECOMMENDATIONS

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Introduction: In rural areas, older patients with cognitive decline, have little access to geriatric providers to provide diagnosis, treatment and support as the disease progresses. The TeleDementia clinic, an interdisciplinary Clinical Video Telehealth (CVT) clinic addresses this need.

Methods: Types of recommendations made via CVT by the team of a geriatrician, geriatric psychiatrist, psychologist, and social worker were analyzed and compared to recommendations made to similar patients seen in-person.

Results: From 5/2013–9/2015, 341 patients with cognitive decline attended 724 TeleDementia clinic encounters and

referring rural providers received 1098 recommendations regarding specialized dementia care.

Common themes of recommendations included: referral to VA services $n=650$ (59.2%), evaluation of sensory deficits $n=69$ (6.3%), treatment/ monitoring of orthostatic hypotension $n=61$ (5.6%), improving diabetic management $n=73$ (6.6%), recommendations related to reversible causes of symptoms $n=144$ (13.1%), Geri Psychiatry referral $n=73$ (6.6%), gun safety, hunting, and driving $n=71$ (6.6%). The majority of Veterans received recommendations related to adjusting medications. Fifty-one (15%) of Veteran also had documented polypharmacy. Themes of recommendations were related to specialists seen. Recommendations were similar to those in a face-to-face dementia clinic. Implementation of recommendations was initially low but improved when the geriatric team initiated consults, services, and follow-ups.

Conclusion: Recommendations made in TeleDEMENTIA clinic are common to clinical recommendations made by geriatric professionals when Veterans are seen face to face. What makes these recommendations notable is these Veterans may never have received any recommendations without access to dementia care by telehealth. Implementation of recommendations improved when the team initiated services.

AGING AND DIVERSE LGBT COMMUNITIES: BUILDING AWARENESS FOR COGNITIVE DECLINE AND CAREGIVING NEEDS

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Health disparities exist in LGBT older adult communities, a high risk population for chronic health conditions. Cognitive decline from Alzheimer's disease and related disorders (ADRD) is an increasing concern in LGBT communities due to natural aging. A 2010 report estimated an increase from 3 million to 7 million LGBT elders by 2030. Access to care challenges for LGBT elders, caregivers and service providers include lack of knowledge, discriminatory services, stigma, socioeconomic barriers, etc. To build ADRD awareness, a partnership of seven community and academic organizations held a one-day, highly-interactive conference on priority topics from results of a pre-event community survey. Sessions included: diagnosis/treatment/side-effects; LGBT affirming assessment and resources; substance use/effects on LGBT elders; health equity; diverse communities' needs; caregiving and mental health. About half of 227 attendees were service providers (nurses, social workers, public health workers, therapists, psychologists, etc.); the remainder were from the LGBT community (caregivers, care-recipients, care-partners, families). Half of attendees were white and the remainder reflected the diversity of greater San Francisco region

(Asian, Black/African American, American Indian/Alaska Native/Native Hawaiian/Pacific Islander, Hispanic/Latino). Speakers' knowledge/expertise and interactive sessions were highly rated; post-conference evaluation respondents ($n=118$) intend to use information to improve: communication with LGBT/straight care-recipients, LGBT caregivers and/or providers (61%); management of care-recipients (59%); and educate LGBT caregivers and LGBT elder care-recipients (48%). Examples of attendees' information needs were: caregiver stress, coping with discrimination, end-of-life, cultural competency, transgender health, etc. This interactive community awareness model can be adapted for LGBT elders, care-providers and healthcare professionals in global communities.

SESSION 530 (POSTER)

DEPRESSION, ANXIETY, AND PERSONALITY I

SOCIAL SUPPORT RESOURCES AND DEPRESSIVE SYMPTOMS IN COMMUNITY-DWELLING KOREAN OLDER ADULTS

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Objective: Evidence has shown that social support may have beneficial effects on mental health in elderly population. The present study examined the association between social support resources measured by the Resource Generator and depressive symptoms among community-dwelling Korean older adults.

Method: A cross-sectional survey of 1000 randomly selected older people in Chuncheon city (a rural town in South Korea) was conducted in 2015. Self-reported measures included sociodemographic characteristics, health characteristics, social support resources, and depressive symptoms. Multiple linear models were applied for the analysis.

Results: After controlling for the effects of potential covariates, multiple linear models indicated that the higher level of social support resources from family was associated with fewer depressive symptoms, whereas the higher level of social support resources from friends or neighbors was significantly associated with greater depressive symptoms. The easy availability of medical and social facilities was associated with fewer depressive symptoms

Conclusion: Although we cannot exclude the possibility of reverse causation due to the cross-sectional design, this study adds to previous work on the potential utility of the Resource Generator for evaluating the relationship between social support resources and depressive symptoms. Service providers can develop strategies for decreasing depression by increasing social support resource from family members and promoting an easy availability of medical/social facilities.

WIDOWHOOD AND DEPRESSION TRAJECTORIES OF OLDER ADULTS IN THE HEALTH AND RETIREMENT STUDY

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This study examined the heterogeneity of depression trajectories before and after widowhood in later life and the

effects of socio-demographic variables on these depression trajectories. Respondents were 1664 widowed older adults aged over 50 from waves 1 to 11 of Health and Retirement Study (HRS). Depression of the respondents was measured by an abbreviated 8-item version of the Center for Epidemiological Studies—Depression Scale (HRS CES-D). The HRS CES-D score was used for selected respondents at four consecutive waves: pre-widowhood wave, widowhood wave, and two post-widowhood waves. Using latent class growth analysis, four groups were identified as the depression trajectories before and after widowhood. *Low Depression* group (68.0%) consists of respondents whose depression score remained low all the time, *Increasing Depression* group (14.5%) whose depression score was low at pre-widowhood wave but increased after widowhood, *Decreasing Depression* group (11.5%) whose high depression score at pre-widowhood wave decreased over time, and *High Depression* group (5.9%) whose depression score was chronically high. Multinomial logistic regression analysis was conducted and age, gender, race, education level, as well as household income at pre-widowhood wave were found significant in differentiating different trajectories. The study highlights the importance of focusing on trajectories of depression over time among widowed older adults and identifying factors that predict both the development of depression and decreases in depression over time.

EMOTION REGULATION AND DEPRESSION IN SENIORS: THE ROLE OF EXECUTIVE FUNCTIONS AND PERCEIVED STRESS

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Depression is a mental health disorder that significantly impacts quality of life in older adults. Chronic perceived stress and emotion regulation (ER) are both associated with onset and maintenance of depression. Maladaptive ER has been linked to greater perceived stress levels and prolonged experience of depressed mood. It is suggested that the use of adaptive ER strategies requires different domains of executive functions (EF), which commonly decline with chronic stress and increase in age. Given that some ER strategies require greater cognitive resources, it is plausible that both perceived stress and EF may modify the relationship between ER and depression. The present study examined the role of EF and perceived stress in the relationship between ER and depression among community-dwelling older adults. Participants ($N = 70$) aged 60+ completed the Trail-Making Task B, the Cognitive Emotion Regulation Questionnaire, the Beck Depression Inventory-II, and Perceived Stress Scale-10 as part of a larger study. Controlling for age, sex, education, and perceived socioeconomic status, a significant indirect effect of maladaptive ER on depression through perceived stress was found (0.47, 95% CI [0.21, 0.84]). This mediation was moderated by levels of EF (Maladaptive ER $\times$ EF: $\beta = .01$, $t = 2.20$, $p = .03$). This study is the first to elucidate the interrelationship between underlying mechanisms of depression and may help support the development of personalized programs that help maintain emotional well-being among older adults.

RELATIONS OF SEXUAL FUNCTIONING AND SATISFACTION ON DEPRESSION IN OLDER LESBIAN WOMEN AND GAY MEN

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Depression as well as dissatisfaction with sexual wellbeing is common in older lesbian women and gay men. This study explored the relationship of sexual functioning and satisfaction with depression severity in lesbians and gay men who were ages 55 years and older. As part of a larger study, 32 lesbian women and 44 gay men were given the Center for Epidemiological Studies Depression Scale, Changes in Sexual Functioning Questionnaire, and questions regarding sexual satisfaction and frequency of current sexual activity. In gay men, depression severity was significantly correlated with sexual functioning ($r = -.448$, $p = .015$) but not with general sexual satisfaction ($r = -.212$, $p = .287$). When examining specific items of sexual satisfaction, enjoyment, frequency, desire, and thoughts and pleasure of thoughts of sexual activity were significantly negatively correlated with depression severity. As for sexual functioning, only ability and frequency of ejaculation and pleasure in orgasm was negatively correlated with depression severity in gay men. In lesbian women, depression was not significantly correlated with sexual functioning or satisfaction or to specific items of sexual satisfaction and functioning. Results suggest that depression severity was negatively correlated with sexual satisfaction but less so with functioning in gay men. However, no significant relationships were found between sexual functioning and satisfaction with depression in lesbian women. These findings suggest that sexual satisfaction and functioning may play an important role in the emotional wellbeing of older gay men, but not in older lesbian women.

THE IMPACT OF CATARACT SURGERY ON DEPRESSION AMONG OLDER ADULTS: A PROPENSITY SCORE ANALYSIS

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Cataracts is an eye disorder that is the leading cause of vision loss in the United States. Although individuals with cataracts typically undergo cataract surgery, the impact of this treatment on depression remains inconclusive. The purpose of this study was to examine the impact of cataract surgery on depression among older adults through a propensity score analysis. Data was retrieved from the Health and Retirement Study (HRS), which surveys a nationally representative sample of older adults over age 50. The sample was restricted to individuals with cataracts, but have not previously undergone cataract surgery ($n = 182$) in 2010. Depression was measured by the seven-item Composite International Diagnostic Interview-Short Form (CIDI-SF) scale in 2012. Greedy matching and propensity score weighting were both conducted as a sensitivity analysis to estimate the effect of cataract surgery on depression. Through Poisson regression, both approaches were consistent in suggesting a statistically significant increase in depression scores following cataract surgery. Greedy matching indicated individuals who received cataract surgery were expected to have an incidence rate for

depression scores 4.81 times that of individuals without surgery ($p < .05$). Propensity score weighting indicated an average treatment effect (ATE) incidence rate ratio (IRR) of 2.65 ($p < .05$) and an average treatment effect for the treated (ATT) IRR of 3.00 ($p < .05$) for individuals with cataract surgery. Our findings support previous studies in suggesting cataract surgery may exacerbate depressive symptoms in older adults. Therefore, further research is needed to understand factors contributing to increased depression following cataract surgery and how this can be prevented.

THE RELATIONSHIP OF NEUROTICISM AND DEPRESSION AMONG OLDEST-OLD ADULTS

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The purpose of this study was to assess the association of six personality facets (Anxiety, Anger, Hostility, Depression, Self-Consciousness, Impulsiveness, and Vulnerability) of Neuroticism from the NEO PI-R with subscales of the Cornell Scale for Depression in Dementia (depression, mood, behavioral disturbance, ideation, physical signs, and cyclic functions). Participants included 234 centenarians and 72 octogenarians from the Georgia Centenarian Study. Several blocked hierarchical multiple regression analyses were computed separately with proxy reports of participants' Neuroticism levels as predictors of the Cornell scales. The results suggest that participants with higher scores on the Anxiety personality facet had higher scores on overall depression, mood related signs, and ideation disturbance. Higher score on angry hostility were associated with higher levels of mood-related signs and cyclic functions. Higher levels of the depression facet of Neuroticism were related to higher scores on overall depression, mood related signs, behavioral disturbance, physical signs of depression, cyclic functions, and ideation disturbance. Participants with higher scores on self-consciousness had lower scores on depression. Participants higher in vulnerability had higher score on mood-related signs of depression. Covariate results suggest that older participants had lower scores on mood related signs, and ideation disturbance. Women had higher scores on physical signs of depression compared to men. Participants who lived independently were more likely to report higher scores on depression, and lower scores on cyclic functions. High cognitive functioning participants had lower scores on depression, mood-related signs, and higher scores on ideation disturbance.

IS DEPRESSIVE SYMPTOMATOLOGY ASSOCIATED WITH POORER COGNITIVE PERFORMANCE AMONG OLDER ADULTS?

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Previous literature has focused on both depressive symptomatology and cognitive performance among older adults in inpatient settings. However, there is a paucity of research examining the association between depressive symptomatology and cognitive performance among community-dwelling older adults. Therefore, the study objective was to examine depressive symptomatology and cognitive performance in

a nationally representative sample of community-dwelling older adults.

An archival data analysis was conducted using data from the Midlife in the United States-II Study, Projects 3 and 4. The sample consisted of 256 older adults ($M=71.84$, $SD=5.40$, $Range=65-84$). Depressive symptoms were assessed using the Center for Epidemiologic Studies Depression Scale. Cognitive performance was measured using the Brief Test of Adult Cognition by Telephone.

Multiple hierarchical regression was used to test the hypothesized model. The presence of depressive symptomatology significantly predicted poorer cognitive performance, $b=-.02$, $p<.001$ and explained a significant proportion of variance in cognitive performance, $R^2=0.12$, $F(4, 242)=8.70$, $p<.001$. Findings suggest that depressive symptomatology is significantly associated with poorer cognitive performance in this sample of older adults.

For community dwelling older adults, the presence of depressive symptomatology may serve as a contributing factor of poorer cognitive performance. These findings suggest that depressive symptomatology is an important factor to consider within the context of cognitive performance among older adults. Future research should focus on providing intervention strategies for older adults with depressive symptomatology as a means to moderate its effects on cognitive performance among this segment of the population.

IMPLEMENTING EVIDENCE-BASED DEPRESSION CARE IN NURSING HOMES: A TREATMENT FIDELITY STUDY

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There is a gap between what we know about evidence-based depression care and what is available in nursing homes. Closing the gap will require understanding context-specific implementation issues specific to nursing homes. We present implementation fidelity data from the treatment arm of a randomized control trial of BE-ACTIV, a 10-week depression treatment designed for implementation in nursing homes. 40 patients in 15 nursing homes were treated by graduate student therapists. Audio-recorded sessions were rated by the therapists and their Ph.D. supervisor for adherence to treatment protocol and session quality. There was moderate agreement on adherence and quality that exceeded chance (mean ICC for adherence $=.81$ and session quality $=.53$). Average adherence to core program features ranged from 80–94%; mean quality was 5.6 (SD 0.61) out of 6 points. Patients completed an average of 7.05 sessions (SD 3.67) and 26 completed 10 sessions. The theoretical basis of BE-ACTIV is behavioral activation; the therapist and client increasingly planned new pleasant events across sessions 1–5, from a mean of 3.7 (SD 1.34) after the first session to about 6 activities a week across sessions 6–9, with a similar progression in percent activities completed, ending with about 80% completed. Number of sessions and number and percent of activities completed were significantly related to the likelihood of remission at post-treatment, and of maintaining improvement at 3-month follow-up. Results demonstrate the feasibility and fidelity of BE-ACTIV in diverse nursing homes

with diverse patients, and support the theoretical premise of the intervention.

THE EFFECTS OF RTMS ON PSYCHOMOTOR RETARDATION IN ELDERLY DEPRESSION

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Depression-related psychomotor retardation (PMR) is often misinterpreted as the age-related slowing, playing down the importance of depression in aging population. Thus we tested the PMR-related cognitive flexibility by assessing the verbal fluency performance in healthy older controls ($n = 18$; mean age: 61.7 ± 9.23 years) and in age-matched patients with major depressive disorder (MDD) ($n = 29$; mean age: 57.1 ± 12.4 years). We also examined the antidepressant effects of repetitive transcranial magnetic stimulation (rTMS) in eligible MDD patients ($n = 17$), evidenced by an expected verbal fluency improvement. Three scores were assessed for semantic and phonemic fluency tests: (1) total number of words generated excluding preservative and intrusive errors; (2) number of switches; and (3) mean cluster size. The results clearly showed that PMR in geriatric depression differed from the age related slowing. Significant differences between groups in cluster size ($p < 0.05$) and percent of preservative errors ($p < 0.04$) were found for the phonemic fluency performance. In addition to significant improvement of the depression level ($p < 0.001$) and the PMR score ($p < 0.001$) after the rTMS treatment, the results showed a nonsignificant trend toward an increasing verbal fluency performance. Overall, the present study confirms the negative influence of depression on verbal episodic memory performance, regardless of age. But the depression-related deficits in cognitive flexibility seem not to be associated with the PMR scores before and after the rTMS treatment, challenging the possible validation of verbal fluency performance as one of relevant hallmark of PMR.

THE ASSOCIATION BETWEEN PHYSICAL ACTIVITY AND DEPRESSION IN OLDER ADULTS WITH PARKINSON'S DISEASE

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It is important to understand the associations between physical activity (PA) and mood in the early stages of Parkinson's disease (PD) progression. The purpose of this study was to explore the relationship between PA and depression in newly diagnosed, untreated individuals with PD. We analyzed data from the Parkinson Progression Markers Initiative and examined depression (Geriatric Depression Scale; GDS) in 260 de novo individuals with PD. Participants with a GDS score ≤ 5 were considered "not depressed" and those with a GDS score > 5 were considered "depressed." We also examined scores on the Montreal Cognitive Assessment and self-reported levels of PA (Physical Activity Scale for the Elderly). Physical activity including light, moderate and strenuous PA, were tallied to create summary scores for frequency

(days/week) and duration (hours/day). Thirty-four percent of study participants reported being depressed at baseline. Those who were depressed had fewer years of education (15 vs. 16 years, $p=0.02$) but did not differ significantly by age, sex or cognitive function compared to those with no depression. Study participants engaged in PA for an average of 1.3 ± 0.4 days/week for 2.2 ± 0.4 hours. There were no significant differences in PA levels between those who were depressed or not depressed. Depressive symptoms were high in this cohort of patients with newly diagnosed, untreated Parkinson's disease. However, we did not observe an association between physical activity and depressive symptoms cross-sectionally. Future studies should examine the longitudinal association between physical activity and depressive symptoms in this cohort.

THE INTERPLAY OF LIFE EVENTS, RELIGIOUS EXPRESSION, AND SOCIAL SUPPORT WITH DEPRESSION

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Based on Pearlin's stress process model, we examined relationships among religious expression/participation, social support, and depressive symptoms in adults who experienced significant life events (SLEs) within the past year. Data came from the ORANJ BOWL study and included 5,468 randomly-dialed New Jersey residents aged 50–74 in 2008. We explored which events were the strongest indicators of the SLE construct and most associated with higher CES-D scores. We hypothesized more depressive symptoms among individuals with more stressful events, less social support, and lower religious expression. Religiosity was measured using 6 items from the Multidimensional Measurement of Religiousness/Spirituality. The 10-item CES-D indexed depressive symptoms; life events were recorded on a 14-item Cochrane-Robertson Life Event Inventory; perceived social support was measured using 4 items. Structural equation modeling assessed construct factor loadings and hypothesized associations; fit indices revealed good model fit to the data ($\chi^2=3637.32$, $p=0.000$, $df=221$; RMSEA=0.053, NNFI=0.911, CFI=0.922, SRMR=0.047). The strongest indicators of SLE were three items reflecting relational family events. Maximum likelihood estimates partially supported the hypotheses: individuals with more stressful events, lower public religious expression, and less perceived social support reported significantly more depressive symptoms. However, individuals with more private religious expression also had more depressive symptoms. These findings reveal that private versus public religious expression may have different roles in coping with significant life events.

RELIGIOSITY AND DEPRESSIVE SYMPTOMS IN OLDER ADULTS COMPARED TO YOUNGER ADULTS: MODERATION BY AGE

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Overall, religious individuals are more likely to have a positive life view, and are less likely to suffer from depressive symptoms. Given the high prevalence of depressive symptoms among older adults, it is important to identify possible protective factors. Thus, the current study examines the

effect of age on the relation between religiosity and depressive symptoms.

The sample ($N = 316$) was recruited using MTURK. Measures included age, the Center for Epidemiological Studies Depression Scale (CESD), and the Stearns-McKinney Assessment of Religious Traits (SMART). A large variance of ages was sought and ranged from 19 to 67. As expected, we found that the older adults aged 50 and older ($M = 230.35$, $SD = 106.97$) were more religious than younger adults aged 18–30 ($M = 230.35$, $SD = 106.97$, $t(1,437) = -6.07$, $p < .001$). Additionally, younger adults ($M = 18.40$, $SD = 13.72$) reported more depressive symptoms than the older adults ($M = 9.43$, $SD = 10.45$, $t(1, 67.975) = 3.16$, $p = .002$).

Moderation analyses were conducted using SPSS' Process macro on the entire data set. The interaction between religiosity and age just missed significance in predicting depressive symptoms, $t(1, 315) = -1.74$, $p = .08$. There was not a significant relation of religiosity on depressive symptoms for those one or more standard deviations below the mean age ($t = 0.26$, $p = .80$), whereas there was a significant relation for those one standard deviation above the mean ($t = -2.40$, $p = .02$). Implications, future directions, and limitations are discussed.

PERSONALITY, BOREDOM, AND COMPENSATORY USE OF TV IN THE HEALTH AND RETIREMENT STUDY

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In addition to being a sedentary activity with health and well-being correlates, TV watching is also one of the most commonly reported daily activities among older adults. Despite especially high variability in time spent watching TV in this age group, personality has not been well integrated into explanations of that variation, or the study of conditions under which TV watching may serve as a compensation strategy when other activities are not available (Van der Goot, 2015; Baltes & Baltes, 1990). We used 2012 Health and Retirement Study data ($N = 4,655$) to examine conscientiousness, neuroticism, perceived boredom yesterday, and hours spent watching TV yesterday to examine how personality shapes time spent on this activity and the importance of perception that one does not have other things to do. As expected, lower conscientiousness and higher neuroticism were associated with watching TV longer as well as lower experienced well-being during TV watching (Net positive affect while watching TV; $B_C = .54$, $B_N = -.42$, both $p < .001$; Smith et al., 2014, p. 63). However, high conscientiousness individuals watched less TV only if the day was low in boredom. For neuroticism but not conscientiousness, there was a significant indirect effect via boredom, and unexpectedly, the remaining association of neuroticism to TV time was negative ($B = -.17$, $p < .05$). This suggests that beyond the boredom-TV pathway, neuroticism may be associated with less TV watching. Results partially supported the connection of conscientiousness to selective TV watching, and neuroticism to compensatory use of TV.

MALADAPTIVE PERSONALITY AND SOCIAL ROLE IMPAIRMENT IN DEPRESSED OLDER ADULTS IN PRIMARY CARE

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Personality pathology is associated with impaired social functioning in adults, though further evidence is needed to examine the individual contributions of personality traits and processes to social functioning in depressed older adults. This study is a secondary analysis examining the relationship between maladaptive personality traits and processes and social role impairment in depressed older adults in primary care ($N=56$). Participants were 77% female and ranged in age between 55–89 ($M = 66.82$, $SD = 8.75$). Personality pathology was measured both by maladaptive traits (NEO-FFI) and processes (Inventory of Interpersonal Problems; IIP-15). Individual variable as well as combined predictive models of social role impairment were examined. Higher neuroticism ($\beta = 0.30$, $p < .05$), lower agreeableness ($\beta = -0.35$, $p < .001$) and higher IIP-15 ($\beta = 0.28$, $p < .01$) scores predicted greater impairment in social role functioning. Categorical analyses of these variables found significant differences in social role functioning between individuals with high and low levels of agreeableness ($p = .05$) and IIP-15 scores ($p < .01$). All moderation analyses were non-significant, but a combined predictive model of neuroticism and IIP-15 scores predicted unique variance in social role impairment ($R^2 = .71$). These findings highlight the importance of accounting for personality pathology, as measured by both traits and processes, in the assessment and treatment of older adults with depression. In addition, these findings lend support for continued research into both linear and non-linear relationships between personality pathology and domains of functional impairment in older adults.

PERSONALITY AND ALL-CAUSE MORTALITY: COMBINED ANALYSIS BETWEEN NEUROTICISM AND EXTRAVERSION

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Purpose: Although recent studies have confirmed a relationship solely between personality traits and mortality, combinations of personality have been not fully investigated. This study explored whether a combination of personality traits was related to all-cause mortality among the middle-aged and elderly.

Methods: A total sample of 1050 men and 1424 women aged 52 to 77 years were examined at the baseline. The Eysenck Personality Inventory was administered to assess neuroticism and extraversion. We created three categories approximating the three tertiles of each personality trait score. We also combined the two scores and created four groups: Gloomy (N+E-), Passionate (N+E+), Low-keyed (N-E-), and Resilient (N-E+).

Results: During the 7-year follow-up period, 187 persons (7.6%, 119 men and 68 women) died, and 261 people (10.5%, 112 men and 149 women) moved away from the target region.

Cox proportional hazards model, adjusted for gender, age, education, presence of psychiatric problems, and chronic diseases, showed that neuroticism (hazard ratio [HR]:1.48, 95% confidence interval [CI]: 1.05–2.08, for the highest tertile) and extraversion (HR: 0.64, 95% CI: 0.44–0.93, for the highest tertile) were independently associated with mortality. The combined analysis showed that Gloomy (HR: 2.01, 95% CI: 1.30–2.29) and Passionate (HR: 1.57, 95% CI: 1.06–2.32) demonstrated a higher mortality risk and that Low-keyed did not have a significant mortality risk, compared to Resilient.

Conclusions: Our results suggest that individuals with high neuroticism and low extraversion are prone to shorter lives and that mortality risk is elevated when combining the two traits.

DYADIC ASSOCIATIONS OF CONSCIENTIOUSNESS FACETS AND HEALTH, HEALTH BEHAVIOR, AND WELLBEING OVER TIME

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Objectives: Previous research suggests that the personalities of an individual and her/his spouse can have large implications for health and well-being. However, much of this research has been cross-sectional and has focused on broad, global personality traits. Less is known about how the components of personality traits (i.e., facets) affect changes in health and well-being over time in older couples. The current study applied actor-partner interdependence models to examine how conscientiousness and its facets moderated changes in health, health behavior, and well-being in older couples over a four-year period.

Method: 3,271 older heterosexual couples ($N=6,542$ individuals; $Age=67.34$, $SD=8.59$) from the Health and Retirement Study filled out a personality questionnaire at baseline. Measures of health (self-rated health, chronic illnesses), health behavior (light, moderate, and vigorous exercise), and well-being (depression) were assessed three times over a four-year period. Actor-partner interdependence models accounted for the non-independence of spouses and tested how partner conscientiousness affected health, health behavior, and well-being over time.

Results: Actor conscientiousness, orderliness, and industriousness most reliably predicted better health, health behavior, and well-being. Partner conscientiousness predicted better self-rated health; partner orderliness and industriousness predicted better health and more positive health behavior. Many of these relationships persisted over the four-year study window.

Discussion: The current study is the only of its kind to examine the dyadic effects of personality facets on health and well-being longitudinally. Results from the current study highlight the benefits of modeling dyadic processes within older couples and how these processes affect health and well-being over time.

SUBJECTIVE WELL-BEING INDICATORS AS DEPRESSIVE SYMPTOMATOLOGY PROTECTORS ON OLDER MEXICANS

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INTRODUCTION. Subjective well-being incorporates the psychological dimension of aging. It is positively associated to: being married, perceived good health, autonomy, physical activity, social support, emotional and visual health, as well as cognitive functioning; subjective well-being has been negatively associated to depression.

OBJECTIVE. To determine a possible association between subjective well-being indicators and depressive symptomatology in Mexican older adults.

METHODOLOGY. Analytical and transversal study, with 2400 older adults' data from Health, Well-being and Aging Poll (*Encuesta de Salud, Bienestar y Envejecimiento - SABE*) in the Mexican states of Colima and Jalisco. The dependent variable was depression, and subjective well-being indicators were: cohabitation satisfaction and religion, as well as health, memory, sight, hearing, nutrition and monetary income self-report. For the association tests, χ^2 tests at 0.05 were used. Multivariate analysis was used, with adjusted OR (CI=95%) and $p<0.05$. Disease and gender were included as control variables.

RESULTS. Age range was from 60 to 98 years, with a mean age of 70.91 ± 7.61 years. 62% ($n: 1,489$) were women. Absolute prevalence of depressive symptomatology was 23.8%. All analyzed subjective well-being indicators obtained significant results; on multivariate analysis adjusted for disease and gender, cohabitation satisfaction, good / regular memory, good / regular health, good hearing, good / regular income and female gender resulted as protective factors of subjective well-being against depressive symptoms.

CONCLUSIONS. Indicators of subjective well-being, in general, protect older adults from depressive symptomatology, some of them, even with a previously diagnosed disease.

UNDERSTANDING PATHWAYS AMONG SOCIAL CAPITAL, DEPRESSION, AND SUICIDAL IDEATION FOR KOREAN ELDERLY

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Unfortunately the suicide rate of older adults in South Korea has been ranked first among OECD countries for long periods of time. Previous studies have identified older people's socioeconomic status, physical health, mental health, and lack of social support are significantly associated with suicidal ideation. However, little research has been conducted to examine how older adults' social capital including social relationship can mitigate suicidal ideation mediated by depression. For data analysis, 3524 older adults from the Korean welfare panel study data were utilized. We used structural equation modeling to examine direct and indirect effects among social capital, depression, and suicidal ideation. Results showed that higher levels of social trust and satisfaction from family relations significantly predicted lower levels of suicidal ideation. In addition, indirect paths from social capital variables including social trust, reciprocity, and relationships to suicidal ideation were all significantly mediated by levels of depressive symptoms. The findings indicate that enhancing older people's social capital can reduce their suicidal ideation as well as depressive symptoms. Thus, we need to consider how to develop social capital through strengthening social trust, reciprocity, and supportive networks among older adults.

DEPRESSION AMONG OLDER PEOPLE IN SRI LANKA: WITH SPECIAL REFERENCE TO ETHNICITY

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Sri Lanka, a multi-ethnic country, has been confronting with an ageing population. There is a gap in health among different ethnicities especially in older population. This study was to ascertain if the factors associated with depression differ among ethnic groups in community-dwelling older people in Kandy, Sri Lanka. A cross-sectional survey was conducted in people aged 60 years or over living in selected communities. The participants were asked about ethnicity (Sinhalese, Tamils, and Muslims), sociodemographic characteristics, and depression status by face-to-face interviews with a structured questionnaire. Depression was measured by 15-item Geriatric Depression Scale and the total score of 6 and above was considered as depression. The chi-square test and multivariate logistic regression with two-way interaction terms between ethnicity and other factors were performed. Participants (n=778) consisted of 56.0% of Sinhalese, 21.9% Tamil, and 21.2% Muslim. Of the participants, the prevalence of depression was 31.8%. The proportions of depression were 27.3% in Sinhalese, 42.1% in Tamils, and 32.9% in Muslims. Multivariate logistic regression analysis showed that low economic status, low perceived social support and having more than two self-reported diseases were significantly associated with depression. These associations and thus the factors did not differ among ethnic groups. The findings from this study would help practitioners uncover the older people with high risk and intervene its development or exacerbation among them.

SESSION 535 (POSTER)

DISABILITIES I

DEPRESSIVE SYMPTOMS AS A PREDICTOR OF DISABILITY AFTER NEW MEDICAL DIAGNOSES IN OLDER ADULTS

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Study: Older adults face negative life adversities, such as the onset of new medical diagnoses, which leads to disability and increased mortality risk. In this study, we aim to investigate whether depressive symptoms and cognitive function predict disability after controlling demographic and health-related factors in older adults with new medical diagnoses. **Methods:** We conducted a cross-sectional secondary data analysis of Survey of the Health and Retirement Study. Sample included 3100 older adults who self-reported for having new medical diagnoses within last two years. The hierarchical logistic regression analysis was used to examine the model fit of two blocks of variables: 1) demographic (age, gender, partnership, education level, race, ethnicity) and health-related (comorbidity, recent hospitalization) and 2) cognitive function and depressive symptoms. **Results:** Older adults have an average of 69.9 year-old (SD=10.4) with 58.8% female.

Older adults with disability were more likely to be female (OR = 1.86, $p < .001$), with lower education level (OR = 1.28, $p = .018$), having comorbidity (OR = 2.43, $p < .001$), and having recent hospitalization (OR = 1.70, $p < .001$). After controlling for demographic and health-related variables, depressive symptoms (OR=7.31, $p < .001$) and low cognitive function (OR=1.03, $p = .001$) were significant predictors of disability. **Conclusion:** Findings demonstrate that depressive symptoms and cognitive function are significantly associated with disability in older adults with new medical diagnosis. Depressive symptoms showed clinical meaningfulness by the high magnitude of effect size. **Significance:** Results will inform future investigations focused on interventions for older adults who are vulnerable to long-term disability to prevent by focusing on depressive symptoms.

PREDICTIVE VALUE OF DISABILITY FOR ALL-CAUSE MORTALITY IN THE ELDERLY

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Disability is regarded as an serious issue in elderly individuals that affects quality of life. This study aims to explore the relationship between disability and all-cause mortality in the National Health and Nutrition Examination Survey (NHANES 1999–2002). A total of 1,834 participants in the age range of 60–84 years were included. Five major domains of disability, including activities of daily living (ADL), general physical activities (GPA), instrumental activities of daily living (IADL), lower extremity mobility (LEM), and leisure and social activities (LSA) were acquired by self-reporting. We applied an extended-model approach with Cox (proportional hazards) regression analysis to investigate the relationship between different features of disability and all-cause mortality risk in the study population. During a mean follow-up of 5.7 years, 77 deaths occurred. An increased risk of all-cause mortality was identified in elderly individuals with disability after adjusting for potential confounders (hazard ratio [HR]: 2.23; 95% confidence interval [CI]: 1.29 to 3.85; $P = 0.004$). Participants with more than one domain of disability were associated with a higher risk of mortality ($P_{\text{trend}} = 0.047$). Adjusted HRs and 95% CIs for each domain of disability were as follows: 2.53 (1.49 to 4.31), 1.99 (0.93 to 4.29), 1.74 (0.72 to 4.16), 1.57 (0.76 to 3.27), and 1.52 (0.93 to 2.48) for LEM, LSA, ADL, IADL, and GPA, respectively. This study supports an increased association between disability and all-cause mortality in the US elderly population. Disability in LEM might be good predictor of high risk of all-cause mortality in the elderly subjects.

BODY MASS, COGNITIVE STATUS, AND FUNCTIONAL OUTCOMES IN OLDER MEN AND WOMEN

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Background: Body mass and cognitive status are independently associated with physical and functional outcomes in older adults. However, accumulating evidence suggests that higher body mass may be protective during late life, in late life. Yet little is known regarding the impact of cognitive impairment at various levels of body mass in older adults.

Methods: We examined prevalence and odds of physical and IADL limitations by cognitive status (normal/impaired) and body mass category (normal, overweight, obese) in 4,033 older men and 5,563 women aged 60+ from 2006/2008 waves of Health and Retirement Study. Models were adjusted for age, race, education, physical activity level, comorbidity and smoking status. Individuals with TICS score ≥ 7 were classified as cognitively intact/normal (REF); TICS scores < 7 were classified as cognitively impaired. Physical limitation (PL) was determined using the HRS summary score; IADL limitation was defined as difficulty/inability with meals, chores, managing money. Models were adjusted for age, race, education, physical activity level, comorbidity and smoking status and weighted.

Results: Prevalence of PL in adults with cognitive impairment in men were 50.7%, 52.3% and 67.3% for normal, overweight and obese categories; for women, rates of PL were 61.8%, 71.9%, 81.8%. Among men, cognitive impairment was significantly associated with higher rates of physical impairment in normal OR 2.11 (1.07–4.21), overweight OR 2.17 (1.17–4.03) and obese OR 1.09 (0.59–2.01) weight categories. Among women, adults who were cognitively impaired was associated with physical limitations in normal OR 2.11 (1.07–4.21) and overweight categories OR 1.71 (1.0–2.91) but not obese OR 1.09 (0.59–2.01). Association between obesity and cognition on IADL limitations are also discussed.

Conclusion: Older adults with poor cognition are at increase odds of physical limitations independent of body mass. The impact of cognitive impairment in combination with obesity varies between men and women and merits further investigation.

METABOLIC SYNDROME AND DISABILITY IN CHINESE NONAGENARIANS AND CENTENARIANS

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Metabolic syndrome (MetS) increases with aging. Little is known about the relationship between MetS and disability in the elderly population, especially in the oldest old. We therefore conducted this study to investigate the possible association between MetS and disability in a population of Chinese nonagenarians and centenarians. Data were obtained from a face-to-face survey conducted in 870 Chinese adults aged 90 years or older. MetS was diagnosed according to the International Diabetes Federation criteria. Activities of daily living (ADL) and instrumental activities of daily living (IADL) disabilities were evaluated using the physical self-maintenance scale and the Lawton-Brody IADL scale, respectively. The subjects included in the current analyses were 500 women and 225 men (mean age: 93.8 ± 3.1 years). MetS was present 13.0% in women and 9.8% in men. In women, the prevalence of ADL and IADL disabilities was significantly higher in the MetS group compared with the non-MetS group (ADL: 43.1% vs. 30.6%, $p=0.044$; IADL:

73.8% vs. 59.8%, $p=0.030$). After adjusting for relevant confounders, the MetS group showed significantly increased odds ratios (ORs) for either ADL (1.8, 95% confidence interval [CI] 1.2–3.4) or IADL disability (2.1, 95% CI 1.3–4.7) compared with the non-MetS group. In men, similar results were found with respect to the prevalence of ADL or IADL disability and adjusted ORs between MetS and non-MetS groups, but these results were not statistically significant. In conclusion, in our study population, MetS appeared to be associated with an increased risk of either ADL or IADL disability, especially in women.

PLANNING HEALTH SERVICES FOR SENIORS: CAN WE USE PATIENTS' OWN PERCEPTION?

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Across Canada, people over 75 years of age represent 16% of all hospital admissions. The admission rate per 100,000 seniors is 5 times higher for acute care and 22 times higher for complex continuing care than the rates for younger adults. After a hospital discharge, dealing with new disabilities can be difficult and even overwhelming. Understanding patients' needs in a timely manner may allow services to be allocated to those at highest risk for deterioration, thus, improving care while optimizing health care cost. Could patient's perceptions of how they are feeling be used as a marker of potential need for post-discharge services?

The aim of the study was to estimate whether self-reported health can be used as an indicator of service needs among seniors.

In this cross-sectional survey, age and sex-adjusted logistic regression was used to estimate the link between functional status indicators and fair or poor self-reported health. Results were reported as Odds Ratio (OR) and its 95% confidence interval (95%CI). Backward stepwise logistic regression was performed to identify the best predictive model of service needs. Positive predictive value (PPV), sensitivity and specificity were calculated to identify whether health perception could be used to identify people in need of physical rehabilitation services.

142 seniors agreed to answer the survey yielding a response rate of 73%. Among the respondents (mean age 79 ± 7 ; 60% women), 40% rated their health as fair or poor. Seniors perceiving their health as fair or poor had higher odds of reporting impairments, activity limitations, and participation restrictions (OR ranging from 2.37; 95%CI 1.03–5.45 to OR 12.22; 95%CI 2.68–55.78) in comparison to those perceiving their health as good or better. The most significant predictors of service needs were community ambulation, household tasks, fatigue, and pain with 92% sensitivity and a maximum adjusted R-squared of 0.65. Self-rated health used as single-item showed a positive predictive value (PPV) of 1, sensitivity of 52%, and specificity of 100%.

In conclusion, our results indicate that all seniors reporting fair or poor health have indicators of need for further rehabilitation services. This question may be an alternate way of querying about need as many older persons are afraid to report disability because of fear of further institutionalization.

INVESTIGATION ABOUT ASSOCIATED ILLNESS WITH DISABILITY IN COMMUNITY DWELLING OLDER POPULATION

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Background: Few studies have investigated associated illness with disability including life style related diseases in community-dwelling older population. Aim of this study is to clarify associated illness with disability among 80 years participants in the Japanese epidemiological cohort study focused on community dwelling older populations (Septuagenarians, Octogenarians and Nonagenarians Investigation with Centenarians:SONIC).

Methods: Study subjects were general population at age 80 (± 1) years ($n=965$) in SONIC study. Disability was defined as having the certification in Japanese long-term care insurance system (LTCL). This certification was evaluated considering cognitive and physical functions based on medical doctor's evaluation in addition situation of subjects' daily life and support system for subject.

Results: 77 out of participants (7.9%, male:female=25:52) were certified as disability in LTCL. Stroke (OR:8.38 for male, 8.11 for female) in both male and female and cardiovascular disease (4.03) only in male, osteoporosis and osteoarthritis (2.16, 2.45, respectively) and metabolic syndrome (2.43) only in female were significantly associated with disability in this study subjects. In addition, normal blood pressure ($<150/90$ mmHg) was also associated with disability only in male (OR:4.41).

Conclusions: Obtained results in present study is similar to Japanese national survey about associated illness in LTCL among age 80 in Japanese community dwelling population. Interestingly, there are significant positive associations between disability and metabolic syndrome only in female and normal blood pressure only in male in present study. Afterwards, these associations should be carefully investigated and clarified underlying mechanisms by analysis using longitudinal data in SONIC study.

AUTISM SPECTRUM DISORDERS AND THE HEALTHCARE EXPERIENCES OF AGING ADULTS

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The purpose of this qualitative, descriptive study is to illuminate the experiences of adults diagnosed with Autism Spectrum Disorders (ASD) and their challenges and successes in receiving quality primary healthcare services. Through

semi-structured interviews with eleven adults diagnosed with ASD and/or their caregivers, this study explored their perspectives and impressions of their healthcare experiences. Specifically, this study evaluated the population of adults with ASD (age 30+) who are also diagnosed with intellectual disabilities (ID). This population is challenged by a triple jeopardy of age, intellectual disability and autism symptomatology (social/behavioral/communication challenges). In addition to their ASD diagnosis, more than half of these adults have major physical and mental health co-morbidities that require regular medical attention. As a result, this population often experiences negative health outcomes and sub-optimal relationships with healthcare providers due to their communication deficits, behavioral impairments and other factors. Many of these medical and mental health conditions could be better managed, and perhaps even prevented, through more effective screening and prevention services provided by primary healthcare providers. Payment sources for health services also has a significant impact in access to care. Many healthcare providers are well prepared to serve this population, while some are not. Hence, sharing healthcare experiences is critical for preparing primary healthcare providers to best serve ASD adults. By understanding the current gaps in care and eliminating barriers, this will inform the design for future improvements in the healthcare delivery system for physicians, nurses, allied health professionals and healthcare administrators.

IS VISUAL IMPAIRMENT JUST ANOTHER COMORBID CONDITION?

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Baseline data from the Salisbury Eye Evaluation study, a population-based sample of 2,520 adults 65 years or older was used. Visual impairment was defined by visual acuity and visual field measures. Time to complete three mobility tasks was measured: walking up 7 steps, walking down 7 steps, and walking 4 meters. Mobility disability was classified as 1 standard deviation below the population mean for each task. The total number of comorbid conditions was determined using data on 16 conditions that affect mobility and categorized as 1, 2, 3, or 4+ conditions. Odds ratios (OR) and 95% confidence intervals (CI) were determined for each comorbidity strata adjusting for age, sex, and race. Among older adults with 1 condition, the visually impaired were more likely to be disabled on all three tasks than the non-visually impaired (OR_{walking up steps} = 3.6; 95% CI:1.3–10.4; OR_{walking down steps} = 6.2, 95% CI:2.2–17.6; OR_{walking 4 meters} = 4.3, 95% CI:1.4–13.2). The association between visual impairment status and disability walking up and down stairs was attenuated and no longer significant when comparing those with 2 conditions, but visually impaired were 3 times more likely to have disability walking 4 meters than the non-visually impaired (OR= 3.0, 95% CI:1.3–7.0). For those with 3 or 4+ comorbid conditions, the associations between vision status and mobility disability declined and was not statistically significant for any of the tasks. Results suggest that while visual impairment is an important factor contributing to mobility disability, as comorbid conditions accumulate this effect is diluted.

THE ENRGISE PILOT STUDY: SCREENING AND RECRUITMENT PRELIMINARY RESULTS

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Growing evidence shows that low-grade chronic inflammation is an independent risk factor of disability and impaired mobility. However, it is unknown whether interventions that reduce inflammation improve mobility. The ENabling Reduction of low-Grade Inflammation in Seniors (ENRGISE) Pilot Study is a multicenter randomized clinical trial to test whether omega-3 fish oil (ω -3) or the angiotensin receptor blocker losartan (LO) alone or in combination can ameliorate walking speed and lower inflammation. A total of 300 men and women age ≥ 70 years with elevated IL-6 and mobility impairment, as measured by slow gait speed and self-reported mobility difficulty are being recruited at 5 academic clinical centers. Recruitment began April 2016 and is expected to last 12 months. Of the 1416 telephone screens completed, 308 (25%) subjects had no self-report difficulty walking or climbing stairs; 152 (21%) were ineligible for both the LO and ω -3 study arms. Overall, 889 (63%) were ineligible for the screening visit 1 (SV1). We have completed 305 SV1s. To be eligible, subjects have to have a 4m walk speed $< 1\text{m/sec}$ and $> 0.44\text{ m/sec}$; 82% have met this criteria and their blood was sent for IL-6 measurements. Of these, 82 (61%) had an elevated IL-6 (> 2.3 and $< 10\text{pg/ml}$) at SV1; 78 (87%) had an elevated IL-6 at SV2. To date, we have randomized 32 individuals; mean (SD) IL-6 = 3.49 (1.53) pg/ml . We will present the final results of the screening and recruitment in ENRGISE. These results will inform the design of the main larger trial to prevent major mobility disability.

FEAR OF FALLING AND ASSOCIATED FACTORS IN COMMUNITY ELDERLY WITH CATARACTS

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Objectives: To investigate prevalence of the fear of falling of elderly with cataracts living in the community and, the associated factors with high concern with falling occurrences. **Methods:** A cross-sectional, analytical and observational study. It was composed by 86 elderly diagnosed with bilateral cataracts. To quantify the fear of falling among elderly, the scale Falls Efficacy Scale-International-Brasil (FES-I-BRASIL) was used. Other variables were obtained through application of a structured questionnaire. **Results:** Between participants, 41.9% reported low concern of falling, while 58.1% reported high concern. From those last ones, 52% fell at least once on the past 12 months and, 30% of them are recurrent fallers. The activities “to walk in slippery surfaces”, “to walk in irregular surfaces” and, “to walk up and down the stairs” represented higher concern for elderly. **Conclusion:** Cataracts or any other visual issue predispose falls due to difficulty in overcoming obstacles present in the

environment. Fear of falling is especially associated with factors acquired after the first fall episode.

ASSOCIATION BETWEEN HISTORY OF FALLS AND SARCOPENIA IN ELDERLY FROM CURITIBA—PARANA, BRAZIL

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Sarcopenia and falls has been denoted as a consistent indicator of frailty and mortality among the elderly. This study verified the association between history of falls and sarcopenia of elderly users of Public Health Units from Curitiba – Paraná, Brazil. This observational cross-sectional study assessed 815 elderly subjects (157 men; 70.9 ± 7.6 years-old and 658 women; 70.8 ± 7.0 years-old). Sarcopenia was diagnosed and classified according to the European Working Group on Sarcopenia in Older People (EWGSOP) recommendations: calf circumference ($< 31\text{cm}$), 8m gait speed ($< 0.8\text{m/s}$) and strength handgrip ($< 20\text{kg}$ and $< 30\text{kg}$ for women and men, respectively). The stages of sarcopenia were classified in pre-sarcopenia, sarcopenia and severe sarcopenia. The history of falls was obtained by questioning subjects the number of falls experienced in the last 12 months. The Ordinal Logistic Regression and Odds Ratio (OR) were used to determine the association between variables. The prevalence of sarcopenia was 3.1% (0.4%, $n=3$ for men and 2.7%, $n=22$ for women). Thirty-seven percent ($n=304$) reported at least one fall in the last 12 months, from which 20.9% experienced a single fall episode ($n=171$). There was an association between the number of falls and severe sarcopenia ($\text{OR}=2.45$, $p=0.001$, $95\%\text{CI}=0.99-3.90$), whereas the remaining stages showed no significant association between sarcopenia and history or number of falls ($p>0.05$). Elderly suffering from severe sarcopenia presented two and a half times more chances to fall. This association reveals the importance of intervention program to prevent sarcopenia in an attempt to reduce the number of falls among the elderly.

IMPACT OF AN ONLINE COGNITIVE TRAINING PROGRAM IN OLDER ADULTS AT RISK FOR FALLS

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The primary cause of traumatic injuries in older adults is falls. For persons with cognitive impairment, fall risk is substantively higher primarily related to changes in executive function. There is a growing interest among older adults with regards to cognitive training (CT) for maintenance or improvement of cognitive function. It has been speculated that performing CT might reduce risk of fall in older adults as higher-level cognitive functions have been implicated as required to safely navigate one's environment. The purpose of the current quasi-experimental study was to explore the effectiveness of an online CT intervention on gait speed and balance tests in older adults at high risk for falls ($N=24$). Subjects meeting criteria were enrolled in the study for 12 weeks and following baseline assessment, received 8 weeks (3 sessions/week) of an online CT program. The

intervention targeted specific tasks such as processing speed, divided attention, and task shifting. Mean age of participants was 83.6 (SD 8.4). 62.5% of participants were at least moderately comfortable with computers at baseline. There was a statistically significant improvement from baseline on the 90 second balance test, which was retained 4 weeks post-intervention ($p < 0.05$). Gait speed on the 10M walk remained unchanged from baseline during or 4 weeks following the intervention. This intervention is a promising strategy to improve balance and reduce risk of fall in older adults at high risk. Further study in a larger randomized, controlled trial is warranted.

ASSOCIATION OF TELOMERE LENGTH WITH FUNCTIONAL IMPAIRMENTS: DATA FROM NHANES 1999–2002

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Background: Telomere shortening is associated with chronic diseases yet its relationship with everyday functional impairments has not been well characterized. We sought to characterize the association of telomere length with physical limitations (PL) as well as basic and instrumental activities of daily living (ADL) in a non-institutionalized population of older adults.

Methods: The sample consisted of 2672 adults aged ≥ 60 years from the 1999–2002 National Health and Nutrition Examination Surveys. Data on physical limitations (PL), instrumental activities of daily living (ADL) and basic ADLs were abstracted. Telomere length relative to standard reference DNA (T/S ratio) was assessed using quantitative PCR. We created separate multivariate regression models to examine the association between telomere length and the presence/absence of limitations (PL, basic/instrumental ADL), adjusting for age, race, education, gender, smoking, co-morbidity, and physical activity.

Results: The majority of the sample was female (55.5%). Mean age was 70.9 ± 0.28 years. Prevalence of PL, basic ADLs and instrumental ADLs were 54.0, 43.3 and 27.5%. Mean telomere length ($\pm$ SE) in those with as compared to those without limitations was: PL 0.90 ± 0.02 vs. 0.93 ± 0.02 , $p = 0.03$; basic ADL 0.90 ± 0.02 vs. 0.91 ± 0.02 , $p = 0.29$; and instrumental ADL 0.92 ± 0.02 vs. 0.89 ± 0.02 , $p = 0.02$. Multivariable modeling adjusting for all covariates demonstrated that the presence of impairments were not associated with telomere length ($\beta \pm$ standard error); for PL $\beta = -0.013 \pm 0.01$, $p = 0.29$, for basic ADL $\beta = 0.01 \pm 0.01$, $p = 0.37$, and for instrumental ADLs $\beta = -0.01 \pm 0.01$, $p = 0.31$.

Conclusions: Older individuals with PL and instrumental ADL had shorter TL but a significant association was not observed after adjustment for confounding factors. Our results suggest having such a deficit abrogates the benefits of longer telomere length in individuals with these impairments.

PREVALENCE OF FUNCTIONAL DISABILITY AND ASSOCIATED FACTORS IN OLD AGE: A POPULATION-BASED STUDY

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The aim of the present study was to estimate the prevalence and associated factors of disability in older people. It was a cross-sectional, observational study, that assessed demographic characteristics, health habits, functional capacity, occurrence of falls and gait speed test in a sample composed by 482 community-dwelling individuals, 80 years old and older, living in the cities of Uberaba and Rio de Janeiro, Brazil. Basic (ADL) and Instrumental (IADL) Activities of Daily Living were the dependent variables in two multivariate logistic regression model. The prevalence of disability for ADL and IADL were 31.5% and 78.2%, respectively; 70.7% were female, 61.4% were widowers, and the average age was 85.36 ($SD \pm 5.05$). Negative health self-perception (OR = 2.09; CI 1.28 – 3.41); higher number of self-reported morbidities (OR = 1.43; CI 1.23 – 1.66); use of five or more drugs (OR = 1.62, CI 1.02 – 2.59); living accompanied (OR = 2.12; CI 1.18 – 3.79) and no individual income (OR = 2.41; CI 1.08 – 5.40) were associated with disability for ADL. For the IADL, negative health self-perception (OR = 2.68; CI 1.53 – 4.69); use of five or more drugs (OR = 2.01, CI 1.17 – 3.46); dissatisfaction with their economic status (OR = 3.21; CI 1.79 – 5.76); lack of education (OR = 5.06; CI 1.14 – 22.46) and the occurrence of falls in the past year (OR = 1.88; CI 1.09 – 3.22). The identification of risk factors in the elderly must be considered in the evaluation and development of care for maintaining and restoration of functional capacity.

STEPPING PERFORMANCE IN OLDER ADULTS: ASSOCIATION WITH THE ACE GENE INSERTION/DELETION POLYMORPHISM

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Many factors are associated with stepping performance in older adults, including strength, balance and neuromuscular coordination. The association between genetic factors and stepping performance has not been well studied. Although the angiotensin-converting enzyme (ACE) gene insertion/deletion (I/D) polymorphism is associated with physical performance in older adults, the relationship between ACE genotypes and stepping performance is unclear. The purpose of this study was to examine the association of stepping performance with the ACE gene polymorphism in older adults. Forty community-dwelling adults (mean age 71.6 yrs) performed the 30-Rapid Step test and the Maximum Step Length test. DNA was extracted from saliva using commercially-available kits. The ACE I/D polymorphism was genotyped by 2 PCRs followed by visualization of PCR products on agarose gels. To avoid misidentifying I/D genotypes, an insertion-specific PCR was conducted on all DD samples. Differences in stepping among the genotypes was evaluated using Kruskal-Wallis ANOVA followed by Mann-Whitney U test. Statistical significance was set at $p < 0.05$. There were statistically significant differences in the 30-Rapid Step

test and the Maximum Step Length test among individuals with the 3 ACE genotypes. I/D genotype individuals stepped faster than I/I individuals, and farther than D/D individuals ($P < 0.05$). The ACE gene insertion/deletion polymorphism appears to be associated with deficits in stepping performance in older adults. As poor stepping performance increases risk for falls in older adults, specific ACE genotypes may be associated with increased risk for falls. Knowledge of an individual's ACE genotype may provide added information in evaluating risk for falls in older adults.

PROMOTING ADL INDEPENDENCE IN VULNERABLE ELDERLY: SIX-MONTH FOLLOW-UP OF A PILOT COMPARATIVE TRIAL

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Muscle strength is essential but insufficient to reduce ADL disability in older adults. A parallel-group randomized controlled trial was conducted to compare whether adding functional and task-oriented training to resistance exercise would generate a greater improvement on ADL performance relative to resistance exercise alone. Fifty-two older adults who showed muscle weakness, lived a sedentary life style, and had ADL difficulty were recruited from local subsidized housing properties. They received 10 weeks of resistance exercise or the 3-Step Workout for Life, which included practicing functional movements and ADL tasks at home in addition to resistance exercise. The Box and Blocks test, Timed Up and Go, and Assessment of Motor and Process Skills were used to measure physical function and ADL performance. At six-month follow-up, all three outcomes in the 3-Step Workout for Life group were not different from the baseline while the resistance exercise only group showed a significant decline (mean change in the Box and Blocks = -4.05, $p = 0.02$; mean change in the Timed Up and Go = 1.84, $p = 0.01$; mean change in the Assessment of Motor and Process Skills = -0.25, $p = 0.01$). More importantly, the 3-Step Workout for Life group showed a greater improvement in ADL performance when compared to the resistance exercise only group (group mean difference = 0.37, $p < 0.01$). Adding functional, task-oriented training to resistance exercise may help retain physical function and delay the decline of ADL performance after six months of detraining in vulnerable older adults.

SESSION 540 (POSTER)

ECONOMICS OF AGING, RETIREMENT, PENSIONS, AND FINANCIAL HEALTH

EXPERIENCES OF RETIREMENT LIFE AMONG RETIREES UNDER PENSION SCHEMES COVERAGE IN KENYA

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In Kenya, the number of retirees exiting the laborforce with terminal retirement benefits has been on the rise. Retirement benefits are paid in four different modes, as total lumpsum, or partial lumpsum, or monthly pension, or annuities. Although studies have been conducted to examine the income security related to these modes of payment, the experiences of the retirees receiving particularly total lumpsum benefits have not been systematically documented. Thus, the objectives of the study were: to explain the primary characteristics of the Kenyan retirees; document the experiences of retirees receiving total lumpsum benefits; and recommend ways of dealing with these experiences and challenges. A sample comprising of 978 persons aged 55 years and older were recruited from 9 regions of Kenya. Data was collected using a survey questionnaire and focus group discussions. Majority of them were males, rural residents and married and received pension benefits from among the four types of schemes in Kenya: National Social Security Fund, civil service pension, occupational schemes and voluntary pension schemes. Findings indicate that negative experiences (e.g., mismanaging pensions, business failure, and unplanned lending) outweighed positive experiences (e.g., starting and running successful business, building a house). The study recommends that: retirees be encouraged to annuitize their pension savings in case other sources of retirement income may fail; raise the minimum pension amount to dissuade pensioners from investing their retirement savings; conducting business skills training for those exiting the workforce prior to retirement; and encourage prior retirement planning to avoid income pitfalls in retirement.

HOMEOWNERSHIP, SOCIAL INSURANCE, AND OLD-AGE SECURITY IN THE UNITED STATES AND EUROPE

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Government policies often encourage homeownership as an effective way of building assets and a de facto self-insurance mechanism for old-age security. In the wake of the Great Recession, however, the homeownership rate in the United States has been declining. It may not rebound to its pre-recession peak in the foreseeable future, and it could decline even further. This project compares the United States and 10 European countries to understand the role of homeownership in retirement security, vis-à-vis public and private pensions, and savings. Using panel data from the Health and Retirement Study and the Survey of Health, Ageing, and Retirement in Europe, it explores trends in homeownership among older adults in different countries, both before and following the Great Recession, and examines how the link between homeownership and old-age financial security differs across these countries. The results show that homeownership rate in the United States (64%) is lower than in Southern European countries, and similar or higher compared to Northern and continental European countries. However, older persons in Southern Europe are much less likely than older Americans to tap into housing equity to support their standard of living in retirement. Unlike the United States, European countries have generally not experienced a substantial change in homeownership rates during and following the recent recession, regardless of the difference in

the severity of the economic crisis across countries. A notable exception is population of lower socioeconomic status. The study concludes with a critical comparison of homeowner-related policies in the United States and Europe.

WOMEN'S BASIC FIRST PILLAR PENSIONS IN EUROPE: WHAT FACTORS IMPACT THE AMOUNT?

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In all 5 of the countries studied, Germany, Sweden, Belgium, France and Italy, women live longer than men and risk having a lower amount of basic pension. This research examines the variables of age, work experience, marital status, educational level, and number of children as predictors of pension amount for women. Unlike men, marital status has a significant impact on pensions; widows have a higher basic pension amount than married women; never married and divorced women do better than married women in Germany, France and Belgium.

This research uses the SHARE data from Wave 5 to establish the basic pension amount. This pension consists of the state managed retirement pension plus old age pensions. These sources provide the principal income for the majority of retirees in these countries as the wage and salary related private occupational pension has limited impact on post retirement income for this cohort. The sample consists of all women over 65 who do not receive any work related income and report a pension amount for the last year of more than 1000 euro.

Initial results indicate that level of education is a significant predictor of pension amount in all countries studied. The women's education is a factor independent of her work experience and probably reflects her marriage prospects. Years of work experience is a significant predictor of pension amount for all countries except Belgium while the number of children is significant only in Germany. Final results will compare equations for women with those for men.

GENDER IN NEO-LIBERAL RETIREMENT INCOME SYSTEMS: COMPARING THE U.S., UK, AND SINGAPORE

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A substantial literature highlights how reliance on private sector sources for later life finances systematically disadvantages women. Critics of the neo-liberal policy turn argue that this is because public responsibilities have increasingly been privatized. We critically assess this claim in respect of pensions using a comparative analytic approach to document retirement income systems in the US, UK and Singapore, three liberal countries often regarded as among the vanguard for private arrangements for income. Our conclusions are

derived from critical analysis of national policies and secondary analysis of official statistics. We find that, contrary to prevailing assumptions, Singapore (often referred to as the world's most marketized country) has multiple inbuilt state protections that minimize both risks and gender gaps in later life provision for citizens, and has many of the characteristics of protective state systems. However, in Singapore, the most disadvantaged workers, often migrant women, are neither included in national accounts nor considered as potential recipients of income in later life, thus heavily skewing the results. Such low-paid workers are included in data for the other two countries. The US seems to occupy the middle ground among the three countries. Both US and UK rely heavily on a mixed economy of retirement income; however, the greater state support for public pensions in the US Social Security system leads to categorizing the UK as the country where older women, and older people in general, seem most at risk of poor outcomes in old age.

FINANCIAL LITERACY AND THE ECONOMIC EXPERIENCES OF OLDER ABORIGINAL ADULTS IN CANADA

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Lifelong socio-economic development disparity between Indigenous Peoples and the general population across Australia, New Zealand, the United States, and Canada is a significant risk factor for marginalization in later years (Brascoupé, Weatherdon, & Tremblay, 2013). A scoping review on international financial literacy programs conducted prior to this study indicated the need to address financial knowledge gaps in Indigenous populations, specifically focusing on financial literacy across the lifespan. The findings of this review informed this mixed methods research study, drawing on results from a consensus meeting (n=15), survey (n= 50), and focus group data (n=25) to better understand the financial realities of Canadian elderly Aboriginals who live on and off reserves. The results of the study indicate that the financial capabilities of older Aboriginals are not well understood and that tailored money management initiatives must consider the needs of Aboriginal older adults with lower income. Strategies to improve financial literacy are also complicated by the implications of status, tax-exemptions, gendered income disparities, and band laws. The knowledge gained from this study led to the development of financial literacy resources that address the following issues: navigating financial resources and benefits, saving and education for grandchildren, legal and tax issues, and band issues. The findings from this study are applicable beyond a Canadian context to demonstrate the complexity of financial issues faced by the growing elderly Indigenous communities, and the need for diverse international financial literacy programs to include cultural elements of knowledge translation, cultural relevancy and cultural safety.

GOAL-SETTING TYPOLOGIES EVIDENT AMONG COMMUNITY-DWELLING AUSTRALIAN RETIREES

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While in many developed nations the transition to retirement is becoming more complex, retirement remains a key milestone in many people's lives. As the time spent in retirement increases, the quality of life of retirees is of growing importance for researchers and policy makers across multiple disciplines. Prior studies into the nature of personal goals in retirement focus on the types of goals retirees have and how these goals shape wellbeing. However, few studies have examined how retirees view goal-setting in a broader lifestyle context, the motivations underlying goal-setting, and how these might change across retirement and with age. This paper will examine these less well understood dynamics of goal-setting.

Data from a series of paired and individual in-depth qualitative interviews with 60 semi- and fully-retired community-dwelling Australians aged between 55 and 90 years, indicate that the process of setting goals and the kinds of goals that are important to retirees appear to shift over time and at different retirement stages. Three typologies are observed in terms of the motivations for goal setting and the endeavours pursued. The first group characterised by those in early retirement or semi-retirement described goals set to create structure, explore new experiences and develop skills. Mid-retirement is characterised by a typology centred on goals which maintain connection with friends, family, and engagement with the broader community often through volunteer work. A third profile, more typical of those in late retirement, is focussed on more practical and modest goals designed to deliver independence and survival.

RETIREMENT ADJUSTMENT-THE EARLY YEARS: A 3 COUNTRY QUALITATIVE COMPARISON

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In a review of psychological perspectives on the changing experience of retirement, Schultz and Wang note (2011: 8) "*retirees actively shape their experiences in retirement. As active selves, retirees reflect on and evaluate their experiences [and] are able to modify their environment to shape their retirement experiences*". Such perspectives emphasise the salience of self-efficacy, agency and proactive behaviour in shaping retired life, but can produce an under socialised conception of the individual agent. In theorising retirement transitions and outcomes it is important to account also for the extent to which retired lifestyles and 'choices' are constrained or facilitated by broader opportunities, cultural context and social structure. Social position, labour markets, welfare and pension systems set the context in which retirement pathways unfold. Opportunities may also be more locally determined, with community hubs, associational activity and local facilities playing an important role in the promotion of social integration.

In order to explore the influence of social context and opportunity structures on the experience of 'retirement' this paper examines a sample of 135 older people aged 55+ interviewed over 3 years as they made the transition from work to retirement in Italy, USA and England – each characterised by distinct cultural orientations and welfare regimes. Using qualitative methods, the paper introduces the voices of these retirees to gain insights into: their retirement journeys; pleasures and disappointments; social roles and activities; and the

opportunities and obstacles encountered in pursuing aspirations. Implications of findings for concepts such as 'successful ageing' and 'active ageing' are highlighted.

WOMEN'S ATTITUDES AND EXPECTATIONS TOWARDS PENSION SAVING FOR RETIREMENT IN THE UK

L. Foster, M. Heneghan, *University of Sheffield, Sheffield, United Kingdom*

Gender differences in the accumulation of pension savings in the UK and beyond are well documented. Such work has concluded that while differing lifetime work profiles (and family history) explained much of the difference, other factors may also be significant. This work, funded by the Fawcett Society in association with Scottish Widows, explores some of these factors through the use of 30 semi-structured interviews and a focus group with women (aged 24–39) about their attitudes and motivations towards pension saving. It identified various themes. These include a lack of knowledge about pension provision, exacerbated by a shortage of reliable and understandable advice in assisting with pension decisions. There was also a tendency to sequence saving, first paying down any debts accumulated at university, and then saving for housing and children, before finally beginning to focus on retirement. The interviews also elucidated a number of observations around the impact of motherhood and childcare with many participants expecting to rely on the pension of their partner in retirement. Women also often alluded to male roles in their pension making decisions, in particular, their father as a key source of advice. Whilst often taking a lead role in other household financial decisions, many women expressed the superior knowledge of their male partners around pensions. These practices may make pension provision appear to be a masculine domain. Following a discussion of these themes this poster will explore potential policy mechanisms to enhance women's pension saving for retirement.

PREDICTING FINANCIAL DISTRESS IN NURSING HOMES: AN APPLICATION OF THE ALTMAN Z-SCORE MODEL

J. Lord, R. Weech-Maldonado, G. Davlyatov, *University of Alabama at Birmingham, Birmingham, Alabama*

From 2000 through 2013, there have been 1,223 nursing home closures. Nursing home closures have a negative impact on the displaced resident's health and the local community (i.e. lost jobs). There are multiple factors that attribute to a nursing home closure; however, financial performance plays a significant role.

The purpose of this paper is to examine the probability of nursing home failure via the Altman's Z-Score bankruptcy prediction model. The Altman Z-score model is a discriminant function derived from a multiple discriminant analysis (MDA). The MDA generates a weighted linear function of the financial ratios that "best" discriminates between the group of firms in financial distress and those not in financial distress. Financial ratios include income and balance sheet ratios to assess the organization's liquidity, profitability, efficiency and insolvency. This study will require the establishment and validation of new weight coefficients in order to properly predict if the organization is financially healthy or risky. This study

utilized facility level data from the Medicare Cost Reports from 2000 to 2013. The sample size will be approximately 15,600 facilities per year. Hospital-based skilled nursing facilities, government facilities and nursing homes that receive no Medicare will be excluded from the study.

The validated Altman's Z-score model for nursing homes can serve as a tool for policymakers to identify nursing homes under financial distress. This can facilitate interventions targeting nursing homes that are at risk of closure.

FROM THE CFO TO THE BEDSIDE: AN EXAMINATION OF NURSING HOME FINANCIAL DISTRESS ON QUALITY

J. Lord, R. Weech-Maldonado, G. Davlyatov, *University of Alabama at Birmingham, Birmingham, Alabama*

From 2000 through 2013, there have been 1,223 nursing home closures. Nursing home closures have been shown to have a negative impact on the displaced resident's health. Displaced nursing home residents often face significant detrimental health effects, such as, a decrease in social engagement and with activities of daily living. Nursing homes that typically close do so because of financial difficulties.

This paper will examine the quality of care delivered in nursing homes under financial distress. This study will use 2000–2013 data from the Medicare Cost Reports, the Online Survey Certification of Automated Records (OSCAR), Certification and Survey Provider Enhanced Reports (CASPER), Long-Term Care (LTC) Focus, and the Area Resource File. The sample size will be approximately 15,600 facilities per year. The dependent variables consist of quality variables that include RN, LPN, and CNA staffing ratios, residents with catheters, restraints, pressure ulcers, bowel incontinence, bladder incontinence, hospitalizations, re-hospitalizations, and facility quality of care deficiencies. The independent variable will consist of a dichotomous variable identifying where a nursing home is in financial distress as calculated by the validated Altman Z-score. Control variables include for-profit status, size, acuity index, and market competition (Herfindahl Index). Data are analyzed using fixed effects regression and lagged independent variables.

If financial distress is correlated with inferior resident quality care, this should illuminate some reasons for disparities in the delivery of care of long-term care. Understanding how organizational performance is correlated with resident care quality has the potential to provide insights on how to address and improve patient care delivery.

THE 2015 ELDER ECONOMIC SECURITY STANDARD INDEX: GEOGRAPHIC AND DEMOGRAPHIC ASPECTS

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The Elder Economic Security Standard Index (Index) offers a cost of living standard for independent, community-dwelling singles and couples aged 65 and older, calculated for every county in the United States. The Index includes local cost of housing, food, transportation, healthcare, and other expenses. Annual costs of living are calculated under three housing scenarios: homeowners with a mortgage, homeowners without a mortgage, and renters. Across these scenarios, the Index shows

that cost of living increased 1% - 7% for seniors from 2011 to 2015. National summaries indicate that for singles in good health, annual Index values range from \$19,872 to \$30,516; for couples, they range from \$30,288 to \$40,932. Single homeowners in good health and without a mortgage have the lowest cost, whereas couple homeowners in poor health and with a mortgage have the highest cost of living. We illustrate spatial variation in cost of living for older adults using maps and spatial analysis techniques. Further analysis highlights gaps between cost of living and the typical Social Security benefit; these gaps also differ substantially across geographic areas. Locations in which the cost of living for seniors has increased most markedly between 2011 and 2015 are identified. We also identify gender, race, and age segments within the older population that are most substantially impacted by spatial inequality in cost of living for older adults. Resources for adults who are older, female, or of a racial or ethnic minority group are more likely to fall below the Index value.

EXAMINING ORGANIZATIONAL AND MARKET FACTORS ASSOCIATED WITH NURSING HOME FINANCIAL DISTRESS

J. Lord, R. Weech-Maldonado, G. Davlyatov, *University of Alabama at Birmingham, Birmingham, Alabama*

From 2000 through 2013, there have been 1,223 nursing home closures. Nursing home closures have a negative effect on the health of the displaced resident as well as adverse societal implications (i.e. lost jobs and reduced access). This paper will focus on the market and organizational contextual factors associated with nursing homes that are under financial distress.

This study will use 2000–2014 data from the Medicare Cost Reports, the Online Survey Certification of Automated Records (OSCAR), Certification and Survey Provider Enhanced Reports (CASPER), Long-Term Care (LTC) Focus, and the Area Resource File. Organizational factors such as chain affiliation, for-profit status, staffing, occupancy rates, acuity index, payer-mix, age of facility, and other related organizational factors will be explored. The market forces like a county's level unemployment, per capita income, percent of minority population, education levels, community size (rural vs. metropolitan), managed care penetration, Medicaid reimbursements and level of competition will also be explored. The independent variable will consist of nursing homes in financial distress as calculated by the validated Altman Z-score. Using regression analysis with state and year fixed effects, the study will examine the impact of these factors on nursing home financial distress.

Unfortunately, nursing home closures do not impact all communities the same. Nursing home closures may disproportionately impact certain ethnic/socio-economic areas. The identification of market and organizational contextual factors that are predictors of financial distress can complement prediction models based on financial indicators, and further assist policymakers in targeting nursing homes at risk of closure.

BARRIERS AND FACILITATORS OF RETIREMENT SAVINGS FOR PRE-RETIRES IN THE UNITED STATES

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The retirement landscape is undergoing significant changes in the United States as employer benefits are increasingly

being scaled-back and public social insurance programs for older adults face growing financial costs. Much public policy dialogue today focuses on shifting more and more of the burden of preparing for retirement onto individuals. However, many households have limited retirement savings and six in ten older households (65+) receive the majority of income from Social Security benefits. In the current context, more knowledge is needed regarding the experiences of households as they save for retirement. This paper aims to enhance our understanding of the factors that aid or hinder individual savings for retirement. Using semi-structured interviews to collect qualitative data regarding the savings experiences of 16 pre-retirees (ages 50–65), the research explores the underlying dynamics of retirement savings for households approaching retirement. Findings reveal four substantial barriers to retirement savings including: 1.) insufficient financial knowledge; 2.) difficulties with intertemporal decision-making; 3.) low capacity to save; and 4.) economic shocks during the life course. The two key facilitators of secure retirement prospects were: 1.) inheritance; and 2.) defined-benefit pensions for those who had stable careers with a single employer. With traditional pensions on the decline and many families without family wealth, the savings barriers outweigh the facilitators for most families in the sample. The discussion highlights the limitations of policy proposals that rely primarily on individual savings solutions for upcoming cohorts of retirees and suggests the importance of bolstering public programs such as Social Security.

SESSION 545 (POSTER)

EXPERIENCES OF OLDER ADULTS AND CAREGIVERS

HOW DO ELDERLY PEOPLE IN NEED OF CARE EXPERIENCE TRANSITION TO A LONG-TERM CARE FACILITY?

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As the average length of stay of nursing home residents is decreasing, more elderly people are experiencing the transition to a nursing home. This is a critical life event for those affected. The purpose of this study was to examine how elderly people in need of care experience transition to a long term care facility. Fifteen elderly people in Bavaria, who recently moved to a long term care facility, were interviewed about their experiences during the process of admission. They were asked to speak about the problems they were facing and how they managed to adapt to their new living situation. The theoretical background of this study was based on the diathesis–stress-model and the action-theoretical-model about the transition to a nursing home. The nursing home residents were facing great changes in their lives. They had to leave their home, had to choose from among their properties those, which should be disposed of or earmark any properties they may wish to bring with them.

The greatest problems were to find social contact among the other residents and how to deal with the nursing staff shortage and great losses among their new social setting.

It was concluded that nursing staff plays an important role for new nursing home residents, as they are the first

social contacts to make. Nurses should observe their behavior and support them when in need.

RESIDENTS' SATISFACTION WITH CROSS-CULTURAL CARE IN RESIDENTIAL CARE HOMES: A CROSS-SECTIONAL STUDY

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Introduction: In Australia residents in aged care homes and staff who care for them come from diverse cultural and linguistic backgrounds. This characteristic of diversity challenges aged care service providers to provide high-quality care for residents.

Method: The aim of this study was to examine the level of satisfaction with cross-cultural care services from Australian-born and Overseas-born residents. A cross-sectional survey was used to collect data in four care homes. A residential cross-cultural care service questionnaire was used in the survey. Two open-ended questions were included to give residents to comment on their perceptions of cross-cultural interactions with staff.

Results: In total, 123 residents completed the survey with a return rate of 31.1%. The median age of residents was 87 years of age. The length of stay in the care home was 12 months. Overseas-born residents made up 28% of the participants in the survey and they were from 10 countries. There was no significant difference between the Australian-born group and the Overseas-born group in terms of satisfaction with a whole range of care services. There were three categories identified from residents' comments: (1) the need to improve cross-cultural communication with staff, (2) the need to meet dietary preference for residents, (3) needs-based training programs for staff to improve cross-cultural integrations.

Conclusion: Australian-born and the Overseas-born residents may experience similar challenges to adapt to a cross-cultural care environment. Regular staff training to address residents' expectations of care services is one way to foster high-quality cross-cultural care.

SUPPORTING PEOPLE WITH DEMENTIA AND FAMILY CARERS IN TRANSITION TO NURSING HOME: A SYSTEMATIC REVIEW

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During the transition of people with dementia from home to nursing home, family carers often feel insufficiently prepared and burdened, and people with dementia often show behavioral and neuropsychiatric symptoms.

A systematic review was conducted according to the Cochrane Handbook for Intervention Reviews and the protocol registered in PROSPERO. Reporting follows the

PRISMA statement. MEDLINE, CENTRAL, PsycINFO, CINAHL, OTseeker, and PEDro, were searched, additionally Google Scholar and ALOIS. The Cochrane Risk of Bias tool was used for critical appraisal. The development and evaluation of interventions were appraised according to recommendations of the UK Medical Research Council on complex interventions. Findings were synthesized narratively.

The search yielded 1,278 records. Five studies were included, all performed in the US. The interventions identified were individual and family counseling via telephone or ad hoc, addressing solely the informal carers. Data on efficacy were inconsistent. Significant effects were found concerning less depressive symptoms, burden, feeling of guilt, emotional distress, overload, and influence on interactions with staff. Other outcomes, i.e. stress, adaptation to placement, role overload, role captivity, were not statistically significantly affected. The risk of bias across studies varied from moderate to low. Only two studies tested the feasibility of the intervention before full scale evaluation, none evaluated the implementation process.

We identified a small number of studies with heterogeneous outcomes; evidence regarding the effectiveness of psychosocial interventions is thus insufficient. Reporting on the feasibility and the implementation process of interventions should be guaranteed, since it is crucial to evaluate the transferability across care settings.

AFRICAN AMERICAN ADRD FAMILY CAREGIVER PERCEPTIONS OF CAREGIVING AND SELF-CARE

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Over 5 million persons are affected by Alzheimer's disease or related dementia (ADRD), which is a growing public health issue, with 75% of family caregivers providing care in the community. There are considerable mental and physical health costs impacting ADRD family caregivers, with research aimed at testing interventions designed to improve health outcomes of ADRD family caregivers. However, African American ADRD family caregivers are underrepresented in ADRD family caregiving intervention research, where little is known about how they experience the caregiving process and manage their own mental and physical health as a result of the caregiving process. The purpose of this study was to examine African American ADRD family caregivers' perceptions of the caregiving experience and self-care practices during the process of caregiving. Twenty-four, 90-minute semi-structured individual interviews were conducted with African American ADRD family caregivers. Common themes will be presented, where findings will further inform the design and implementation of a culturally tailored intervention to meet specific needs and improve the health of African American ADRD family caregivers.

EXPERIENCE OF ONE'S AGING: AGING KNOWLEDGE AND ROLE MODELS' INFLUENCE

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Social relations may impact both what we know about aging and how we evaluate our own aging process. Yet, these influences are empirically not well established or understood.

Aging knowledge contributes to how we evaluate perceived age-related changes (Moliner et al., 2008). Role models influence the way of leading our lives (Lockwood et al., 2005). The present study examines these factors regarding their links to aging satisfaction.

A total of 389 individuals, aged 17 to 99 years ($M = 45.61$; 57.6% females) indicated their aging knowledge sources (i.e., TV, press, formation, family, other social contacts) and reported which specific person they had in mind when thinking about aging and the valence of these role models.

Over half of the participants (53.7%) mentioned family as main source of aging knowledge, followed by TV (5.7%) and education (3.1%). The younger participants were, the more they indicated that TV was their most important source of aging knowledge ($F=4.289$; $p<.05$). Family members were mentioned most often as role models (71.5%), and most of them were positive (55%; negative models: 11.8%). Individuals with family role models also reported to have their primary aging knowledge from the family ($\chi^2=23.38$, $p<.001$). Having positive role models was associated with higher aging satisfaction. Having a positive family role model was marginally linked to higher aging satisfaction ($p=.05$).

Results suggest the importance of the family for our aging process. It is an open question how TV or education could be used to better inform individuals about actual aging researches.

PERSONALITY, HEALTH BEHAVIOR, AND MORTALITY IN THE VERY OLD

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Growing evidence suggests that personality trait is associated with longevity, however, the mechanistic link has not been fully elucidated. The aim of this study was to investigate the association between personality traits and longevity and to investigate mediating pathways of this link in the very old. In a cohort of 460 senior (200 men and 260 women) aged 85 years or older living in the community, personality traits were assessed with NEO five-factor inventory, which consists of conscientiousness, agreeableness, neuroticism, openness, and extraversion. Activity of daily living (ADL), Cognitive function (mini-mental state examination), wellbeing (WHO5), leisure time physical activity (time spent for walking and exercise per week), denture wearing during sleep at night, and body mass index were assessed at the baseline, and all-cause mortality was followed-up for 6 years. Extraversion and conscientiousness showed significant positive association with wellbeing and physical activity, while neuroticism was negatively associated with wellbeing and cognitive function. Agreeableness was associated with being woman and wellbeing. During the study period, 151 (32.8%) persons died. In a multivariate cox proportional hazard model adjusted for demographics and potential confounders, only neuroticism was significantly associated with all-cause mortality (hazard risk for the highest tertile, 1.63, 95% confident interval, 1.05–2.52, $p=0.029$). Our results suggest that extraversion

and conscientiousness were associated with wellbeing and health behavior, however, the two traits has limited impacts on mortality beyond 85 years. Neuroticism was significantly associated with mortality independently from wellbeing, cognition, and health behaviors.

SESSION 550 (POSTER)

FAMILY AND INTERGENERATIONAL RELATIONSHIPS I

PARENT-CHILD RELATIONSHIP AND FILIAL PIETY AFFECT PARENTAL HEALTH AND WELL-BEING

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Purpose: Filial piety and family-centered concepts were previously the core of Taiwanese culture. However, the meaning and effects of these traditional concepts may have changed with the dramatic social evolution in Taiwan. The purpose of this study is to examine the effects of social exchanges, filial piety and adult children's concept of family on the health and wellbeing of their parents. **Methods:** Panel data were obtained from the "Panel Study of Family Dynamics," years 2005 to 2011. The sample comprised parents and their adult children who participated in the survey from 2005 to 2011. In total, 208 people and 1,336 observations were included for analysis. Factor analysis and generalized linear modeling with repeated measurements were applied. **Results:** The parent-child relationship predicted self-rated health for both fathers and mothers and predicted the life satisfaction of mothers. Filial piety was positively related to the self-rated health of mothers but was negatively related to the self-rated health of fathers. Other dimensions of filial piety and family concepts were not significant. **Discussion:** The parent-child relationship probably matters more than filial piety in the health and wellbeing of Taiwanese middle-aged and young adults. Such reciprocal harmonious relationships need the investment of time and an empathic perspective of the other's needs from both parents and adult children. A new paradigm of filial piety or the parent-child relationship is evolving.

BETWEEN ADULT CHILDREN AND PARENTS: MULTIGENERATIONAL SUPPORT EXCHANGE AND WELL-BEING IN MIDLIFE

J. Lin, C. Huang, C. Yu, *National Taiwan Normal University, Taipei, Taiwan*

This study examined a typology of multigenerational support exchange of individuals in mid-life, their aging parents and adult children. The relationships between multigenerational support exchange and a mid-life individual's life satisfaction were explored. Using data from the 2011 Taiwan Social Change Survey (Institute of Sociology, Academia Sinica, Taiwan, 2011), the Family Module consists of an island-wide sample of 2,135 adults aged 18 years old and above who were randomly chosen using a multi-stage stratified sampling method and interviews. In this study, only subjects aged between 40 and 64, with at least one aging parent (aged 65 and above, G1) still alive and one adult child (aged 18 and above, G3) were analyzed. Four types were found for multigenerational support exchange: (a) Give support to aging parents, (b) Support up and down, (c) Supported by

adult child, and (d) Low exchange. Middle-aged adults, who gave support to their aging parents and adult children, the "Support up and down" type, were most unsatisfied with life. Cultural values reinforce the meaning and expectations of intergenerational support and shape the outcomes.

DEPRESSION IN CHILDREN RAISED BY THEIR GRANDPARENTS VS. FOSTER PARENTS: THE IMPACT OF PARENTING STYLE

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Over 5.4 million children within the US are raised by their grandparents, and yet, little research has been done on the developmental, emotional, and behavioral outcomes of these children. Most studies have used a comparison group of children raised in typical family settings, which proves an unfair comparison group, as so many of these "custodial grandchildren" have been placed into their grandparents' care as a result of parental trauma. The purpose of the current study is to compare the mental health of children raised by their grandparents with those raised by a foster parent.

Participants were 323 grandparents raising their grandchildren, and 105 foster parents, recruited via Qualtrics Panel Service. The mean age was 50.44 years. The sample was 83.9% female, 58.6% were married, 17% were racial minorities, and 52% were employed. Measures included Angold & Costello's Mood and Feelings Questionnaire, which assesses children's depressive symptoms, and Frick's Alabama Parenting Questionnaire, which assesses the amount of warmth, consistency in discipline, and the amount of supervision that caregivers apply while parenting their children.

Children raised by their grandparents had significantly lower levels of depressive symptoms than those raised by foster parents. Grandparents also reported significantly higher levels of consistent discipline practices and higher supervision of their grandchildren. Mediation analyses found that the relation between caregiver type and children's depressive symptoms was significantly mediated by both supervision level and consistency in discipline. These results suggest that caregivers' discipline and supervision are two appropriate targets for interventions on children's depressive symptoms.

INHERITED STEPGRANDPARENT-STEPGRANDCHILD RELATIONSHIPS

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Stepgrandparent-stepgrandchild relationships have increased in number. Although researchers have suggested that multigenerational steprelationships may be important, little is known about the relational processes involved in the development of these ties. Further, researchers have seldom differentiated between stepgrandparents who are the spouse of a biological grandparent, and those who are the parents of a stepparent (i.e., *inherited stepgrandparents*). These individuals "inherit" stepgrandchildren when an adult child becomes a stepparent by marrying someone with children from a previous relationship, thereby gaining a son- or daughter-in-law in addition to stepgrandchildren through their child's remarriage. Inherited stepgrandparents are different from other stepgrandparents

in that they did nothing to acquire their new status, making the stepgrandparent-stepgrandchild relationship mutually involuntary. The purpose of this study was to explore the development of stepgrandchildren's relationships with inherited stepgrandparents. Interviews with 43 inherited stepgrandchildren (aged 19–35) revealed variation in quality, frequency, and type of interactions with stepgrandparents. Stepgrandchildren ranged from having met their stepgrandparents once or twice (being unable to even recall their names) to receiving daily after-school care from stepgrandparents or sharing weekly family meals. These intergenerational step-relationships were close when stepgrandchildren were young when the relationships began, when relationship quality between middle-generation stepparents and the stepgrandparents were positive, and when stepgrandchildren were receptive to stepgrandparents' affinity-building efforts. The quality of stepgrandchildren's relationships with their stepparents, how they perceived their inherited stepgrandparents (i.e., as kin or not kin), and logistical conditions (e.g., distance, contact frequency) also were relevant. We explore the implications of these relationships for older adults.

HISTORY OF MATERNAL CHILDHOOD MALTREATMENT AND LATER-LIFE SOLIDARITY WITH THE ABUSIVE MOTHER

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Studies based on the life course perspective have identified several mechanisms by which childhood maltreatment has a long-term negative impact on the adult victim's psychological functioning. However, little is known about whether and how later-life solidarity with the abusive parent plays a role as a potential mechanism. Thus, this study aims to address this gap in the literature by examining the mediating effect of later-life intergenerational solidarity with the abusive parent in the association between maternal childhood maltreatment and psychological well-being/depressive symptoms.

Using the 2004–2005 data from the Wisconsin Longitudinal Study, this study employed a structural equation modeling approach to analyze a total of 1,371 adults aged 65 years old. Results showed that maternal childhood maltreatment was associated with lower associational, affectual, and consensual solidarities with aging mothers. In addition, a mediation analysis showed that the association between a history of maternal childhood maltreatment and psychological well-being of the adult children was significantly mediated by affectual solidarity with the aging mother.

The findings of this study suggest that practitioners may support adults with a history of childhood maltreatment by untangling unresolved issues with their abusive parent. Policy support should be in place to address the concerns of adults with a history of childhood maltreatment through systematic and societal efforts.

MARITAL QUALITY OF GRANDPARENTS CARING FOR GRANDCHILDREN

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High quality of marital relations has protective effects on older adults' mental and physical well-being. However,

few studies examined how providing grandchild care affect grandparents' marital quality. This study distinguished three grandchild care types and examined their associations with grandparents' marital quality.

The sample consists of married grandparents aged 45 and over from the 2008, 2010 and 2012 waves of the Health and Retirement Study (N=6181, 52% females, mean age = 68). Grandparent caregivers were categorized as primary caregivers (living only with grandchildren), co-parenting caregivers (living with adult children and grandchildren), and babysitting caregivers (not living with grandchildren but providing care). Babysitting care hours over the past two years were differentiated as high (more than 500 hours), modest (200 to 500 hours), low (less than 200 hours), and none (reference group). Marital quality was measured by perceived closeness with spouse.

Primary caregivers reported significantly lower marital quality than grandparents providing no care. Among grandparents with high care hours (500+), grandmothers are less likely to report close marital relations than grandmothers providing no care, whereas there is no association for grandfathers. Higher marital quality is also associated with older couples' better health and fewer dependent children in the household.

Findings suggest that high intensity of grandchild care can undermine marital relations, especially from wives' perspective. Support groups may target primary grandparent caregivers and grandmothers who provide high levels of grandchild care to relieve their care burden. Family therapists may take grandchild care responsibilities into consideration when providing counsel to older couples.

AGING FILIPINO IMMIGRANTS' GENERATIVITY: COLLECTIVISTIC IDEOLOGY AND SOCIOEMOTIONAL DEVELOPMENT

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This poster presents findings from a qualitative study with transnational Filipino families. Researchers conducted individual and dyadic interviews with 14 Filipino immigrant elders residing in the United States (U.S.). Filipino collectivistic ideologies of interdependence and a focus on family led to reliance of Filipino immigrant elders on social supports in both in the Philippines and in the U. S. These transnational support systems eased stressors associated with immigration and settlement experiences. However, these ideologies, which support a lifestyle of close personal relationships, also spurred participants' development of guilt. Aging far from their homeland, participants cultivated a socioemotional ramification associated with their immigration to the U.S. while also maintaining transnational relationships with family and friends in the Philippines. Participants regretted absences from relatives' and friends' life events (marriages, birthdays, deaths). The avoidance of daily life struggles in the Philippines, while increasing their quality of life in the U.S., further exacerbated feelings of guilt. The combination of guilt and a collectivist ideology of altruism strongly influenced the generativity of participants as they reached mid-life. Preserving their immigration journeys and sacrifices, they strive to pass on knowledge and experiences to the next

generation by educating their children about their Filipino cultural heritage and establishing programs that simultaneously benefit the younger generation and friends and family remaining in the Philippines. This research adds valuable information for those studying the intersection of aging and migration. It provides insights for professionals whose aim is to support successful aging of immigrant elders.

CARING FOR GRANDCHILDREN AND GRANDPARENTS' PHYSICAL AND MENTAL HEALTH CHANGE

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Grandparent caregiving for grandchildren is an important component of intergenerational relationships that may have consequences for grandparent health. Many Asian societies—including South Korea—are aging, and more grandparents are providing care for grandchildren. However, the impacts of caregiving for grandparents' health and well-being in South Korea are not well-known. Using the Korean Longitudinal Study of Aging (KLoSA), we examined how the transition to caring for grandchildren influenced a variety of outcomes related to the health and life satisfaction of grandparents. The participants of this study were 6,372 KLoSA grandparents who had one or more grandchildren from waves 1–4. Outcome variables included grandparents' self-reported health, Activities of Daily Living (ADL), and Instrumental ADL (IADL), as well as grandparents' reported health satisfaction, relationship satisfaction with children, and overall life-satisfaction. We used fixed effects regression analyses to estimate differences in health and life-satisfaction among grandparents who did and did not provide care to grandchildren over consecutive two waves. Our results demonstrate that the health impacts of caring for grandchildren are complex for grandparents. Compared with grandparents who do not care for grandchildren, grandparent caregivers have more difficulties with ADL and IADL. Self-reported health and health satisfaction of grandchild caregivers, however, are not significantly different from non-caregiver grandparents. Grandparent caregivers report greater satisfaction with their relationship with their children as well as with their overall quality of life compared to grandparents who do not care for grandchildren. Taken together, these findings suggest that grandchild care has costs and benefits for the well-being of grandparents.

LOOKING FOR LOVE: ONLINE PROFILE CONTENT OF OLDER AND YOUNGER GAY, LESBIAN, AND HETEROSEXUAL ADULTS

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Research on romantic relationship formation has focused primarily on young, heterosexual adults. Of the limited research on dating in late life, even fewer studies address the dating motivations and preferences of older adults who identify as gay or lesbian. Nonetheless, adults of different ages and sexual orientations may have different motivations when seeking dating partners. These differences in motivation may be evident in their self-presentations on dating websites. Consistent with developmental theories, older adults

may be more likely to emphasize existing ties with family and friends, while younger adults may emphasize themselves and their achievements. Additionally, heterosexual adults may be more focused on topics related to traditional mate value, such as occupation, while individuals seeking same-sex partners may be more likely to discuss sexuality and less likely to emphasize family relationships. The current study sampled 400 profiles from a popular dating website. Themes in these profiles were identified using Linguistic Inquiry and Word Count (LIWC; Pennebaker, Booth & Francis, 2007). Regression analyses revealed that younger adults were more likely to mention the self, as evidenced by a greater proportion of first person singular pronouns (I, me) compared to older adults. However, older adults were not more likely to mention ties to friends and family. Further, heterosexual adults were not more likely to mention their occupations than gay or lesbian adults, but gay and lesbian adults were more likely to discuss sexuality in their profiles and less likely to mention family. Results are discussed in terms of evolutionary and developmental theories.

AN INTERNET-BASED, MULTIGENERATIONAL INTERVENTION TO ENHANCE KNOWLEDGE ABOUT CARE PREFERENCES

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Family members find it difficult to communicate about end-of-life care preferences. Yet accurate knowledge about care preferences can enhance a range of outcomes for both patients and family caregivers. In this study we developed and evaluated an Internet-based, multigenerational intervention used with 40 later-life families (130 individuals) to enhance knowledge about care preferences. Conducting this kind of applied research over the Internet presents a range of benefits but also challenges. In this presentation we review both, and share results from the completed intervention. Overall, there was a wide range of knowledge about family members' care preferences, with intraclass correlations suggesting poor to good knowledge. The intervention enhanced knowledge about care preferences in some families but not others, suggesting the value of tailoring communication tools to address unique features of families. This research provides an example of one methodology among the many different approaches likely needed to enhance communication in families.

FAMILIES ACROSS BORDERS: ELDERCARE IN MEXICAN-ORIGIN FAMILIES WITH CHILDREN IN THE U.S.

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In the nascent body of transnational elder caregiving literature, the empirical data primarily come from studies in Australia and Europe and focus on caregiving at great physical distances. Much less is known about transnational eldercare in the Americas. This study utilizes data from 1,930 parents about their 11,159 non-resident children from the baseline survey of the Mexican Health and Aging Study to examine within-family social support and care Mexican parents receive from their adult children when at least one of those children reside in the United States. The findings indicate that of those parents receiving financial help from at

least one child, 80% of the parents report that the help is from a child residing in the U.S. On the other hand, only 12.4% of parents receiving household support receive that type of support from a child in the U.S. Of those adult children residing in the U.S., males are more likely to send remittances, but there is no gender differences in U.S. children who provide household support. Further, the larger the sibling network, the less likely U.S. children are to provide either financial or household support. This study indicates the primary contribution U.S. resident children make to their parents is monetary, yet there are many who are also attempting to contribute physically to the care of parents in Mexico. The within family dynamics of Mexican parents with children living in the United States warrants continued examination in order to better understand the support systems of these aging parents.

ADULT CHILDREN'S PERCEPTIONS OF UNWANTED ADVICE FROM AGING PARENTS

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Parents and adult children often provide advice to one another in everyday interactions. However, few studies have examined how received advice is perceived (i.e., whether the advice was solicited or not). Unwanted advice can be a source of tensions in parent-child interactions, and may represent longstanding problems in dyadic relationships. Using data from *Family Exchange Study* (Wave 2), the current study examined how adult children's perceptions of unwanted advice from parents are associated with life situations and relationship characteristics. Adult children ($N = 381$, aged 45–65) reported how often they perceived unwanted advice from each parent ($N = 491$). Multilevel models revealed that adult children were more likely to perceive unwanted advice from aging parents when they suffer major life problems (e.g., divorce, major health problem, addiction). This association was also moderated by adult children's relationship quality with older parents. Thus, adult children suffering problems were less likely to perceive advice from parents as unwanted when they had better relationships with parents. Our findings will contribute to the literature by considering how received support is perceived in parent-child relationships, which can be critical in understanding the implications of intergenerational support for well-being.

ADULT CHILDREN'S JOB LOSS AND PARENT-CHILD RELATIONSHIP QUALITY: THE ROLE OF PARENTS' EVALUATIONS

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The life course concept of linked-lives indicates that intergenerational relationships are shaped by the life events of individual family members. In this paper, we examined how adult children's job loss during the Great Recession impacted parent-adult child relationship quality. In particular, we focused on how employed parents experienced adult children's job loss. In addition, we examined the mediating role of parents' evaluation of themselves and their children

in the association between job loss and parent-child relationship quality.

This study draws on 396 parents ($M \text{ age} = 66.44$, $SD = 5.71$) from the MIDUS wave3 (2013–2014). All of the parents were employed and reported on whether their children experienced job loss in the last year ($M \text{ age} = 41.34$, $SD = 8.26$). To explore how the employment status of children affects the relationship quality between employed parents and their children, we performed linear regression analysis. We conducted mediation analysis to examine the role of parents' evaluation of themselves and their children.

Regression analysis demonstrated that the employment status of children had a negative effect on the quality of parent-child relationship ($\beta = -.107$, $p < .05$). Mediation analysis indicated that parents' positive evaluation of themselves and their negative evaluation of their children helped to explain the association between adult children's employment status and the quality of parent-child relationships.

These findings indicate that adult children's job loss influences the parent-adult child relationship quality. Further, parents' evaluation of themselves and their children mediates this association. Taken together, this research highlights the linked lives between parents and adult children.

GRANDPARENTS PERCEPTIONS OF THEIR ROLE AS SOCIALIZING AGENTS: A QUALITATIVE STUDY

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Although most research has focused on grandparents' intensive care engagement, the most common scenario is grandparents providing auxiliary care. Value transmission and caring are the two most important functions developed by grandparents, but grandparents' socializing role has not been studied extensively. Grounded theory method was used to explore how grandparents with grandchildren in primary school perceive their role as socializing agents. 6 focus-group discussions were developed to collect data. A total of 42 grandparents from Madrid participated in this study. The mean age was 71.42 years old, 55% of participants were women, and they were providing care daily (47.62%) or weekly (52.38%). Data were analyzed by three researchers using the constant comparative method. Four themes emerged from data: 1) participants stressed they were not responsible for their grandchildren's education, but recognized the importance of getting involved supporting their adult children's parental role, 2) they stated the need to transmit traditional values, combining warmth and involvement to help grandchildren internalize these values, which they perceived are in decline in current society, 3) participants perceived grandchildren helped them to feel active and useful, increased their life purpose and gave them a second chance to repair the mistakes made with their own children, and 4) some grandparents emphasized some difficulties, such as burden and role ambiguity. Policies recognizing grandparents' contribution to current families and that favor close intergenerational relationships are needed. It should be developed intervention programs that help grandparents to perform their role more successfully and to deal with possible family conflicts.

GRANDCHILD CARE, GENDER, AND FURTHER ROLE OCCUPATIONS: IMPLICATIONS FOR GRANDPARENTS' HEALTH

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Several studies report significant associations between grandchild care and grandparents' health. Auxiliary care is considered to have a positive influence on health outcomes. The relevant literature applies role enhancement theory to explain this link because multiple role occupation might buffer stress emerging from particular roles and promote relevant health resources like self-expression and social support.

Considering role enhancement, we hypothesize that grandmothers face stronger benefits from grandchild care than grandfathers do. We argue that due to gendered role expectations, women are challenged to manage multiple role occupations. The most recent wave of the German Aging Survey (DEAS) shows, that an increasing share of grandparents combine grandchild care and active employment. Especially more elderly women are integrating into labour market, while they are still responsible for domestic work or informal care. The current analysis will therefore apply three waves of the DEAS to illuminate the intersections between auxiliary grandchild care, gender and further role occupations.

Controlling for relevant covariates and health at baseline, preliminary analysis with linear regression models show: Grandparents who repeatedly care for their grandchildren within six years face significant better self-rated health ($\beta=0.16$, $p<0.05$) and physical functioning ($\beta=4.7$, $p<0.01$) than non-caregiving grandparents. Further analysis will test if grandchild care effects differ by gender and if expected differences are driven by multiple role occupation. Furthermore, longitudinal analysis will illuminate whether associations between grandchild care and health can be interpreted as a causal effect. The analysis will additionally apply a latent health measure combining several self-reported and observer-measured health information.

GENDER DIFFERENCES IN THE RELATIONSHIP BETWEEN MARITAL STATUS AND HEALTH-RISK BEHAVIOUR IN GERMANY

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Compared to investigations in America, only a few European studies examined gender differences in the effect of family circumstances on risky health behaviour by older people. In this context, this research deals with the question of whether a higher health-related risk behavior exists among unmarried men and women in Germany. On the one hand, empirical findings indicate a significant effectiveness of marriage as a protective effect. On the other hand, studies disprove this causal connection and emphasize selection effects. To analyse the protection effect of marriage on smoking habits and body weight, the cross-sectional study used two waves from the German Ageing Survey (DEAS). The results of the regression models show the highest probability for an active smoking behavior at divorced and separated living men and women compared to married people. By contrast, widowed

men and unmarried women have lower risk levels. Contrary to the protection approach, unmarried men recorded a lower likelihood of obesity in relation to the body mass index of married men. Accordingly, the assumptions of marriage protective effect on the smoking behavior of men and women could be confirmed. In particular, longitudinal studies are necessary for future studies to improve causality analysis and for the avoidance or control of selection mechanisms.

SESSION 555 (POSTER)

FRAILITY I

BENEFIT OF MANAGING FRAILITY IN DIFFERENT CLINICAL SETTINGS: RESULTS FROM THE FRAILCLINIC PROJECT

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One of the aims of FRAILCLINIC is assessing the feasibility of programs designed to manage frail older patients attended in different in-hospital settings.

Participants were selected from Cardiology, Major Surgery, and Emergency Room Departments in hospitals in three different European countries. Results here shown come from 109 patients (57 in intervention group) from Spain. Patients were characterized as frail if they met the Fried's criteria or the FRAIL criteria. Patients randomized to intervention group received a full Geriatric Assessment and recommendations were made by a geriatrician to be implemented by the treating physician.

Mean age was 83.4 (SD 5.3) and 61% were female. 61% of all patients were classified as frail using both Fried's criteria and the Frail scale. Risk of delirium was identified in 30% of patients; polypharmacy in 87.5%, constipation in 38.6%, urinary incontinence in 43.8% and visual deprivation in 60%. There were no differences in any of the previous variables between control and intervention groups.

In Surgery, the recommendations were fully (100%) implemented by the treating physicians. This figure was lower in the Emergency Room (89.4%) and Cardiology (50%). Patients in the intervention branch tend to be discharged to their homes more often than those in the control group (97.4% vs 83.7%; $p<0.01$): 100% vs. 75% in Surgery, 100% vs. 78.7% in Cardiology and 95.6% vs. 89.4% in Emergency Room.

Geriatrician's recommendations show a different rate of acceptance by hospital setting, although they improve the outcome of frail older patients.

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ASSOCIATION OF FRAILITY PHENOTYPE AND MISTREATMENT

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The phenotype of frailty has been related with increased vulnerability for the development of health-related adverse outcomes that could lead to social consequences such as mistreatment. The association between these two geriatric

syndromes has not been widely studied. Therefore the objective of this this cross-sectional study was to determine the association between frailty phenotype and mistreatment. 852 community-dwelling subjects aged 70 and older participating in the Mexican Study of Nutritional and Psychosocial Markers of Frailty were included. Mistreatment was defined as one positive answer in the validated Geriatric Mistreatment Scale and Frailty was defined according to the phenotype proposed by Fried et al. The association between frailty phenotype and mistreatment was determined as the main outcome to construct a multivariate logistic regression analysis. The final model was adjusted by age, sex, cognition, depression and disability. Mean age of participants was 77.71 years (SD=6.07) and 54.81% were women. Frailty phenotype and mistreatment prevalences were 13.85% and 19.95% respectively. The unadjusted results showed a positive association between these two phenomena [Odds Ratio (OR) =1.63; 95%CI 1.00 to 2.66, $p=0.05$]. However, there was no association in the final model (OR=0.86; 95%CI 0.47 to 1.57, $p=0.63$). The results showed that there is a positive association between frailty phenotype and mistreatment, nevertheless there are confounders such as depression and disability that seem more strongly associated with the latter. However, frailty cannot be excluded as a possible determinant of mistreatment in this population.

THE ASSOCIATION BETWEEN SARCOPENIA AND LUNG FUNCTION IN OLDER AUSTRALIANS

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The relationship of sarcopenia and lung function is uncertain. The aim of the current study is to compare the relationship between sarcopenia using three different definitions for low appendicular skeletal muscle mass (ASM) in combination with low grip strength and lung function in older community dweller. Participants (≥ 65 years old) were from the North West Adelaide Health Study. Measurements included anthropometric measurements, spirometry and dual energy x-ray absorptiometry of body composition. Sarcopenia was defined as low muscle mass and low muscle strength (<30 kg for men and <20 kg for women). Low muscle mass was defined as either: a) ASM adjusted to height squared, b) ASM adjusted to height and fat mass; or c) ASM adjusted for body mass index (BMI). There were 470 (53.4% women) subjects. Forced expiratory volume (FEV₁[L]) and forced vital capacity (FVC[L]) were significantly correlated with grip strength and the three low ASM definition. The associations were adjusted for age, gender, smoking and physical activity. After adjustment, ASM adjusted to BMI (β -coefficient -0.33,

$P<0.001$ for FEV₁ and β -coefficient -0.50, $P<0.001$) and fat mass definition (β -coefficient -0.26, $P=0.04$ for FEV₁ and β -coefficient -0.31, $P=0.05$ for FVC) of sarcopenia remained an independent predictor of lower FEV₁ and FVC. No association between sarcopenia and FEV₁ (β -coefficient -0.05, $P=0.52$) and FVC (β -coefficient -0.01, $P=0.90$) when ASM adjusted to height definition was used. Association between sarcopenia and lung functions are noted with some but not all definitions of sarcopenia. As there is a relationship between fat mass and lung function, sarcopenia definitions that account for fat mass may be more relevant in clinical practice.

NUMBER OF MEDICATIONS INCREASES IN COMMUNITY DWELLING OLDER PEOPLE ACCORDING TO THE FRAILTY STATUS

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Polypharmacy is a concern in geriatric practice. This study evaluated if there is difference in pharmacological treatment in a community dwelling frail population. Observational transversal study in a geriatric outpatient facility of tertiary hospital. Patients evaluated from March till September of 2015 were included. Being unable to answer telephone call, FRAIL questionnaire, or having no medical records were excluded. Review of medical records provided: age, sex, schooling level, hypertension, diabetes, dyslipidemia, heart failure, ischemic heart disease, stroke, osteoporosis, depression, dementia, cancer, chronic obstructive pulmonary disease, asthma, Mini Mental, Geriatric Depression Scale, and body mass index. Laboratory included hemoglobin, creatinine, fasting glucose, glycosylated hemoglobin. Medication dispensing program provided medication in use. Data was collected admitting 12 months before the frailty assessment which used FRAIL questionnaire, (robust = 0, pre-frail = 1–2 and frail 3–5). Proxy or patient were interviewed by telephone call. Logistic regression with adjustment for age and sex was performed to evaluate difference in medication.

1185 elderly were elected, 374 were excluded, remaining 811 participants. Age was 81.6 (7.2) years, 72.9% female. 13.8% were robust, 48.5% pre-frail and 37.7% frail. Depression among frail elderly was 13.4% in robust, 48.5% in pre-frail and 38.1% in frail, $p<0.00001$. The same occurred to dementia. The other comorbidities had high prevalence but not difference. Total number of medication in use was 8.3 (3.2), logistic regression compared frail elderly to robust showed difference. In the adjusted model, the coefficient was 2.2, $p<0.0001$, CI 95% 1.5–2.9. There was no difference comparing robust to pre-frail.

ASSOCIATION OF FRAILTY WITH VITAMIN D AND PROCOLLAGEN TYPE I N PROPEPTIDE IN ELDERLY WOMEN

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Objective: This study was aimed to investigate the association between frailty, vitamin D and procollagen type I N propeptide (P1NP) in elderly women.

Methods: Women over 60 years of age with no vitamin D supplementation were included. Frailty status was defined using Fried's criteria, and participants were classified as robust, prefrail and frail if they scored 0, 1–2, 3 points, respectively. Vitamin D and P1NP concentrations in serum were measured with Cobas E411. Multinomial logistic regression was used to determine the associations.

Results: Of 161 women included, 103 were robust, 30 prefrail and 28 frail, with mean age 69.4 ± 6.2 years, 70.8 ± 7.9 and 75.8 ± 6 years, respectively. Vitamin D level was lowest (13.29 ± 6.15 ng/ml) in frailty group and highest (17.57 ± 8.19 ng/ml) – in robust women. Unadjusted analysis in frailty versus robust group (reference category – robust) showed that higher levels of vitamin D were statistically significantly associated with being robust (OR: 0.91, 95% CI: 0.85; 0.97; $p=0.009$), prefrailty versus robust group showed that higher levels of P1NP were statistically significantly associated with being prefrail (OR: 1.01, 95% CI: 1.0; 1.03; $p=0.036$). After adjusting for the age, the association between frailty and vitamin D was not statistically significant. However, the association between prefrailty and P1NP was still statistically significant (OR: 1.02, 95% CI: 1.0; 1.03; $p=0.04$).

Conclusion: In elderly women, higher level of vitamin D is not related to being robust, and higher level of procollagen type I N propeptide is associated with prefrailty.

PREVALENCE OF SARCOPENIA AND ITS ASSOCIATED FACTORS: THE IMPACT OF DIFFERENT CUTOFF VALUES

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Aim: To estimate the prevalence of sarcopenia and its associated factors in community-dwelling elderly living in Rio de Janeiro, Brazil, and to discuss the impact of different handgrip strength and gait speed cutoff values on sarcopenia frequencies.

Method: The health habits, functional capacity, and anthropometric measures of 745 individuals 65 years old and older from the Frailty in Brazilian Older People study were analyzed. They were classified into four diagnostic strata: no sarcopenia; pre-sarcopenia; sarcopenia; severe sarcopenia. Univariate and multivariate regression analyses were performed. Handgrip strength and gait speed cutoff thresholds tailored to the sample population and those proposed through a consensus of experts by the European Working Group on Sarcopenia in Older People were used to compare sarcopenia prevalences.

Results: The average age was 76.6 years, 70.3% were female, and 61.9% were Caucasian. The sarcopenia prevalence was 10.7 and 18% using the sample-tailored and the European consensus cutoff values, respectively. Sarcopenia was associated with advanced age (OR: 37.2; 95% CI: 12.3–112.4), Caucasian race (OR: 1.81; 95% CI: 1.02–3.52), single marital status (OR: 6; 95% CI: 2.2–16.39), low income

(OR: 3.64; 95% CI: 2.58–8.39), and comorbidities (OR: 3.26; 95% CI: 1.28–8.3).

Conclusion: In this study, the estimated prevalence of sarcopenia was similar to those reported in most studies once tailored handgrip strength and gait speed values were adopted. A higher prevalence was observed when the cutoff values suggested by the European consensus were used. This indicates that sarcopenia frequencies must be estimated using population-specific reference values."

RELATIONSHIP BETWEEN FRAILTY AND DIETARY VARIETY AMONG OLDER ADULTS

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Objectives: Frailty is an important precursor of the need for long-term care. This study aimed to find requirements for dietary support or intervention from basic data as well as nutritional status obtained from the frailty older adults. Therefore, we clarified the differences in body composition and nutritional status according to severity of frailty.

Methods: The present study was carried out in 2014, and consisted of 747 individuals over 65 years. The participants completed the Kihon checklist, which is widely used to assess frailty in Japan. The Kihon checklist was categorized into 3 groups: Robust (≤ 3 score), Pre-frailty (4–7 score), Frailty (≥ 8 score). Survey items included basic information (sex, age, serum albumin level), multi frequency bioelectrical impedance analysis (body composition), food frequency questionnaire (dietary variety), brief self-administered diet history questionnaire (nutritional intake), and grip strength, 10-m walk time (physical function). Ordered logistic regression analysis was used to examine the associations of dietary variety with frailty.

Results: According to the Kihon checklist, 11.6% of the study participants were considered as frailty. Frailty were independently associated with dietary variety score and serum albumin.

Conclusion: Dietary variety and serum albumin were significantly associated with frailty in community-dwelling older adults. The causal relationship should be examined in a prospective study.

FRAILTY TRANSITIONS AMONG OLDER ADULTS

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Purpose: Frailty is a geriatric syndrome associated with increased risk of adverse health outcomes. To better understand the dynamic process of frailty, our objectives were to evaluate baseline and six-month follow-up frailty transitions and the components associated with these changes in the Arizona Frailty Cohort.

Methods: One hundred and nineteen community participants (≥ 65 years) had two home visits, six months apart. Fried Frailty Index was measured at baseline and six month visits. Transitions in Fried category and components (i.e. unintentional weight loss, self-reported exhaustion, grip strength, walking speed, and physical activity) driving these transitions were assessed.

Results: Six-month frailty progression was observed in 13 individuals (11%) with 8 (7%) transitioning from non-frail to pre-frail and 5 (4%) from pre-frail to frail. Twenty-eight individuals (24%) observed frailty regression with 17 (14%) transitioning from pre-frail to non-frail and 11 (9%) from frail to pre-frail. Decreased walking speed (38%) and low activity (80%) contributed to the transitions from non-frail to pre-frail and from pre-frail to frail, respectively. In the regression from pre-frail to non-frail increased walking speed (53%) was common, and in the regression from frail to pre-frail increased activity level (45%) and decreased self-reported exhaustion (73%) were common.

Conclusions: Change in walking speed was most common among the non-frail to/from pre-frail, whereas change in activity level was common in pre-frail to/from frail transitions. These results illustrate that 1) gait changes may occur earlier than other criteria in frailty progression, and 2) frailty is a dynamic state and should be measured regularly.

THE MULTIDIMENSIONAL INSTRUMENT TO ACCESS FRAILTY SYNDROME IN ELDERLY FROM PRIMARY CARE SETTING

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Introduction: Several authors have studied the frailty syndrome (FS) but few studies are focused on basic health care especially in Brazil. The aim of the study was to develop and validate a multidimensional instrument tracking FS in elderly patients in primary care.

Methods: A cross-sectional study enrolling 355 elderly participants of the Multidimensional Study of the Elderly in Porto Alegre from the Family Health Strategies (EMISUS). The clinical criteria for the phenotype of FS was the modified Fried (without physical activity; 0 points= no frail individuals/1 point= pre-frail/2 or more points= frail). For the development of the instrument were selected 10 dimensions (social, age, sensory, depressed mood, cognition, number of medications, ADL/IADL, balance, urinary incontinence and nutrition) categorized as present or not.

Results: Through multiple logistic regression (Forward Wald method), considering as the dependent variable the Fried phenotype (0= no frail and 1= pre-frail/frail) and as independent variables the 10 dimensions, we found as independent predictors variables the following dimensions: undernutrition (OR= 2,66), polypharmacy (OR=1,92), dependence (OR=4,58), urinary incontinence (OR=1,88) and imbalance (OR= 3,32). We created the multidimensional instrument tracking frailty syndrome (IMSIFI) and established the cut-off point 1 to discriminate no frail to pre-frail/frail individuals (sensitivity= 0,759 and specificity= 0,563). The area under the ROC curve was 0,713. The phenotype more common was no frail (44.5%) by Fried criteria and pre-frail/frail (72.9%) by IMSIFI. Both instruments (Fried and IMSIFI) were associated with functional capacity.

Conclusion: IMSIFI is a simple, objective, and quick instrument for the context of primary care.

A MULTIFACTORIAL INTERDISCIPLINARY INTERVENTION IN PRE-FRAIL OLDER PEOPLE: RANDOMISED TRIAL

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The study aim was to determine whether an intervention could reduce pre frailty and improve mobility disability. We conducted a single centre, randomised, controlled trial among older people who were pre frail in Sydney, Australia. One group received an intervention targeting the identified characteristics of frailty, while the comparison group received the usual healthcare and support services. Outcomes were assessed by a rater masked to treatment allocation at 4 and 12 months after study entry. The primary outcomes were frailty criteria with reference to the Cardiovascular Health Study criteria, and mobility as assessed by the lower extremity continuous summary performance score (CSPS) calculated from the Short Physical Performance Battery. Secondary outcomes were also assessed. A total of 194 participants (84%) completed the study. Overall, 38% of participants were men and the mean (SD) age was 81.5 years (5.3). In the intention-to-treat analysis, the mean between group difference in frailty criteria was .062 at 12 months (95% CI -0.24 to 0.36, p=0.7). The change score on the CSPS favoured the intervention group at 4 months (0.11, 95% CI 0.004 to 0.215, p=0.042) but there was no between group difference at 12 months. There were no major differences between the groups with respect to secondary outcomes. This intervention trial for pre frail older people did not show a benefit on frailty of a multifactorial interdisciplinary intervention. The same intervention had positive effects in frail older people and the reasons for the difference are currently unclear. Trial registration: ACTRN12613000043730

FRAILTY AS PREDICTOR OF MORTALITY IN INSTITUTIONALIZED OLDER ADULTS.

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This longitudinal observational cohort study was conducted in two Spanish nursing homes. Of the 331 subjects who agreed to participate we obtained valid data of 295 subjects. Frailty was defined by the presence of three or more Fried criteria: unintentional weight loss, low energy, exhaustion, slowness, and low physical activity. Mortality during the follow-up period (2012–2015) was recorded. Demographic data, comorbidity assessed by the Charlson index and disability in basic activities of daily living using the Barthel index were recorded at baseline. All data were analyzed using the SPSS 15.0 program. The association between frailty and mortality was determined by Cox proportionalhazard analysis and logistic regression adjusted for age, sex, Barthel index, Charlson index, and body mass index (BMI). Mean age of the cohort was 83.9 (SD 6.8), with 213 women (65.1%). Mean

Barthel index was 54.1 (SD 36.7), BMI 27.5 (SD 5.3) and Charlson index 1.8 (SD 1.6). 218 (66.9%) were frail and 108 (33.1%) non-frail. At follow-up, 128 subjects died, most of whom (81.2%) were frail. Frailty was associated with higher mortality (OR 2.3; CI 95% 1.2–4.6) adjusted for all study covariables. The adjusted probability of survival using Cox proportional hazard analysis showed greater adjusted risk of mortality for frail subjects (HR 1.8; CI 95% 1.1–2.9) during the three years of follow-up. To conclude, frailty is related to three-year mortality in institutionalized older adults.

PREVALENCE AND CORRELATES OF FRAILTY IN COLOMBO DISTRICT, SRI LANKA

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Newly developed validated frailty assessment instrument (FAI) was used to assess the prevalence of frailty in Colombo district, Sri Lanka. Criteria to diagnose frailty were developed giving weights according to the magnitude of the eigenvalues of principal components in domains of FAI yielded from factor analysis. Cross sectional descriptive and analytical study was conducted among 1620 elders selected by multistage cluster sampling method. Prevalence of frailty in Colombo district was 14.9% (95%CI:13.2%– 16.6%). Prevalence rates of frailty were higher in males (17.7%, 95%CI:15.0% – 20.4%) and elders below the age of 75 years (11.3%, 95%CI: 9.4% – 13.2%) than females (12.4%, 95%CI: 10.2% – 14.6%) and elders aged 75 years or more (21.6%, 95%CI:18.2% – 25.0%). Age, gender, marital status, education, past medical history, physical activities, nutrition, Body Mass Index (BMI), activities of daily living (ADL) and instrumental activities of daily living (IADL), memory, living index, environment index, economic status, depression, duration of non communicable diseases (NCDs), number of drugs using, social contacts, social support and consumption of medical facilities during the preceding six months are significantly associated with frailty status at 5% level. However, number of drugs using (OR–0.86, 95%CI:0.77–0.95), admissions to hospitals (OR–4.86, 95%CI:2.92–8.08), age (OR–1.06, 95%CI:1.0 –1.09), IADL (OR–1.13, 95%CI:1.09–1.18), unsatisfactory environment (OR – 3.46, 95%CI: 2.17–5.51) and economic dependency (OR–7.09, 95%CI:2.87–17.51) were significant correlates at 5% level in logistic regression models. Prevalence rates are relatively high and early interventions to prevent frailty are recommended.

PROVIDING SOCIAL SUPPORTS CAN REDUCE MORTALITY RISK AMONG PRE-FRAIL OLDER ADULTS IN TAIWAN

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Objective: To determine the association of providing or receiving social support on mortality risk among the elderly with pre-frailty or frailty. **Method:** In this notional longitudinal study, data were retrieved from the Taiwan Longitudinal Study on Aging (TLSA) from 1996 to 2007. Data for 1492 males and 1177 females (total 2669) aged ≥67 years were collected. Participants were divided into three groups: no frail older adults, pre-frail older adults and frail older adults. These elderly received social supports, and they also actively provided social supports to others. The study was examined using Cox regression analysis to evaluate the association between providing or receiving social support on mortality of pre-frail or frail older adults after adjusting several covariates. **Results:** Results showed the average age of these participants was 73.8 (SD=5.5) years, and more than half of the participants were male (55.9%). The number and percentage of frail elderly, pre-frail elderly and frail elderly groups were 402(16.9%), 1501(63.1%) and 474(19.9%) respectively. Final results of the multivariate Cox regression analysis showed a significant association between providing social supports with lower mortality rates among the pre-frail older adults after adjusting several covariates. [hazard ratio (HR) = 0.886; 95% confidence interval (CI) = 0.814–0.964; *p* = 0.005]. **Conclusion:** Providing social support to others may prolong life expectancy of the pre-frail older adults.

INFLUENCE OF STATIN USE ON THE PHYSICAL FUNCTION AMONG COMMUNITY-DWELLING OLDER JAPANESE ADULTS

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Statin-induced myopathy is one of the muscle-related side effects of statins. However, some positive effects such as improved walking speed in patients with cardiovascular diseases and reduced risk of frailty have been reported to be associated with statin use. The objective of this study was to examine the association between statin use and physical function among community-dwelling older Japanese adults.

The subjects were 1022 community-dwelling older adults aged 65–88 years, who participated in comprehensive health check-ups from 2013 to 2015. Statin use in the subjects was checked by copying data from their medicine notebooks. The differences in skeletal muscle index (SMI), grip strength, gait speed, timed up-and-go test (TUG), one-legged stance, knee extension torque, and low-density lipoprotein (LDL) cholesterol between statin users and non-users were analyzed by t-test. Multiple regression analyses were also conducted to examine the association of statin use with physical function.

Among the 381 men and 559 women whose medication could be checked from their medicine notebooks, 93 men (24.4%) and 154 women (27.5%) were statin recipients. Some physical functions declined significantly in statin recipients compared to those in non-recipients. LDL cholesterol levels reduced significantly in statin recipients. Multiple regression analysis with controlling for age and number of

medicines showed statin use is independent factor in decline of grip strength, gait speed, and one-legged stance.

It was suggested that statin use might be associated with physical function in community-dwelling older adults.

SARCOPENIA IN UKRAINIAN OLDER WOMEN

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The aim of this study was to evaluate the frequency of sarcopenia in the healthy Ukrainian women.

Materials and methods: 390 healthy women aged 20–87 years (mean age – 57.50 ± 15.99 years) were examined. The lean and fat masses were measured by the DXA method (Prodigy, GEHC Lunar, Madison, WI, USA). Appendicular skeletal mass (ASM) was measured at all the four limbs with DXA. We've also calculated the appendicular skeletal mass index (ASMI) according to the formula: $ASM/height$ (kg/m^2). Low muscle mass values conform to the following definitions: European guidelines ($ASMI < 5.5 kg/m^2$) (EWGSOP, 2010), less than 20% of sex-specific normal population and two SD below the mean of the young adult Ukrainian females (20–39 yrs). We also assessed handgrip strength and measured gait speed. The sarcopenia was determined using EWGSOP-suggested algorithm.

Results: The ASMI values corresponding to a cutoff of low muscle mass by the definitions used were as follows: $< 5.5 kg/m^2$ (European guidelines), $< 5.7 kg/m^2$ ($< 20^{th}$ percentile of sex specific population), $< 4.8 kg/m^2$ (two SD below the mean of young Ukrainian females aged 20–39 yrs). The frequency of low muscle mass in women aged 65 yrs and older based on the above three criteria was 12%, 16% and 1.7%, respectively. The frequency of sarcopenia increased with age: in women 50–59 yrs – 5.1%, 60–69 yrs – 3.7%, 70–79 yrs – 18.4%, 80–80 yrs – 30.8%. The mean frequency of sarcopenia in women aged 65 yrs and older was 21.3%.

Conclusion: The mean frequency of sarcopenia in Ukrainian older women was 21.3%.

TRANSITIONS IN FRAILTY STATES AMONG INSTITUTIONALIZED OLDER ADULTS IN A THREE-YEAR PERIOD

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Longitudinal cohort which included 326 institutionalized subjects aged 65 and over. Frailty was defined by the presence of three or more Fried criteria. Frailty state was recorded at baseline, after one year of follow-up and after three years of follow-up. Mean age of the cohort was 83.9 with 213 women (65.1%). At baseline, 218 subjects were frail (66.9%). Among these, 39 died after one year of follow-up and 23 subjects had missing data. 138 of the frail subjects remained frail after one year of follow-up with 74 remaining frail after three years and 2 subjects improving to non-frail. 18 of the frail subjects at baseline improve to non-frail after one year of follow-up with 7 of them worsening to frail at three-year analysis and 4 remaining non-frail. At baseline, 108 subjects

were non-frail (33.1%). Among these, 11 died after one year of follow-up and 15 had missing data. 57 of the non-frail subjects remained non-frail after one year of follow-up with 26 remaining non-frail after three years and 13 worsening to frail state. 25 of the non-frail subjects worsened to frail after one year with 10 of them remaining frail at three-year analysis and 7 improving to non-frail. To conclude, frailty is a dynamic state which changes over time. To determine frailty status in institutionalized older adults may help to implement prevention or intervention programs.

IMPORTANCE OF PROGRESSION BETWEEN FRAILTY LEVELS AMONG COMMUNITY-DWELLING ELDERLY

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Previous longitudinal studies have revealed a relationship between frailty and mortality in community-dwelling older adults. It is crucial to identify older adults who are at risk of pre-frailty since they have more than twice the risk of becoming frail compared with non-frail individuals. Moreover, evidence suggests that pre-frail elderly may respond better to intervention than frail subjects. However, the clinical characteristics of pre-frailty have been investigated to a lesser extent compared to frailty.

Our cross-sectional study evaluates the prevalence and clinical characteristics of pre-frailty in a community-dwelling representative sample of 749 older adults (aged ≥ 65) from Galicia (Spain). According to Fried criteria, 71.8% of the participants were pre-frail, mainly because of low grip strength (95.0%), 3.7% were frail, and 24.4% were non-frail. Pre-frailty prevalence was higher in females and in individuals aged 65 to 79, with no differences between geographical settings. At the same time, mortality significantly increased in frailty group.

The high prevalence of pre-frailty is a relevant finding because it can give insights into associated risk factors and it may help to prevent the onset of disabilities and dependence. If we do not act, the three-quarters of our population will progress to frailty in a short period of time. In this context, pre-frailty status could be used as a preventive marker being an optimal target for interventions.

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SESSION 560 (POSTER)

GERIATRIC WORKFORCE I

REPRESENTING OLD AGE IN THE MEDIA AND POPULAR DISCOURSE

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This paper looks at representations of old age in the media, policy and medicine and their role in shaping the role and meaning of old age more generally. Taking a historical

view, it traces the bifurcation of good and bad old age into today's distinction between biological versus chronological ageing reflecting in the youthfulness of the third age versus the senescence of the fourth. However, since 2008 in particular the chronological or calendar classification has been assuming priority in the UK in particular in discussions of austerity politics, intergenerational justice, and the decision to leave the EU, where we find a strong theme of blaming the 'old' as obstructive to the well-being and progress of younger generations (and by implication society as a whole). This development in the 'progressive' press in particular has been taking the form of substituting age war for class conflict as a foundational structure for social inequality. We look at the role medicine and science as well as counter images found in different socio-historical contexts and in the media might help with imagining a more positive role for old age and a more harmonious relationship between ages and stages more generally.

AGENCY THROUGH MEDIA IN THE EVERYDAY LIFE OF NURSING HOME RESIDENTS

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Old people in nursing homes embody the notion of the fourth age, as recipients of personal care, medicine, meals, and organised activities in an institutional setting. People in nursing homes are also part of a society in which media have become a regular feature of everyday life (Mark Deuze 2011, Stig Hjarvard 2016). Based on ethnographic fieldwork in three Danish nursing homes, this paper explores ill and frail old people's subjective interaction with media technologies and material objects – bracketing for a moment aspects of care practices (Swane 2017).

Empirical data were constructed through ethnographic fieldwork conducted in three Danish municipal nursing homes in winter 2014–15. The material has the form of notes from talks, observations, photos, voice and video recordings and transcribed qualitative interviews with totally 39 residents, primarily in their private residences.

Embodiment and agency are central analytical concepts for analysing residents' use of particular media artefacts when the body is in pain and loses functionality. With theories of domestication (Roger Silverstone 1994) and biographical situation (Alfred Schutz 1962), the paper reveals how media are meaningful and important for residents in making an institutional dwelling 'their home'. E.g. subscribing to a newspaper even with a very poor eyesight, by mainly reading headlines in order to remain oriented to the world around, as one of few autonomous routines of everyday life.

In conclusion, old people's interaction with media seems to bridge the gap between institutionalisation and a long life's preferences and participation in social and cultural worlds.

OLD AGE AND OLDER PEOPLE ON WEBSITES BELONGING TO GROUPS OF THE EXTREME RIGHT IN SWEDEN

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Across Europe nationalism and the influence of extreme right groups is growing, and perhaps contrary to what many think, old age and ageing is everpresent in this process.

Traditionally the discourse of the extreme right, such as fascists and national socialists, have valorized youth, strength and violence as instruments for the rebirth of a degenerated society. In this traditional discourse of the extreme right old age and ageing, and the ageing of society, is seen as part of the degeneration of society. However, during the last decades alternative representations of old age and older people in the discourse of the extreme right have emerged. Older people are here seen as having built society; as citizens that have done their duty and therefore should be rewarded in the form of good care and a high standard of living. The aim of this paper is in relation to the above to provide an analysis of how older people and old age is represented in articles and discussions on websites belonging to groups of the extreme right in Sweden. A specific focus is devoted to the interplay between representations of old age age in general public discourse and that expressed by actors of the extreme right.

COMPARISON BETWEEN MEDIA REPORTS AND ACTUAL SITUATION ON PREPARATION FOR AGING AND DEATH IN JAPAN

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Backgrounds

With the aging of society there is need and also a trend of preparation for aging and death. In Japan, this trend is called SHU-KATSU coined by the media in 2009. Originally, most subjects of SHU-KATSU were about funeral and grave. Nowadays, SHU-KATSU is defined as activities in preparation for funeral, grave, inheritance, medical and nursing care, and any planning for aging and death. Stakeholders say that SHU-KATSU is not only deciding about the relevant things of death but find out what one wants to do in rest of life.

The purpose of this study is to clarify the current meaning of SHU-KATSU. In this study the main points covered by the media are compared to actual preparations of elderly people covered by researchers.

Methods

Articles by Asahi-Newspaper were analyzed the by following steps.

1) Articles including the keyword "SHU-KATSU" were selected from a database.

2) The articles were categorized and text mined by the context of keywords and relative to the number of characters.

Results

There are some differences between the content covered in the media and the intention of the elderly.

In the mass media, funeral and grave are still the main subjects. On the other hand, psychological subjects such as 'views of life and death' and 'spiritual or emotional side of life' are poor.

In contrast in previous studies, the elderly tend to hope for a simple funeral and grave. They also tend to hope for an opportunity to learn about death and the preparation for it.

THE TRENDS IN GLOBAL STANDARDIZATION OF TRADITIONAL MEDICINE: A REVIEW ON THE MEETINGS OF ISO/TC249

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Background/Objectives: Recently, international standardization has become a priority in the healthcare business, as the need to reduce variance of patient care under rapid increase of social security costs because of the aging population. The pace of globalization in the field of traditional medicine has surged since the establishment of a new Technical Committee (TC) as "TC249 Traditional Chinese Medicine (provisional)" at the International Organization for Standardization (ISO) in 2009. The following paragraphs review the current situation of standardization of traditional Chinese medicine (TCM) at the general meetings of in ISO/TC249.

Methods: The ISO/TC249 standards and standard projects on the ISO website were searched, and new standard proposals' information was collected from the proceedings at the meetings of ISO/TC249.

Results: Six standards were published under the responsibility of ISO/TC249 (as of June 2016), such as (1) TCM-Ginseng seeds and seedlings-Part 1: Panax ginseng C.A.Meyer, (2) Sterile acupuncture needles for single use, (3) TCM-Determination of heavy metals in herbal medicines used in TCM, (4) TCM Herbal decoction apparatus, (5) TCM-General requirements of moxibustion devices, and (6) TCM-Coding system for Chinese medicines-Part 1: Coding rules for Chinese medicines. A rapid development of international standardization in TCM has been observed in ISO/TC249, although inadequacy in proposing a country's domestic standards as the international standards without respect for the rules of laws or existing standards has been pointed out. Agreement was achieved that discussion of education standardization for students on TCM is beyond the scope of TC249.

Conclusions: This paper has briefly described the present status of international efforts to standardize traditional medicine.

AGING AND INTERDISCIPLINARITY IN THE CLASSROOMS OF UNDERGRADUATE COURSES: AN EXPERIENCE REPORT

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Demands arising from the aging population require competent professionals in their areas of training, but also have interdisciplinary attitude. This paper aims to share successful interdisciplinary practice at graduation, which is presented through an experience report. In 2002, aware of the shortage of subjects on human aging in curricula, the University of Caxias do Sul / RS / Brazil began offering an elective entitled Longevity: Life and Society, who had five teachers involved. In these 15 years of experience, new arrangements were made to meet the perceived changes in society and advances in knowledge about aging. There are four teachers who currently teach, keeping the key feature:

interdisciplinarity, both faculty and students, it is offered to various areas of training. There are four central axes that structure the discipline: sociological, discussing active aging and institutions, including long-term care facilities and family; psychological, addressing major theories and aspects of subjectivity in age; biological, understanding the functioning and changes of the body during life, and the axis of public policies, bringing the subject as citizen rights and duties. The course ends with the integration of axes presented in a final seminar, where students take the articulation of contents having as guiding the life of an old man interviewed during the semester. The results of this practice are positive, as students report to understand the human aging expanded form, identify labor camps and realize the need for interdisciplinary performances in future interventions.

THE PILOT STUDY ON EFFECTS OF FORMAL CAREGIVER EDUCATIONAL TRAINING PROGRAM IN KOREA

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The purpose of this study was identify the effects of the educational training program of formal caregivers who personally take care of persons with dementia at present in Korea. The study is one-group pre-posttest pre-experimental design and 14 formal caregiver educational trainees participated. The formal caregiver trainees had educational training provided to pass the national licensing examination in Korea, and the training was progressed for four hours every day for eight weeks. To measure the effects of the educational training program for the formal giver, Inventory of Geriatric Nursing Self Efficacy (IGNSE), Dementia Attitude Scale (DAS), and the mock test scores are used. IGNSE, DAS, the mock test scores were measured before and after the formal caregiver educational training program. After the educational training program, it was not significant in IGNSE ($t=0.12$, $p=.904$), but Dementia Attitude Stability Scale ($t=7.48$, $p<.001$) and Dementia Attitude Total Score Scale ($t=6.78$, $p<.001$) were significantly decreased. Also, in the mock tests for the national licensing completion, the theory test score ($t=-10.75$, $p<.001$) and the practice test score ($t=-10.36$, $p<.001$) were significantly increased. The formal caregiver educational training program is helpful for the national licensing examination. However, it affected negatively in self-efficacy and Dementia Attitude of the formal caregiver for personal care for persons with dementia. Therefore, it is required to improve the formal caregiver educational training program for increasing self-efficacy and dementia attitude of the formal caregivers who personally take care of persons with dementia.

EXPERIENCE REPORT FOR A PSYCHOGERIATRIC INTERVENTION BETWEEN BRAZILIANS ELDERLY PARTICIPANTS

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The increase in life expectancy has led to a higher number of elderly people in Brazil, and therefore, the search for senior centers has intensified. The profile of elderly people who attend these groups is associated with senescence and active aging. Thus, the objective of this study was to describe the socio-demographic profile of the members of a Brazilian group and to highlight their relevant characteristics. The sample consisted of 54 elderly people, predominantly female (83.3%) with a mean age of 67.98 (SD = 7.96). The data collection was conducted through individual interviews and/or group activities. As a result, it was possible to notice the predominance of low-income participants, but without vulnerabilities. The individuals reported effective improvement in their health conditions after they started regularly participating in senior centers. It was found that octogenarians had lower participation rates. However, this scenario is likely to change, due to the rising number of elderly people who are reaching this stage of life and seeking to join these groups. They are likely to become physically, psychologically and socially more active. In the long term, the expansion of these services is important, and universities that participate will have the opportunity to spread knowledge and reduce taboos among the general population.

GERONTOLOGY AS A CAREER: EVIDENCE FROM COGNITIVE IMPROVEMENT IN A COGNITIVE TRAINING GROUP

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Background: The population aging process is a worldwide phenomenon. Projections show that by 2030, there will be more seniors than children. Capable and skilled professionals are necessary in order to deal with such demographic transition. **Purpose:** to discuss gerontology and the gerontologist as an important career for both present and future. **Methods:** 10 older adults from an Open University for seniors were tested before and after a cognitive training intervention. Gerontologists did this intervention in 20 sessions, which happened once per week during one hour. A change detection task was used to evaluate the effects of the intervention. The test had 21 trials and was adapted to a tablet device. **Results:** 9 participants were female; the mean age was 71.5 years (± 8.3); the mean for years of education was 11.3 years (± 4.8). The average reaction time on the pre-intervention measure was 5.9 sec (± 3.35), and 3.67 sec (± 1.21) on post-intervention; the difference between pre and post-intervention was statistically significant ($t=2.666$; $p=0.026$). The mean of correct answers was 12.1 (± 1.9) and 11.8 (± 3.2) on pre and post-intervention assessments, respectively. There was no statistical difference between these results ($t=0.335$; $p=0.745$). **Conclusion:** This study suggests that the professional performance of gerontologists can unfold in improvements to the elderly public. Because of their interdisciplinary characteristic, gerontologists tend to be, and can be, accepted and employed in a wide variety of institutes/organizations.

READMISSION METRICS DO NOT CAPTURE ALL BURDENSOME HOSPITAL STAYS: INTRODUCING THE ARAIV MEASURE

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Care transitions are a time of vulnerability for older adults; the readmission rate within 30 days of hospital admission is the metric most commonly used to assess quality of care coordination. In the US, hospitals' readmission rates are publicly reported and hospitals face penalties from Medicare for excess readmissions. Despite its prevalence as a care coordination measure, the readmission metric is limited in its ability to capture all return visits to the hospital. Hospital stays coded as observation status are not included in the readmission metric, either as an index hospital stay or as a readmission. The exclusion of observation stays may incentivize hospitals to preferentially select observation status for their patients to avoid readmission penalties and may prevent an accurate assessment of care coordination. This study sought to examine the impact of including observation stays in the readmission metric, recognizing that any stay in the hospital is disproportionately burdensome to older adults. Using FFS Medicare claims data for the New England region of the US, we calculated the standard readmission rate for all beneficiaries and compared it to a readmission rate that included observation stays. The latter measure was entitled the All Revisits after Any Index Visit (ARAIV) measure. Using the ARAIV measure demonstrated that differential use of observation status by hospitals likely impacts publicly reported readmission rates. Given these findings and the fact that patients receiving care under observation status are often clinically indistinguishable from those who are fully admitted, we recommend that readmission metrics include observation stays.

HEALTHY LIFE EXPECTANCIES OF THE OLDER ADULT POPULATION OF SINGAPORE

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The Singapore resident population aged 65 and older is living longer, but research has cautioned that gains in life expectancy are not always positive. In order to better understand this development, there is a need to disaggregate healthy and unhealthy life expectancies. Research by gender suggests that while females fare better compared to their males counterparts with regard to the prevalence of diseases and disease-free life expectancy; they are disadvantaged when compared with their male counterparts with regard to impairments and functional disabilities. With available data on selected chronic diseases, impairments and functional disabilities of the older adult population in Singapore, this study seeks to add to this body of discussion. It seeks to achieve three objectives: (1) to provide follow-up analyses on health expectancies by gender for both chronic diseases, impairments and functional disabilities; (2) understand how

existing healthcare policy for the older adult population provides support in light of research results and observations; and (3) suggesting additional policy initiatives that could further compliment or enhance these existing policy implements. This study utilizes the prevalence-based Sullivan method to calculate the lifetime free of disease and impairment for the older adult population surveyed. The datasets employed for this study are cross-sectional data obtained from the National Survey of Senior Citizen from 2005 and 2011.

SESSION 565 (POSTER)

GERONTOLOGY AND GERIATRICS EDUCATION I

GERIATRIC FELLOW PACE ROTATION: LEARNING ABOUT MANAGED CARE AND MEDICAL DIRECTORSHIP PRINCIPLES

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A clinical rotation was developed for University of Michigan geriatric fellows in partnership with Huron Valley PACE (Program for All-Inclusive Care of the Elderly). Given the rapid growth of PACE nationally and especially in the state of Michigan, it was felt that it was important for U-M geriatric fellows to have the opportunity to learn principles of managed care and medical directorship while still in training.

This PACE rotation allows geriatric fellows to participate in frail elder care in a variety of clinical settings including clinic, hospital, skilled nursing facility and home. Fellows have the opportunity to talk with all members of the PACE interdisciplinary team about their roles in the PACE model and attend various interdisciplinary team meetings. The PACE Medical Director introduces fellows to medical directorship principles through attendance at leadership meetings and one-on-one conversations as well as principles of managed care through attendance at managed care meetings and discussions and demonstrations of the authorization process.

At the end of the academic year, each fellow gives a talk during a Division conference about how frail community-dwelling older adults age in place in another country as compared to the U.S. PACE model. Results of retrospective pre-post surveys of fellows' perceived skills in assessing PACE eligibility, working in a capitated model and effectively leading an interdisciplinary team will be presented, capturing the learners' insight gained as the concept of aging in place is explored internationally.

FACULTY DEVELOPMENT IN ETHNOGERIATRICS

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Thirty-three faculty members in eight health care disciplines from fourteen U.S. states devoted 160 hours each in the

Stanford Geriatric Education Center Faculty Development Program in Ethnogeriatrics (FDPE) to expand their knowledge, skills, and attitudes in caring for elders from diverse ethnic populations and in teaching ethnogeriatrics. Each year from 2011 to 2015 eight to eleven faculty trainees completed the 160-hour program. The FDPE model consisted of:

1. Four days of intensive onsite training on-campus at Stanford University School of Medicine which included eight modules using didactic sessions, interactive workshops, resource sessions, and 25 assigned readings;
2. Online self-paced learning based on 15 learning modules and 22 recorded webinars on ethnogeriatric topics;
3. Eleven monthly two-hour group meetings by conference call with faculty and trainees in which trainees reported on and discussed assigned modules and webinars; and
4. Individual capstone projects in ethnogeriatrics supported by monthly mentoring sessions with assigned faculty members.

Onsite modules included: Exploring Health Literacy, Ethnogeriatrics, and Health Disparities; Aging and Culture; Health Literacy in Patient Centered Health Care; Creating Health Messages for Low Literacy Elders; Patient and Relationship Centered Communications; Working with Interpreters and Translators; Improving Ethnogeriatric Health Care; Strategies for Teaching Cultural Humility/Competence.

Significant improvement among the faculty trainees was found in all of the 29 self-rated pre/post and post-hoc-pre/post measures of the learning objectives. Capstone projects resulted in 18 new curriculum units in ethnogeriatric topics, 10 new clinical interventions with diverse elders, and 2 research projects in ethnogeriatrics.

A FOUNDATION AND COLLEGE COLLABORATION TO PREPARE PHD NURSE FACULTY: ACHIEVEMENTS AND CHALLENGES

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A multi-year partnership between a private foundation and the University of Oklahoma Health Sciences Center College of Nursing achieved core objectives: new highly-qualified PhD nurse faculty with geriatric focus and commitment to academic careers, a highly customized yet replicable interdisciplinary mentorship model, development and dissemination of shared-use geriatric educational materials for faculty and providers, and pilot funding for interdisciplinary research aimed to support aging in place. Within a case study model, strategies for achieving success are presented within a timeline stressing seminal decisions that fostered success or imposed temporary barriers. In addition, the mentorship model engaging PhD students with national and international experts, community constituents and older persons during formative stages of research and professional role development is reviewed. Lessons learned in working with a foundation funding the project, and methods of applying dimensions of the model to enhance current or developing programs, whether resource rich or resource restricted, will be detailed.

DECISION-MAKING CAPACITY ASSESSMENT (DMCA) TRAINING FOR PHYSICIANS

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Context: Many physicians do not feel prepared to do DMCA. Hence, we developed and administered an interactive DMCA Workshop to familiarize physicians with concepts of capacity, a protocol, documents, and case studies.

Objective: To determine the effect of the DMCA Workshop on physicians' confidence and comfort with decision-making capacity assessments.

Design: Pre-test-post-test design. We administered a questionnaire before and after the Workshop. The questionnaire asked participants to rate their agreement (4-point Likert-type scale) on 15 statements regarding awareness, confidence, and understanding of core concepts of capacity.

Participants: 137 physicians who attended workshops

Intervention: A 3-hour DMCA Workshop accredited by the College of Family Physicians Canada.

Outcome Measures: (1) Mean ratings on the questionnaire items; (2) Demographic data (age, sex, years of practice, prior DMCA training).

Analysis: Descriptive statistics (mean, SD); Sign Test to compare pre- and post-workshop ratings; ANOVA to determine differences in ratings across demographics.

Results: There were 137 participants with an average age of 46 years: 55% females; 64% with ≥ 6 years of medical practice; and 54% with no prior DMCA training. The post-workshop ratings were mostly Agrees and Strongly Agrees (Mean ratings: 3.09–4.27; Range: 1–4). The highest positive differences were seen for problem solving techniques, understanding a trigger, knowledge and skill-set in regards to capacity assessments, standardized approach, and awareness of legislative acts. Among the participants, those without prior DMCA training exhibited the largest change in pre-versus post-workshop ratings ($p < 0.05$).

Conclusion: This study has shown that a DMCA Workshop was effective in training Family Physicians.

DECISION-MAKING CAPACITY ASSESSMENT EDUCATION FOR PHYSICIANS: CURRENT STATE AND FUTURE DIRECTIONS

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Objective: To examine the training needs of family physicians (FPs) regarding Decision-Making Capacity Assessments (DMCAs) and ways in which training materials, based on a DMCA Model, might be adapted for use by FPs.

Setting: FPs practicing in a variety of settings: Primary Care, Day Programs, Home Living, Supportive/Assisted Living, Long-term Care, Restorative Care, Geriatric Clinic, and Geriatric inpatient/rehabilitation units in the Edmonton Zone, Alberta.

Participants: FPs who chose to attend a focus group on DMCAs.

Methods: A scoping review of the literature to examine the current status of physician education regarding assessment of decision-making capacity (DMC), and a focus group and interviews with FPs to ascertain the educational needs of FPs in this area.

Main findings: Based on the scoping review of the literature, four main themes emerged: increasing saliency of DMCAs due to an aging population, sub-optimal DMCA training for physicians, inconsistent approaches to DMCA, and tension between autonomy and protection.

The findings of the focus groups and interviews indicate that, while FPs working as independent practitioners or on inter-professional (IP) teams are motivated to engage in DMCAs and utilize the DMCA Model for those assessments, several factors impede them from conducting DMCAs. The most notable factors are a lack of education, isolation from IP teams, uneasiness around managing conflict with families, fear of liability, and concerns regarding remuneration.

Conclusion: This research project has helped to inform ways to better train and support FPs conducting DMCAs.

BRIDGING GAPS: PRE-PROFESSIONAL HEALTH SCIENCE STUDENTS ENGAGING OLDER ADULTS IN PUBLIC HOUSING

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Intergenerational and cross cultural communication is an important skill for pre-professional undergraduate health science students. The purpose of this study was to evaluate the effect of a reflective teaching/learning experience on knowledge of aging and empathy. Breityspraak Facts on Aging quiz and Kiersma-Chen Empathy Scale (KCES) were the outcome measures in this pilot study. Undergraduate pre-professional healthcare students were recruited with snowball sampling. Students interviewed a community dwelling older adult living in low-income senior housing. Phone interviews identified life and music preferences. Students completed a post-interview reflection, anticipated best teaching strategy and downloaded individualized music onto MP3 players before teaching older adults how to use MP3 players. Students took post tests and participated in a focus groups. Six students were on average 20 years old; female and with 2.5 years college education. All participants have previously worked with older adults and identified having a close relationship with an older adult. Nonparametric test identify the KCES empathy scores changed ($p = .03$) with all students showing improvement in empathy. No improvement was found Facts on Aging Quiz. Similar themes emerged in the focus group session. These results identify the benefit of reflective experiential learning in changing student empathy for culturally diverse older adults. Student knowledge about aging did not change with this experiential learning.

AGING: RETHINKING WHAT AND HOW WE TEACH

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Due to changing demographics, it is increasingly necessary for professional nurses to acquire competency in the care of older adults. The specialty of gerontological nursing is caught among health care directives, physician assisted suicide, the position of older adults in society, practice setting challenges (i.e., staffing requirements, workload, blend of staff skill levels), various interests in curricula revisions, and career development. The specialty developed relatively recently in practice and even more recently in education, and as such often lacks the structural and institutional support needed for it to flourish.

Described in this poster, through a descriptive case study, is a curriculum re-design initiative undertaken by a University's Faculty of Nursing (Alberta, Canada). The Faculty restructured its undergraduate nursing curriculum to integrate aging content and related clinical experiences throughout its four year program. It was cognizant of the mandate, through legislation, to educate a generalist nurse at the undergraduate level of nursing education. At the same time, it asked how do we best provide aging content to our undergraduate students?

The purpose of this case study is to further understanding of an integrative approach to facilitate learning opportunities for undergraduate nursing students. A description of the work done by the Faculty in moving the integration of aging content from the spark of an idea to reality is provided. The benefits for students are described through feedback from them and from faculty members. Recommendations for continued enhancement of the program, specific to aging content, are included.

PAL-S: A PILOT PROGRAM TO INTEGRATE GERIATRICS EDUCATION IN MEDICAL SCHOOL CURRICULUM

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Integrating geriatric skills earlier in medical school training is vital to prepare for the upcoming challenges of an aging population. PAL-S program (Patient Advocate Liaison-Student Program) will target first year and second year medical students, through an innovative approach of interprofessional education in acquiring geriatric skills. The program trains student volunteers as Patient Advocate Liaisons (PAL-S) who serve as liaisons for elderly patients through their hospital course. The students thereby effectively improve their confidence and communication skills in elderly patient care. The recruited students are trained in elderly care, using online geriatric module, small group sessions led by facilitators with geriatric expertise, and hands on clinical experience by interprofessional education. The program will improve communication skills and confidence level in understanding comprehensive care of older patients by effectively interacting and collaborating with interdisciplinary staff. A pilot program was conducted with eight medical students from Case Western Reserve University.

Pre- and post-program surveys were conducted using a subjective rating scale and analyzed utilizing a two-tailed, paired t-test at $P < .05$. The program was able to improve the learner's confidence in caring and communicating, with older patients. The PAL-S program improved confidence and communication skill sets in elderly patient care for 1st and 2nd year medical students. The program would lay foundation to integrate geriatrics within foundational studies block, longitudinal themes and core clinical components of the medical school curriculum

SARCOPENIA, TELOMERE LENGTH AND MORTALITY: NHANES 1999–2002

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Background: Sarcopenia is defined as the loss of muscle mass or function with aging and is associated with adverse outcomes. Telomere shortening is associated with chronic diseases yet its relationship with sarcopenia is unknown.

Methods: Adults ≥ 60 years from the 1999–2002 National Health and Nutrition Examination Surveys with body composition measures were identified. Appendicular lean mass (ALM) was defined as fat-free mass of all four limbs. Sarcopenia was defined using the two Foundation for the National Institute of Health definitions: reduced ALM (men < 19.75 ; females < 15.02 kg); or ALM divided by body mass index (BMI) (ASM: BMI < 0.789 ; < 0.512 , respectively). Telomere length relative to standard reference DNA (T/S ratio) was assessed using quantitative PCR. Weighted regression models predicted telomere length with sarcopenia (referent=no sarcopenia) after adjusting for covariates, including age. We tested a (telomere) $\times$ (sarcopenia) interaction, ultimately stratifying by the presence/absence of sarcopenia using proportional hazard modeling (HR [95% CI]).

Results: We identified 2,672 subjects. Mean age was 70.9 years (55.5% female). Prevalence of ALM and ALM:BMI sarcopenia was 29.2 and 22.1%. No adjusted differences were observed in telomere length in those with/without sarcopenia (ALM: 0.90 vs. 0.92; $p=0.74$, ALM:BMI 0.89 vs. 0.92; $p=0.24$). Deaths were higher with sarcopenia (ALM: 46.4 vs. 33.4%; $p<0.001$; ALM:BMI: 46.7 vs. 33.2%; $p<0.001$). We observed a modest interaction between sarcopenia/telomere length using both definitions (ALM $p=0.03$; ALM:BMI $p=0.04$). In the presence of sarcopenia, telomere length was not associated with mortality (ALM definition: HR 1.11 [0.67, 1.82], $p=0.68$; ALM:BMI: HR 0.97 [0.53, 1.77], $p=0.91$). Telomere length was inversely associated with mortality in individuals without sarcopenia (ALM: HR 0.59 [0.40, 0.86], $p=0.007$; ALM:BMI: HR 0.62 [0.42, 0.91], $p=0.01$).

Conclusions: In older adults, telomere length was no different based on sarcopenia status. However, sarcopenia negated the known protective relationship of telomere length with mortality after adjusting for age.

GERIATRIC EDUCATION FROM THE PERSPECTIVE OF TWO RESIDENCY PROGRAMS: PUERTO RICO EXPERIENCE

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The health care needs and the continuous services demand by the elderly population in Puerto Rico require physicians possess clinical competences in geriatric. The research questions were: How two geriatric residency programs, below Family Medicine and Internal Medicine from the Medical Sciences Campus, University of Puerto Rico, have responded the geriatric education trends? and Which are the internal and external influences that have affected the residency programs according to the Academic Plan Model of Stark and Lattuca (1997)? The research was qualitative and a historical designed was applied. The methodologies to collect the information were documents review and an elite interview to 11 subjects represented by directors of both residency programs, faculty members and deans. It was found the trends in geriatric education, such as: progress in the physician's training, changes in education approaches and the accreditation process to residency programs, among others. The residency programs are well structured and the external influences are related to changes of social and economic factors. In conclusion, the programs have responded to the geriatric education trends in the following areas: education of the geriatricians, the accreditation of both programs, and training in geriatrics to other specialist in medicine, the use of diverse clinical settings to develop their clinical practice and in the integration of an interdisciplinary approach in their curricula. The internal influences have affected positively the residency programs. On the other hand, the external influences that affect negatively the geriatrics education were the lack of funds and the implementation of managed care.

TRAINING IMPROVED STUDENTS' COMFORT LEVEL AND COMPETENCY WITH VALUE AND PREFERENCE-BASED PRESCRIBING

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When clinicians treat older adults with age-related pharmacokinetics and pharmacodynamics, drug-drug, drug-disease interactions, polypharmacy, and comorbidity, they face great challenges with value and preference-based prescribing/deprescribing. It was unknown whether a structured training program could improve fourth year medical students' attitudes, comfort level and competency on value- and preference-based prescribing/de-prescribing for older adults.

All 4th year medical students rotated through a two-week required geriatrics clerkship and attended two, 1.5 hour-workshops on value and preference-based prescribing/deprescribing. They were assigned to either the intervention (the author as a primary preceptor) or control group (other attending as a primary preceptor) alphabetically by their last names. Only the intervention group received structured teaching on medication review at the bedside and reported to the author. Attitude, comfort level and competency on value- and preference-based prescribing/deprescribing were assessed by five questions. The authors tested 1) improvement of fourth medical students' attitude, comfort level and competency on value- and preference-based prescribing/

de-prescribing for older adults; 2) whether such improvement is greater in the intervention group.

One hundred and forty seven students participated in the pilot curriculum. Fifty-nine were assigned to the intervention and 88 to the control group. At the end of geriatrics clerkship, all students significantly improved their comfort level and competency on value- and preference-based prescribing/de-prescribing for older adults, but not attitude. There was no difference between intervention and control groups.

This curriculum for fourth year medical students can significantly improve students' comfort level and competency on value- and preference-based prescribing for older adults.

MEDBIQUITOUS CURRICULUM IN GERIATRICS CLERKSHIP: INSTRUCTIONAL AND ASSESSMENT METHODS AND RESOURCES

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MedBiquitous curriculum inventory developed by AAMC is used to standardize instructional and assessment methods and resource types for all clerkship except geriatrics clerkship. University of Virginia is one of few medical schools in U.S. that has required geriatrics clerkship and started to apply MedBiquitous curriculum framework to geriatrics clerkship and to align this framework with 26 minimum geriatrics competencies (MGC) for fourth year medical students.

Forty eight learning objectives (LOs) and what to teach in geriatrics for fourth year medical students in geriatrics clerkship were aligned with 26 MGC (Academic Med 2009 and 2008 Institute of Medicine) and matched to keywords. LOs were achieved by a variety of instructional methods (learning activities) including case-based instruction/workshop, flipped classroom, clinical experience including geriatrics clinic, nursing home, palliative care service (inpatient, outpatient and community), inpatient geriatric unit, transitional care hospital, and acute rehabilitation hospital, geriatrics research presentation, self-study of online learning modules, standardized patients, and primary preceptorship. LOs were supported by multiple resources including: online geriatrics learning modules, watching DVD, EMR, printed materials (rotation pocket book), real patient, searchable electronic databases, and simulation center. LOs were assessed by a variety of methods including clinical documentation review of progress notes, online clinical performance rating evaluation and checklist, geriatrics shelf examine, final exam, standardized patient test, oral patient presentation, geriatrics research presentation, mid- and final rotation feedback.

The author feels MedBiquitous curriculum inventory is a great framework to develop and organize geriatrics clerkship and to align MGC for medical students.

A LONGITUDINAL GERIATRIC TRAINING CURRICULUM IN MEDICAL SCHOOL: THE GERI-TRACK

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Though the role of aging in disease is detailed in medical education, the intricacies of managing a geriatric patient

is often a lost art. The Baylor College of Medicine (BCM) Section of Geriatrics sponsors a medical school geriatrics pathway, "Geri-Track." In the 1st year, a monthly lecture series integrates geriatric topics with basic science curriculum. During the 2nd year, a semester-long, "GeriSkills Workshop" focuses on common clinical geriatric issues. The 3rd year, "GeriHomes/GeriLACE" yearlong clinical course incorporates weekly visits to patients' homes with community resources. The track concludes with a month-long rotation in clinical geriatrics. We report the 10 year history and outcomes of the BCM Geriatrics track and its success as a longitudinal undergraduate medical education program. Feedback surveys from participants were compared over a 10 year period. In addition, graduates and participants of the track were asked to evaluate their Geri-Track experience and its influence on their medical career.

From 2003 to 2013, 29 medical students completed the Geri-Track, and 3 have completed a geriatric fellowship. Graduates represent 11 different specialties with the most common being internal medicine (31%), family medicine, neurology and anesthesiology (13.8% each). All students that participated in the clinical components of the track found it beneficial for their career. Participation per activity ranged from 10–64 students for lecture and 3–21 for clinical experiences.

A four year long specialized geriatrics track during medical school is an attractive option to increase student interest in geriatrics and has potential to increase geriatricians.

CREATION AND USE OF A NATIONAL, COMPETENCY BASED GERIATRICS EDUCATION CURRICULUM: WEBGEMS

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In 2007 Association of American Medical Colleges (AAMC) and the John A. Hartford Foundation hosted a National Consensus Conference on Competencies in Geriatric Education, leading to the creation of a set of 26 minimum medical student geriatrics competencies. Teaching these competencies has proved to be challenging due to lack of sufficient geriatrics educators at all medical schools and time in the medical school curriculum.

To meet this challenge, in 2010, a group of educators came together to create the webGEMs curriculum (web-based Geriatrics Education Modules) and developed 25 peer-reviewed online case-based modules linked to the AAMC geriatrics competencies, available at POGOe.org. We have tracked use of the modules along with responses to voluntary end-of-module evaluations.

To date, more than 8,000 medical, nurse practitioner, and physician assistant students have completed over 30,000 total cases, spending an average of 33 minutes per case. 7827 case evaluations have been completed, with 71% of responses rating the cases as good to excellent overall, 88% saying the case taught the key issues that a student should need on the topic, and 79% rating the case as a valuable use of the student's time. Faculty rate the webGEMs as a highly

effective and efficient way to impart geriatrics knowledge. In addition to distance/on-line learning, webGEMs have been successfully used for "flipped learning" teaching also.

Although a laborious process, the creation of a national, web-based, geriatrics education curriculum for can result in thousands of trainees being taught core geriatrics competencies with excellent student evaluations.

SESSION 570 (POSTER)

HEALTH AND SOCIAL SERVICES INTERVENTIONS

THE FORWARD BUNDLE—A NOVEL TOOL TO IMPROVE THE CARE OF PATIENTS FEEDING AT RISK

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Care of patients with a permanently unsafe swallow who are inappropriate for tube feeding is extremely challenging. Feeding with acknowledged risk may be an appropriate strategy but without clear decision making and communication patients may spend unnecessarily long 'nil by mouth' (NBM), they or their family may experience significant anxieties, advance care plans may not be made, and feeding plans may not be properly communicated to downstream care providers.

The FORWARD bundle (Feeding via the Oral Route With Acknowledged Risk of Deterioration) was developed according to the 'Plan-Do-Study-Act' model of iterative quality improvement. It systematised best practice in risk feeding in a flow chart, facilitating patient identification, decision-making, implementation of oral feeding and further management. Patients fed at risk were evaluated in sequential 6 month periods before and after introduction of FORWARD. The primary outcome measure was time NBM. Further data were collected on documentation of capacity, best interest discussions and discussions with relatives, and patient, relative and staff feedback.

Mean time NBM sustainably decreased after FORWARD was initiated (3.1 days (n=20) versus 1.5 days (n=17); 0.6 days (n=20); 0.3 days (n=20) (p<0.05). There was a sustained increase in documentation of capacity assessments (40% versus 94.1%; 90%; 95%), best interest discussions (85% versus 100%; 100%; 100%) and discussions with next of kin (45% versus 100%; 95%; 100%). Patient and carer feedback reported perceived improved quality of life associated with the decision for feeding with risk using FORWARD. Staff feedback highlighted increased confidence with feeding and improved communication, documentation and knowledge.

EFFECT OF HOUSE CALL PROGRAM ON MEDICARE COST IN HIGH-RISK OLDER ADULTS: RETROSPECTIVE COHORT STUDY

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House call programs may save health care costs in high-risk patients. This retrospective cohort study aimed to evaluate the effect of a house call program on health care costs and utilization in Medicare beneficiaries who received care at Beth Israel Deaconess Medical Center, Boston, MA. In November 2012-June 2013, 548 beneficiaries who were at high risk for hospitalizations were contacted for a house call program; 307 who agreed received at least monthly home visits by nurse practitioners who collaborated with their physicians for disease management and care coordination. The remaining 241 beneficiaries received usual care without home visits or care coordination. The outcomes of interest were changes in the 12-month total Medicare part A and B cost and health care utilization before and after their contact date. Compared with the usual care group, the house call group was older (82 vs. 79 years) and had higher burden of chronic conditions. After propensity score matching, the average total Medicare cost per member per month increased by \$494 in the house call group (\$1875 to \$2369) vs. \$47 in the usual care group (\$1845 to \$1892) ($p=0.01$). The number of emergency room visits, hospitalizations, skilled nursing facility admissions did not differ between the groups; home health agency use per 100 person-months changed by 125 days in the house call group (313 to 438 days) vs. -48 days (309 to 261 days) ($p=0.01$). In conclusion, our house call program was associated with increased health care cost and home health agency use.

SOCIAL CAPITAL INTERVENTIONS TARGETING OLDER PEOPLE AND THEIR HEALTH IMPACT: A SYSTEMATIC REVIEW

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Observational studies show that social capital is a protective health factor. Therefore, we aim to assess the health impact of social capital interventions targeting older adults. We conducted a systematic review based on a logic model and assessed effectiveness using vote-counting and standardised decision rules. Studies were retrieved from Medline, Embase, CINAHL, PsycINFO, Cochrane Central Register of Controlled Trials and Web of Science from January 1980 up to July 2015. We included randomized controlled trials targeting participants over the age of 60 or with a mean age of over 65 and focused on social capital or its components (i.e., social network, social support, social participation or social engagement). The comparison group should not include any social capital component. We focused on health outcomes and assessed risk of bias. The review protocol was registered in PROSPERO (ref. CRD42014015362). We examined 17,341 abstracts and included a total of 73 papers reporting 36 randomized controlled trials. There was a big heterogeneity across studies and positive effects were reported in

different contexts, participants' characteristics and intervention designs and in a wide variety of patient-reported outcomes and objective measures. Nevertheless, according to outcomes reported in five or more trials, social capital interventions showed mixed effects on quality of life, well-being and self-perceived health and were generally ineffective on loneliness, mood and mortality. Our review supports the potential of social capital interventions to reach comprehensive health effects in older adults while highlighting the lack of quality and comparability between trials.

A PILOT TRIAL FOR COMMUNITY EMPOWERMENT THROUGH NURSE-LED COUNSELING CENTERS

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Nurse-led counseling centers (NLCCs) have been established in 'Gu', a town-sized urban district in South Korea. The purpose of the NLCCs was empowering residents, cultivating their leadership and mobilizing community resources to prevent chronic diseases and manage their health. Clubs and health-committees were organized to fulfill the purpose. We examined its feasibility guided by the ADEPT model's four determinants such as goals, obligations, resources and opportunities. Four focus-group interviews have been conducted in October to November 2013. Participants were sixteen nurses, eight club leaders who were senior residents (private sector), and fifteen health-committee members of Gu (public sector). Nurses, club leaders and health committee members represented different perspectives toward goals of the NLCCs. Further, participants defined their roles based on their goal perceptions. Due to lack of agreements on goals and obligations, nurses felt overwhelmed and exhausted with unrespected roles, while other two groups felt that they have been asked to do tasks that they were not responsible for. For the resources, participants reported that the Gu had enough to empower residents, but they felt that the resources needed to be distributed more efficiently. Among three opportunities, organizational and public opportunities increased while political one did not. The NLCCs posed potentials for empowering senior residents and communities. Establishing channels among nurses, private and public sectors was essential to increase sustainability of the NLCC.

LIFE STORY BOARDS, PERSON-CENTRED CARE, AND PATIENTS LIVING WITH DEMENTIA: A QUALITATIVE STUDY

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With disease modifying drugs remaining beyond the horizon, providing better care for people living with dementia remains high on the international agenda. Person-Centred Care (PCC) approaches emphasise the social context in which care is provided by one human being to another. One approach to enhance PCC is to use Life Story Work (LSW). This involves discussing, gathering, and recording

information that represents important aspects of the patient's lived history, current beliefs and preferences.

In the United Kingdom (UK) booklets such as 'This is me' encourage social care professionals to see the person living with dementia as an individual and deliver PCC tailored to the person's needs. Such booklets are one method to enact the principles of PCC. A less researched is to develop Life Story Boards (LSB). LSB are visually more accessible and impactful. This paper reports on a 3 year study exploring opportunities for a LSB intervention in a UK 24 bed special-inpatient dementia care unit.

Utilising a participatory approach, this exploratory study trained seven clinical support workers to engage in the co-production of LSB with people living with dementia. Semi-structured interviews were undertaken pre and post-intervention implementation. From a thematic analysis, we will discuss; care workers experiences of LSB creation, how PCC was and/or was not experienced and how the context impacted upon the fidelity, dose and reach of the intervention. We will close by highlighting how LSB provides a route into embedding a more PCC culture and illustrates opportunities for transferability to wider international contexts.

THE GERI-BRIEFCASE—AN E-HEALTH INSTRUMENT WITH THE POTENTIAL OF AVOIDING ACUTE ADMISSION

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As advancing age is accompanied by increasing morbidity, the ageing populations ahead will be a challenge to future health care costs. One way to keep health care costs at bay is to reduce avoidable admission of older adults. In Denmark, all frail citizens may receive means-tested municipal home health care service. When a frail older person shows signs of failing health, the community nurse is the first to judge the situation. But older persons may have subtle symptoms, and the pathological picture may be blurred by comorbid conditions. It may thus be hard for the community nurse to decide whether an older person's failing health needs acute attendance by a physician or not. However, in-home objective clinical assessment by Point of Care (POC) testing followed by real-time upload of test results to a joint IT-platform, which can be accessed by the treating physician, may qualify decision-making. In consequence, this may lead to timely treatment and potentially avoidance of acute admission. We report the development and real-life testing of the "GERI-briefcase", a portable, handheld POC instrument connected to an interface which uploads collected data to a joint IT-platform. The IT-platform is accessible for both community nurses, primary and secondary care physicians. We show that the GERI-briefcase may be used by trained community nurses in the homes of older adults, and that it streamlines communication across the primary and secondary health care sectors. The effect on avoiding acute admissions is currently being investigated in Svendborg Municipality, Region of Southern Denmark.

EFFECT OF A PRIMARY CARE VIRTUAL WARD ON THE READMISSION RATES OF OLDER PATIENTS POST DISCHARGE

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Transitional care programs to reduce readmissions have had mixed results. Interventions led by primary care physicians may have a better impact. Our objective is to evaluate the impact of a Family Medicine-based Virtual Ward (VW) intervention at the Jewish General Hospital in reducing the emergency room (ER) visits, readmissions and the length of stay of older patients.

Our study is quasi-experimental with a historical control group. All 42 patients who received the intervention between July 1st 2014 and June 30th 2015 were included. These patients were compared to all 68 consecutive historical controls discharged from the hospital one year prior. Inclusion criteria were: 65 years or older, having a family doctor at the clinic, a high risk of readmission (LACE score above 10) and being discharged to home/senior residence. The patients' charts were reviewed to determine rates of ER visits and readmissions at 30, 60, and 90 days after discharge and cumulative length of stay (LOS) for all readmissions within 90 days.

Clinically meaningful decreases in ER visits, readmission rates and LOS were observed in the VW group compared to the control group; however, these differences were not statistically significant. ER visits at 30, 60, and 90 days were decreased by 2%-17%. Readmissions were decreased by 22%-26%. LOS at 90 days was decreased by 35%. Replication in a larger sample is warranted to confirm these findings.

A PHOTOGRAPHY INTERVENTION FOR OLDER ADULTS

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In the United States, there are 10,000 people turning 65 every day and we will soon have the largest percentage of our population over 65 that our country has ever known. This will provide many challenges for our medical community, caregiving networks and government programs. Keeping older adults healthy and able to function independently will reduce the strain on the community and allow us to target our resources where they can make the most impact. I propose an intervention that teaches digital photography, basic photo editing and computer skills to older adults to improve cognitive function, increase overall happiness and improve physical health. Research has shown that learning a new skill can improve brain function and cognitive reserve, enhancing social ties leads to increased levels of happiness, and physical activity improves both cognitive function and happiness levels. Photography incorporates all of these activities and can be modified to suit the interests and abilities of virtually anyone. I propose a test with a quota sample of 8-10 individuals including a balance of genders, races and ethnicities, sexual orientations, and income levels to understand the impact this project

could have on people of different statuses. At the conclusion of this intervention, people should be able to send email, share photos on social media and search the web for information. Teaching these skills can help keep them connected with family and friends and give them access to information and social networks that otherwise may not be available.

SESSION 575 (POSTER)

IMMUNOLOGY AND VACCINES

ANTIBODY RESPONSES TO 23-VALENT PNEUMOCOCCAL POLYSACCHARIDE VACCINE AFTER PRIMARY AND REVACCINATION

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Despite increasing risk for pneumococcal disease with advancing age, many countries recommend only a single dose of pneumococcal polysaccharide vaccine (PPSV23) for older adults. Concerns about the possibility of declining response to revaccination with age have hindered the adoption of a revaccination policy. We examined antibody responses by age after primary vaccination and revaccination in a cohort of adults aged 70–89 years.

We measured serotype-specific IgG geometric mean concentrations (IgG, 14 serotypes) and opsonophagocytic activity geometric mean titers (OPA, 6 serotypes) 4 weeks after vaccination in a community-based cohort vaccinated ≥ 5 years earlier (N=161) or never vaccinated (N=81) with PPSV23. Subjects were aggregated into 4 groups using 5-year age increments for analysis.

Across age groups IgG and OPA in the primary vaccination and revaccination groups were not significantly different. Within each age group and for all serotypes there were no significant differences between the primary and revaccination groups, with the exception of the group aged 70–74 for which IgG for serotypes 23F and 19A and OPA for serotype 6B were higher in the primary vaccination group than the revaccination group.

IgG and OPA after PPSV23 did not decline with age between 70 and 89 years. For all age groups, patients responded similarly to primary and revaccination. The generally comparable levels of IgG and OPA for the serotypes tested after primary vaccination and revaccination regardless of age supports the value of revaccination with PPSV23, even to older adults.

RESPONSES TO 23-VALENT PNEUMOCOCCAL POLYSACCHARIDE VACCINE IN ADULTS 70–79 WITH CHRONIC DISEASES

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Many countries recommend that adults with chronic disease be vaccinated with pneumococcal polysaccharide

vaccine (PPSV23) because of their increased risk for pneumococcal disease. To explore the immunogenicity of PPSV23 in these patients we examined antibody responses in adults age 70–89 with chronic disease after primary vaccination and revaccination compared to healthy adults in this same age group

We measured serotype-specific IgG geometric mean concentrations (GMC, 14 serotypes) and opsonophagocytic activity titers (OPA, 6 serotypes) 4 weeks after vaccination in a community-based cohort vaccinated ≥ 5 years earlier (N=161) or never vaccinated (N=81) with PPSV23.

For each serotype the GMC and OPA titers did not differ significantly between each of the groups with co-morbid conditions and the group without any of those conditions, with the exception of significantly higher GMC titers against serotype 7F in the revaccination groups with lung disease and heart disease, and serotype 3 in the revaccination group with heart disease. The GMC also were not significantly different between those with 0, 1 and 2–3 of these conditions.

GMC and OPA responses to PPSV23 vaccination and revaccination in older patients with heart disease, lung disease or diabetes mellitus were not significantly different from older patients without these conditions, even if they had more than one of these condition or if they had been previously vaccinated. These results support the recommendation to vaccinate these patients at increased risk with PPSV23.

THE NEED FOR BETTER VACCINES FOR OLDER ADULTS

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Seasonal influenza (flu) and respiratory syncytial virus (RSV) are the two leading causes of medically significant respiratory tract illnesses in older adults in the United States. The viruses circulate alongside other winter respiratory viruses and are often indistinguishable from each other based on clinical presentation alone. Although the impact of influenza in older populations is well recognized among health-care professionals (HCPs) and the public health community, there is an under-appreciation of the impact of RSV, which is estimated to cause nearly as many annual deaths in US adults age 65 years and older as influenza A infections.

Standard influenza vaccines do not provide optimal protection for older patients due to age-related immune senescence. Newer influenza vaccines, designed to provide a stronger immune response in older adults, have become available in recent years. There is currently no licensed vaccine available to protect against RSV, but, several promising candidate RSV vaccines are on the horizon to protect populations at increased risk of serious RSV outcomes, including those age 65 years and older.

The National Foundation for Infectious Diseases (NFID) convened experts to address prevention and treatment of both influenza and RSV in older adults and is developing outcomes reports. In the coming months, NFID will be developing strategies, content, and tools to support optimal prevention strategies against influenza and public health and HCP communities that are better prepared to address RSV prevention when vaccines do become available in the US.

ZOSTER VACCINE LIVE: REVIEW OF POSTMARKETING SAFETY BY DECADE OF LIFE

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Zoster Vaccine Live (ZVL) was approved in 2006 for the prevention of herpes zoster (HZ) and post herpetic neuralgia in individuals ≥ 50 years-of-age. To describe the safety profile of ZVL by decade of life, spontaneous postmarketing adverse event (AE) reports received for ZVL from 02-May-2006 to 01-Nov-2015 from healthcare providers (HCP) worldwide for patients age ≥ 50 were reviewed. A total of 11342 reports, containing 28188 AEs, were identified. The majority of the reports were from those 60–69 (48%) years followed by 70–79 (28%), 50–59 (14%); and ≥ 80 years (10%). Overall, injection site reaction (ISR) (n=6788; 24%) and herpes zoster (HZ) (n=2577; 9%) were the most frequently reported AEs. ISR was the leading AE in ages 50–79 and HZ in those ≥ 80 years. Median time to onset (TTO) from vaccination to AE for ISR was 2 days. In slightly over half of the reports of HZ, TTO was ≤ 14 days postvaccination. HZ was also the most frequently reported serious AE among all age groups. In the majority (75%), HZ was considered serious because the HCP reported the event to be either medically significant or disabling. Sixteen events ($<1\%$) of disseminated HZ (DHZ) in ages 50–59 (n=1), 60–69 (n=5), 70–79 (n=6) and ≥ 80 years (n=4) were reported; 40% of the patients were reported to be immunosuppressed. The remaining AEs were reported similarly across the age groups. This review indicated that DHZ was reported very rarely and the most frequently reported AEs for ZVL were similar by decade of life.

EFFECTIVENESS OF LIVE ZOSTER VACCINE IN PREVENTING POSTHERPETIC NEURALGIA (PHN)

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A single dose, live attenuated zoster vaccine, is licensed in >50 countries for the prevention of herpes zoster and PHN. Duration of protection is being evaluated in a long-term observational study. We previously reported that vaccine effectiveness (VE) to prevent zoster tended to decline over time and was on average 45–50% over 5 years in people ≥ 60 (60+) years. We present here the results of VE against PHN. The study is conducted in a large US healthcare plan as an open cohort that members enter unvaccinated when they become age-eligible for vaccination. PHN cases among vaccinated and unvaccinated zoster cases were identified as having a PHN-specific diagnosis code ≥ 90 days after first zoster diagnosis code. VE against PHN was estimated using Cox regression adjusting for sex, birth year, race/ethnicity, healthcare use, comorbidities and immunocompromise status. From 2007 to 2013, $>300,000$ subjects were vaccinated (coverage $>40\%$ in 60+) and $\sim 42,000$ zoster episodes occurred. VE against PHN was 83% (95% CI 73–90%) in the first year, decreased in the second year, and then remained relatively stable through year 5, with an overall VE of $\sim 70\%$ in all 60+ age groups (60–69, 70–79, and 80+ years at vaccination); among people vaccinated at 80+, VE was 71% (54–82%). Overall VE against PHN was $\sim 70\%$ in all 60+

age groups. VE against PHN and zoster in people vaccinated at 80+ was similar to younger 60+ groups, supporting vaccination of all eligible people, including the elderly who are at increased risk of zoster and PHN.

REFERENCE RANGES OF LYMPHOCYTE SUBSETS IN NON-FRAIL OLDER ADULTS

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Aging is associated with progressive changes in several key physiological systems including the immune system, which is continuously remodeled over the life course, a process known as immunosenescence. Nevertheless, reference ranges currently used for immunological biomarkers do not specifically differentiate the older adults group. Thus, the aim of this study was to establish reference ranges for lymphocyte subsets in non-frail older individuals, and to determine the influence of certain physiological or lifestyle factors. Percentage of the lymphocyte subpopulations were analyzed in peripheral blood from 144 older subjects (aged 65–95) by flow cytometry, and reference ranges were calculated. The individual status as non-frail or pre-frail did not affect the immunological parameters, but a clear influence of age and gender was observed for some of them. Results obtained will serve as a basis to determine the usefulness of lymphocyte subsets as immunological biomarkers of frailty.

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DISPARITIES IN INFLUENZA IMMUNIZATION STATUS AMONG POST-ACUTE AND LONG-TERM CARE PATIENTS/RESIDENTS

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Influenza is associated with morbidity and mortality in at-risk populations. Individuals admitted for post-acute or long-term care may be especially susceptible to adverse outcomes. The CDC recommends annual influenza vaccination for everyone over 6 months old unless medically contraindicated. The quality measure, Percent of Residents or Patients Assessed and Appropriately Given the Seasonal Influenza Vaccine, is intended to encourage nursing homes (NHs), inpatient rehabilitation facilities (IRFs), and long-term care hospitals (LTCHs) to address this important aspect of clinical care. We analyzed assessment data for these three settings for the 2014–15 IVS (n= 1,780,510 MDS 3.0; 251,403 IRF-PAI; 100,545 LTCH CARE Data Set). The majority of patients and residents were assessed and when appropriate, vaccinated (80% in NHs; 91% in IRFs; 73% in LTCHs); however, disparities by demographic markers were observed when examining rates of vaccine receipt and rates of vaccine refusals. Chi-square tests of independence found significant relationships between vaccination status and patient characteristics of sex, race, ethnicity, and age ($p < .01$ for

all categories). Men, whites, and older individuals were more likely to receive the vaccine and women, minorities, and younger individuals were more likely to decline in these settings. Multiple logistic regression analyses of immunization status showed that, even when adjusting for selected patient- and facility-level covariates, these disparities were still present. Our research found little change a decade after disparities in nursing home residents' vaccination status were first observed. Disparities in vaccination still need to be addressed, now for all three of these settings.

IMMUNE RISK PROFILE (IRP) AND MORBIDITY PHENOTYPE OF INDEPENDENT OLDEST OLD

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Background: The Immune Risk Profile (IRP) is defined as inversion of lymphocytes T CD4 / CD8. IRP+ is present in 13–15% of the studies and is associated with functional limitations and mortality in elderly. **Methods:** We invited elderly aged 80 and over, community-dwelling, with good cognition, no acute diseases and with chronic diseases under control. We analyzed CD4 and CD8 lymphocytes and the morbidity phenotype considered was: Hypertension, Heart disease, Diabetes, Stroke, nonskin Cancer, skin Cancer, Osteoporosis, Thyroid disease, Parkinson's disease and Chronic Obstructive Pulmonary disease. We classified the oldest old according to the age of diagnoses in: survivors10 and delayers10 (at least one of 10 diseases before or after 80 years old respectively), escapers10 (none of 10 diseases), survivors3 and delayers3 (heart disease, stroke, nonskin cancer before or after 80 years old respectively) and escapers3 (none of 3 diseases). **Results:** There were no differences between the distribution of diseases in survivors10, delayers10 and escapers10 and also survivors3, delayers3 and escapers3 according to sex. The CD4/CD8 <1 was present in 9 % of subjects, with a mean age of 85,6 years. From 224 independent oldest old, 162 of survivors3 + delayers3 and 42 of escapers3 were PIR- ($p = 0,0039$). **Conclusion:** PIR – was more frequent in independent oldest old besides the presence of diseases and maybe is a marker of independent longevity.

SESSION 580 (POSTER)

INVOLVEMENT IN THE COMMUNITY THROUGH VOLUNTEERING AND CIVIC ENGAGEMENT II

SOCIAL ACTIVATION OF SOCIALLY ISOLATED ELDERLY BY VOLUNTEERS

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This paper is based on an evaluative ethnographic study among elderly persons in the city of Rotterdam in the Netherlands. Data are collected among 55+ citizens who are admitted to a social work-program because of their problematic social isolation and/or loneliness. The program offers each client a volunteer who visits the client on a weekly basis. In-depth interviews in combination with thick descriptions, collected through participant observations and focus groups offer insights from both perspectives (clients and volunteers).

The study reveals a wide array of expectations, hopes and frustrations. Several clients appeared 'unmatchable' because of heavy needs. Many volunteers experience mismatches and declining motivation. Volunteers balance distance versus proximity or intimacy, sustainable relationships versus temporality, practical assistance versus social support. The increasing number of unmatchable clients requires reconsiderations and readjustments in terms of screening and selection of volunteers and clients. The operational volunteer staff needs intensive coaching to adjust and improve skills and to uphold motivation.

OLDER CITIZENS' ENGAGEMENT IN AGE RESEARCH CONCEPTUAL AND PRACTICAL CONSIDERATIONS

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The research community are increasingly being encouraged (both financially and morally) to connect with the relevant players from government, the non-profit sector, business and especially older people themselves. However, we need to understand and debate to a much greater degree how older citizens' involvement in research can be appropriate, meaningful and beneficial. This mixed methods research combines a review of literature and practices on user involvement, an e-survey of practitioners in the age sector (n50) and 18 semi-structured interviews with researchers, government and non-profit sector representatives. The paper presents a review of the nature of user involvement in research and how this can be strengthened to improve the quality of work and the potential for stronger impact. This presentation sets out a review of the conceptual and practical basis of user involvement in research on issues and topics relevant to older adults; the types, levels and value of different methods of user involvement; the reasons why older people and their representative organisations get involved, the attitudes of researchers and practitioners to older citizens' involvement. The paper utilises Foucault's theory of power, provides a typology of researchers' perspectives on user involvement and concludes with a set of good practice guidelines for researchers wishing to maximize involvement.

BARRIERS TO OLDER PEOPLE'S PARTICIPATION IN SENIORS' INTEREST ORGANISATIONS: A CROSS-CULTURAL STUDY

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Older people's active political participation is a core component of the active ageing model, which recognizes seniors' right to have a say in decisions directly affecting their lives. This often occurs through seniors' interest organisations; however, research into older people's volunteering for political organizations is very limited. One important dimension on which evidence is missing is the understandings of those

in responsible roles about the challenges to recruitment and retention. This evidence is fundamental to understanding and developing practice among these volunteer leaders. Further, given the nature of this participation, socio-political context may be an important influence on their beliefs and practice.

This study explores the perceptions of older people in such responsible roles within seniors' interest organizations, across two different socio-political contexts, about their own barriers to continued volunteering, and the barriers they perceive for others to become involved. The sample comprised 52 participants from nine Australian and five Spanish seniors' interest organisations. A questionnaire including open-ended questions regarding perceived barriers to recruitment and retention in seniors' organisations was used for data collection.

Analysis of findings showed three key categories relating to practical and resource issues, beliefs and attitudes towards participation, and organizational and contextual issues. However, there were considerable differences between the volunteer leaders' perceptions of barriers to others' recruitment and their own retention. Moreover, similarities and differences across the two countries highlight the importance of considering the influence of diverse socio-political contexts. Implications for seniors' interest organizations and future research are discussed.

FACTORS RELATING TO SATISFACTION AND MOTIVATION OF DISTRICT WELFARE COMMISSIONERS IN JAPAN.

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Formal volunteering offers broad benefits to the community. Therefore, understanding the strategy for the recruitment and retention of volunteers has been considered as an important policy issue. In Japan, district welfare commissioners are important formal volunteers that deal with community care and support. However, there are few people that willingly undertake work as the commissioners. This study examined factors associated with the satisfaction and motivation to continue working of district welfare commissioners, with a focus on the roles of "psychosocial gains," "role strain," and "support from others". Questionnaires were sent by mail to district welfare commissioners (N=1,936) living in Tokyo in 2012 (response rate: 69.5%). The results from structural equation modeling showed that those having high psychosocial gains such as feelings of fulfillment about their activities had a high level of satisfaction and motivation to continue working, whereas those feeling role conflicts (e.g. "I am assigned meaningless work.") and role ambiguity (e.g. "I don't know what to do.") had a low level of satisfaction and motivation. Role overload was not significantly related to the level of satisfaction and motivation. Although support from municipal offices, community support centers and other sources did not have direct effects on satisfaction and motivation, consultation and information support from them had indirect effects mediated by an increase in psychosocial gains and a decrease in role conflicts and ambiguity. These results suggest the importance of managing psychosocial gains and role conflict/ambiguity and promoting backup support for the retention of district welfare commissioners.

ENGAGING OLDER ADULTS AND THEIR CAREGIVERS IN INNOVATION ECOSYSTEMS FOR HEALTH AND AGING

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Innovation for health and aging offers potential benefits for the well-being of older adults and their caregivers. Regional Innovation Ecosystems (RIEs), involving a "triple helix" of industry, government and academic stakeholders, have been proposed to support development and commercialization of innovations. We sought to understand how older adults and their caregivers contribute their perspectives to RIEs for health and aging, and whether their role could be enhanced through an evolution of the triple helix partnership. A three-phase integrated mixed-methods study, emphasizing stakeholder engagement was conducted. Phase one involved a scoping review on user engagement in RIEs. Building on this, phase two engaged older adults and their caregivers (n=15), and representatives from the triple helix (n=21) in individual and group interviews. Following Kane and Trochim's (2007) Concept Mapping methodology, phase three integrated themes into a framework of priorities. We found that there is currently little meaningful involvement of older adults and their caregivers in RIEs. Evolving the triple helix theoretical framework to accommodate the growing importance of meaningful engagement of older adults and their caregivers will require a recognition of the need for diversity of representation, consideration of barriers such as system constraints and traditional partnerships, and appreciation of multiple roles that older adults could play in health and aging innovation. This study identified directions and strategies for enhanced engagement in RIEs for health and aging. We are continuing to collaborate with project stakeholders to develop RIEs that can support the health and well-being of older adults and their caregivers.

BABY-BOOMERS' VOLUNTEERING IN NON-PROFIT ORGANIZATIONS OFFERING HOME SUPPORT

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Non-profit organizations, important actors in the field of home support, are facing challenges such as recruiting and retaining volunteers. In view of the ageing population, this situation is worrisome: these organizations essentially rely on volunteer action. The imminent wave of baby-boomers entering retirement may improve the situation. However, free time and volunteering are not synonymous.

This poster will report the findings of a study which sought: 1) to identify individual and organizational factors that facilitate and/or hinder baby-boomers' volunteering in non-profit organizations; 2) to better understand the

interactions between them; and 3) to create a model of baby-boomers' volunteering.

This descriptive and comprehensive study is based on qualitative methods and a contemporary Straussian grounded theory approach, and is guided by an integration of the Bronfenbrenner's ecosystemic approach and the volunteer process model. The theoretical sample consists of 34 participants: volunteers, non-volunteers and volunteer coordinators. Semi-structured interviews are conducted and supplemented by non-technical literature.

For each stage of the volunteering process (antecedents, experiences, consequences), individual factors (e.g.: knowledge, availability, capacities, motivations) and organizational factors (e.g.: mission, activities, organizational structure, support) represent barriers and/or facilitators according to their intervention context. Some factors play a key role at a specific moment, while others appear transverse to the volunteering process. However, individual and organizational factors do not act alone; they interact with interpersonal and social factors.

Despite the benefits associated to volunteering, it is important to remain critical concerning its promotion. Pernicious shifts may happen such as a normalization and an instrumentalization of volunteering.

ECONOMIC RESOURCES AND VOLUNTEERING IN LATER LIFE: DOES RACE MATTER?

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Many important factors predicting volunteering in old age have been identified. For instance, evidence suggests that older adults who are healthier are more likely to volunteer. However, the effects of economic resources on volunteering remain inconclusive. Guided by the cumulative disadvantage theory, the present study investigates (1) whether the associations between economic resources and volunteering differ by types of economic resources (income, net worth, financial assets, home and car ownership), and (2) whether such relationships vary by race. Using data from the 2010 Health and Retirement Study, 9,859 community-dwelling older adults who were 65+ and self-identified as non-Hispanic White or non-Hispanic Black/African-American were included. Two hierarchical multinomial logistic regression models (one for Whites and the other for Blacks), controlling for socio-demographics and health, were utilized to assess the relationships between different types of economic resources and volunteering: non-volunteering (reference), informal-volunteering only, formal-volunteering only, and both types. Results showed that different types of economic resources were associated with different types of volunteering that older people engaged in: income was not related to any types of volunteering; owning a car and greater financial assets increased the likelihood of both types of volunteering. For Whites, financial assets were positively associated with formal-volunteering only, but for Blacks, greater financial assets increased the likelihood of informal-volunteering only. Findings suggest the importance of looking at different types of assets in understanding volunteering for older adults. It is equally important to consider different types of economic

resources when encouraging volunteering among older white and black adults.

INTERGENERATIONAL RECIPROCITY: THE ROLE OF SPIRITUALITY AMONG AFRICAN AMERICAN FOSTER GRANDPARENTS

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Volunteering in later life is considered a major category of productive aging. The Foster Grandparent Program (FGP) is one of three National Senior Service Corps programs that allows volunteers (age 55 +) to stay active by serving children with special needs in their communities. Over forty percent of volunteers in the FGP are from African American (AA) backgrounds, however, little research has examined the unique cultural experiences of this population. Although research suggests that spirituality and/or resilience are integral to the culture of AA elders, there is a dearth of research exploring the role of faith among AA foster grandparents in FGPs. Guided by gero-transcendence and transpersonal theories, the purpose of this study was to qualitatively explore the role of spirituality and resilience among AA foster grandparents. A researcher with expertise in the cultural aspects of intergenerational caregiving conducted in-depth qualitative interviews with a sample of foster grandparents from African American backgrounds (N = 10). Using an inductive approach through a process of thematic analysis, four main themes suggest that foster grandparents experienced love, kindness, bonding, and a sense of purpose through the FGP. Findings suggest that spirituality played an important role for foster grandparents within the context of connecting personal faith to the volunteer experience. Participants also reported intergenerational reciprocity and an enhanced sense of purpose in their daily lives through the FGP volunteer experience. We recommend strategies for culturally tailoring FGPs to take into account the unique strengths of AA foster grandparents, in particular, faith and spirituality.

BENEFITS AND BARRIERS FOR CHINESE IMMIGRANT FOSTER GRANDPARENTS: A MIXED METHODS STUDY

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Objectives: The National Senior Service Corp Foster Grandparent Program (FGP) provides volunteer opportunities for older adults to work as 'grandparents' with children with special needs. Although research suggests that race and culture impact foster grandparent volunteering, there is little research related to the experiences of Chinese elders participating in FGP. In this study, the researchers utilized a community-based participatory approach to explore the benefits and barriers to volunteering as foster grandparents in American schools from the perspective of Chinese immigrant elders.

Methods: Mixed methods were used for this study. Focus groups and brief survey were conducted with Chinese foster grandparents (N=20) to qualitatively and quantitatively explore participants' experiences in the U.S. school system working with special needs children. Descriptive analysis and inductive content analysis was employed. Themes were

identified until consensus was reached among members of the research team.

Results: Overall, the majority of participants (96%) enjoyed participating in the FGP. Participants shared that volunteering in the FGP was a reciprocally beneficial intergenerational experience. Participants also suggested that participating in the FGP provided meaningful opportunities to help children, valuable cross-cultural learning opportunities related to traditions/practices in the United States as well as offered a positive social outlet and stress relief. Barriers to FGP participation included difficulties with the English language and cultural differences between Western and Eastern teaching styles/classroom expectations.

Conclusions: Participation in the FGP for Chinese immigrant elders is both beneficial and challenging. Recommendations for culturally tailored foster grandparent training are provided along with implications for future research.

LOW-INCOME ADULTS' MOTIVATION TO BECOME A SENIOR CORPS VOLUNTEER

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The Corporation for National and Community Service Senior Corps program engages low-income adults in national service. Volunteers were surveyed prior to starting service as a Foster Grandparent or Senior Companion and after nine months of service. Participants ($N=1,125$) were females (89%), racially diverse (45% White, 42% African American, and 11% Hispanic), and ages 55–91. A latent class analysis, based on 11 items, found that while a typical volunteer was motivated by altruistic motives, some motives were more predominant than others and some volunteers had multiple motives. Specifically, five categories of volunteers were identified: Altruistic (15%), Personal Growth (9%), Idealistic (21%), Social Exchange (22%), and Externally Driven (34%). A multinomial logistic regression analysis found that unlike previous studies, gender and race were not significant predictors of motivation. Findings also showed that volunteers with bachelor's degree or higher education were more likely to be in groups motivated by a desire to improve the community, as well as a desire to grow personally and help an individual. Volunteers who are separated/divorced, widowed or live alone were more likely to be in the Altruistic group than the Social Exchange group; the former identified the desire to help someone, while the latter identified with all motivations presented. The findings suggest that recruitment messages based on idealistic and altruistic values may have wider appeal for adults older than 76 years and those who are separated, divorced or live alone; and messages based on self-oriented motives (e.g., learning, self-accomplishment) would appeal to the more educated volunteers.

INFLUENCE OF INTERGENERATIONAL PROGRAMS ON SOCIAL CAPITAL IN LOCAL COMMUNITY

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Background & purpose: We launched an intergenerational program named REPRINTS (Fujiwara et al., 2006), in which volunteers >60 years old read picture books to children in school setting of a local community. REPRINTS has demonstrated reciprocal effects on senior volunteers and children (Yasunaga et al., 2016). The aim of this study was to clarify the relationships between intergenerational programs and social capital among local residents.

Methods: We conducted a mail survey among randomly selected 2,500 residents in Tama ward of Kawasaki city, aged 20–84 years in 2015. Of these, 978 residents (461 males and 517 females) responded the survey.

Respondents were asked about social capital and were assessed by two items: (1) "Can people be trusted in their neighborhood?" (neighborhood trust), (2) "In most cases, would people try to take advantage of their neighborhood?" (neighborhood norm). Awareness of the REPRINTS was also assessed: "Do you know the intergenerational program REPRINTS program or its activities in this community?"

Results: Among the 24 residential area in this community, 13 intervention areas had at least a kindergarten, an elementary school or a junior high school where REPRINTS volunteers often visited.

Awareness of the REPRINTS was 13.8% among respondents.

For those in their 20's and 30's, individual levels of neighborhood trust and norms were significantly associated with awareness of the REPRINTS program ($p<.01$). For the sample of those in their 40's, 50's and 60's over, community-levels of neighborhood trust were significantly associated with duration of the programs in the areas ($p<.05$).

Conclusion: A spillover effect of the intergenerational program associated with neighborhood trust and neighborhood norm in a community but differs between generations.

LET THE SUNSET GLOW: PRACTICING QUASI-VOLUNTEERISM IN SHANGHAI'S AGING COMMUNITIES (1998–2016)

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Based on field research conducted intermittently since the late 1990s, this paper examines the innovative strategies developed by staff members of the street office and its affiliated residents committees, NGOs, social entrepreneurs in order to generate and sustain quasi-voluntarism in ageing communities in Huangpu District, Shanghai. In the context of everyday community-building practices, "quasi-volunteering" refers to activities of giving that do not preclude volunteers from benefiting from their work (e.g. material rewards or satisfaction). Through probing the local grounding of "quasi-volunteering" and identifying the operational worth of embedded adaptive wisdom, this paper attempts to bring multiple voices of motivated social actors to bear on the local system of eldercare management in order to provide a necessary corrective to formal accounts based primarily on survey research and questionnaires. By way of incorporating ethnographic perspectives that gives centrality to individual efforts to endure, control, and manipulate their circumstances, this paper seeks a deeper understanding of the strengths and

limits of located-based volunteer activities in facilitating positive ageing and meeting the dire needs of the elderly.

SESSION 585 (POSTER)

NUTRITION AND DIET QUALITY 1

DIETARY PATTERNS AND ATHEROSCLEROSIS IN COMMUNITY-DWELLING OLDER MEN IN HONG KONG AND THE U.S.

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Dietary pattern analysis is an alternative approach investigating the association between diet and atherosclerosis. This study examined the association of dietary patterns with prevalent atherosclerosis in community-dwelling men older than 65 years. We used data from the Osteoporotic Fractures in Men (MrOS) Hong Kong (HK) cohort (N=1768) and MrOS US cohort (N=5006). Diet was assessed with country-specific food frequency questionnaire. Principal component analysis identified three *a posteriori* dietary patterns: “vegetables-fruits dominated”, “dim sum-meat-fish dominated”, and “fast foods dominated” in HK site and two patterns: “vegetables-fruits-fish-poultry dominated” and “fast foods-red meat dominated” in US site. Ankle-brachial index (ABI) was measured and a cut-off value of <0.9 was used to define prevalent atherosclerosis. Multiple logistic regression was used to assess the association between dietary patterns and ABI controlling for demographic, socio-demographic and lifestyle variables, and comorbidities. There were 5% and 6.2% MrOS HK and US men with ABI <0.9 respectively ($p=0.06$). In HK site, men in the highest quartile of “vegetables-fruits dominated” pattern score [age and BMI adjusted OR=0.50 (95% CI: 0.26–0.96), $ptrend=0.03$] showed lower likelihood of having an ABI <0.9 compared to men in the lowest quartile. In US site, men in the higher quartile of “vegetables-fruits-fish-poultry dominated” pattern score was associated with lower odds of having an ABI <0.9 [age and BMI adjusted OR=0.59 (95% CI: 0.42–0.83), $ptrend=0.005$]. The associations were attenuated and no longer statistically significant in the fully adjusted models. There was no statistically significant association between other pattern scores and ABI category in either cohort.

PROTEIN INTAKE OF BRAZILIAN ELDERLY FROM SÃO CAETANO: A QUANTITATIVE AND SEMI-QUANTITATIVE ANALYSIS

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Protein intake in elderly is associated with prevention or risk of adverse outcomes, particularly sarcopenia. We aimed

to evaluate quantitatively and semi-quantitatively protein intake in community-dwelling elders from São Caetano do Sul, SP, Brazil. Data from a cross-sectional study with 295 elders over 60 years, users of health facilities and community centers for elderly. Sociodemographic, health, lifestyle and food intake data we collected. Multiple Source Method estimated habitual intake for energy, macro and micronutrients. Protein was evaluated as total intake, grams per kilogram of body weight (g/kg), food source and meal. Prevalence of nutrient inadequacy intake was estimated using the EAR method to define cut-off points. The survey found that most elderly was female (85.1%), over 70 years (53.6%) and up to four years of education (41.7%). Median protein intake was 67g (or 1.05g/kg) and inadequacy prevalence was 8.5%. Ratio of animal to vegetable protein was 2:1. The frequency of elderly who consumed less than 25g of protein in the breakfast was 98%, in the dinner 67% and 33% at lunch. Being that, most protein was consumed during lunch (43.0%). Milk and bakery groups had the highest relative contribution for protein intake at breakfast and snack meals, and meat at lunch and dinner. Higher prevalence of inadequate micronutrient intake, except vitamin C and sodium, was found among elderly who consumed less protein (g/kg). In conclusion, protein intake should be monitored to ensure the quantity, quality and adequate distribution between meals for health promotion and prevention of fragility related sarcopenia.

HIGH INTAKE OF NON-MILK EXTRINSIC SUGARS IS ASSOCIATED WITH POOR NUTRIENT INTAKES IN OLDER PEOPLE

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Introduction: High dietary sugar intake may compromise protein and micronutrient intakes in people with low energy intakes. Results on micronutrient dilution studies in older people have been few and conflicting. We examined nutritional status and nutrient intakes in connection to non-milk extrinsic sugars (NMES) intakes in older people representing broad spectrum of both healthy and vulnerable older populations.

Methods: Cross-sectional study combined five Finnish datasets with home-dwelling (n=526) and institutionalized (n=374) older people. Nutritional status was assessed using Mini Nutritional Assessment (MNA) and nutrient intakes retrieved from 1–3 day food records. The participants were divided into quartiles corresponding to proportions of energy received from NMES. Energy, nutrient and fiber intakes were classified according to the NMES quartiles and the participants were divided according to place of residence (home, institution).

Results: High NMES intake was associated with age, female sex, poor cognition, low MNA scores, immobility and institutionalization. 90% of the participants in the highest NMES quartile (Q₄) were institutionalized. In institutionalized participants low protein and micronutrient intakes were observed in both those with low energy intakes (Q₁)

and in those with high NMES intakes(Q_4). In home-dwelling older people there was a linear trend of declining nutrient intakes with increasing NMES intakes in protein and most micronutrients.

Conclusions: Institutionalized older people had diets high in NMES compared to home-dwelling older people. In institutionalized older people both low energy and high NMES intakes were associated with low protein and micronutrient intakes.

METABOLIC ABNORMALITIES IN BRAZILIAN OLDER ADULTS—SABE SURVEY

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The aim of this study is to investigate the metabolic syndrome components in Brazilian older adults by gender and age groups. Cross-sectional study with data from the SABE (Health, Well-being and Aging) Survey: epidemiological, cohort based and home-dwelling. The population included elderly individuals (≥ 60 years old), both sexes, selected by probability sampling, interviewed in 2010, belonging to three cohorts A/2000 ($n = 630$), B/2006 ($n = 214$) and C / 2010 ($n = 311$). The variables were: gender, age, metabolic syndrome components (MSC), identified according to the criteria of the National Cholesterol Education Program-Adult Treatment Panel III: waist circumference(WC) >102 cm for men, and >88 cm for women; blood pressure (BP) ≥ 130 and/or ≥ 85 mmHg; triglycerides (TG) ≥ 150 mg/dL; high density lipoprotein cholesterol (HDL-c) <40 mg/dL for men, and <50 mg/dL for women; fasting glucose (FG) >100 mg/dL. Rao & Scott test and logistic regression for complex sample with 5% significance level were used. 1155 subjects were studied, being 60.7% women. The MS prevalence was 57.9%. The most common MSC was high BP (85.2%), without difference by sex and greater in >70 y. The risk of high WC and low HDL-c in women were OR=5.1 (IC95% 3.89 – 6.64) and OR=1.30 (IC95% 1.02 – 1.66), respectively. Considering the age, the risk to WC, FG, HDL and TG altered were higher in the youngest ones (60-65y). BP was the most common altered MSC. The women and the “new-Brazilian-older-adults” presented more metabolic abnormalities, what is a matter of concern to future public health policies.

PREVALENCE OF DYSPHAGIA ASSESSED BY THE EAT-10 AND ASPIRATION PNEUMONIA IN HOSPITALIZED OLDER ADULTS

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This longitudinal observational cohort study was conducted concurrently in two Spanish acute geriatric wards during a four month period. 280 subjects belong to hospital A and 281 to hospital B. The presence of dysphagia was assessed by the EAT-10. Previous diagnosis of dysphagia was recorded at baseline, as well as thickener use before, during the stay and at discharge. Furthermore, presence of aspiration pneumonia as cause of admission and mortality related

to aspiration pneumonia were registered. Mean age in center A was 85.9 years with 60.7% women. 27.7% of subjects had previous diagnosis of dysphagia with prevalence of dysphagia of 42.1% determined by EAT-10. Mean age in center B was 87.2 years with 59.1% women. 10% of subjects had previous diagnosis of dysphagia with prevalence of dysphagia of 59.1% determined by EAT-10. Thickener use in center A at admission was 15%, 30% during the stay and 11% at discharge as registered in the discharge report. Data of thickener use were not recorded at center B. In center A, aspiration pneumonia was the main cause of admission in 12.1% of subjects. During follow-up, 10.4% of subjects died with 50% of deaths related to aspiration pneumonia. In center B, aspiration pneumonia was the main cause of admission in 9.6% of subjects. During follow-up, 11% of subjects died with 41% of deaths related to aspiration pneumonia. Our results showed that dysphagia is often underdiagnosed. EAT-10 is an easy tool that should be implemented in the routine assessment of at-risk older adults.

THE ADVERSE IMPACT OF OBESITY FOR POST-ACUTE NURSING HOME RESIDENTS WITH HIP FRACTURE

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Obesity is a growing problem among elder nursing home residents. The impact of obesity on strength and mobility may prolong disability and complicate the recovery process for residents seeking to improve their physical function. The purpose of the current study is to examine the impact of obesity on short-term outcomes for residents with hip fracture admitted to Medicare and Medicaid certified nursing facilities for post-acute care. Minimum Data Set assessments were used to identify 402,470 residents admitted between January, 2011 and December, 2014. Residents aged <65 and who were underweight (body mass index (BMI) <18.5) were excluded. Residents were classified as normal weight, or having mild, moderate, or severe obesity according to BMI cutoffs established by the World Health Organization. Using robust Poisson regression we calculated the risk for 30-day hospital readmission, discharge home, and functional improvement associated with each level of obesity relative to normal weight. Models were adjusted for adjusted for age, gender, comorbidity burden, and facility fixed effects. Sensitivity analyses were stratified by nursing facility quality, which was defined using a case-mix adjusted 5-star rating obtained from the Centers for Medicare and Medicaid services nursing home compare website. Mild, moderate and severe obesity all conferred high risk for readmission, and lowered the probability of discharge home and functional improvement ($p<0.001$ for trend). Results were similar in quality-stratified analyses. These findings suggest that distinct care planning for residents with hip fracture and obesity may be essential to improve outcomes.

INFLUENCE OF PROTEIN INTAKE DURING WEIGHT LOSS ON INFLAMMATORY RESPONSE OF OBESE, FRAIL OLDER ADULTS

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Both aging and obesity increase levels of pro-inflammatory factors, contributing to muscle loss and a negative cycle of functional decline. While obesity reduction improves inflammation, the concomitant loss of muscle mass is a serious concern in older adults. Indications that increased protein intake preserves lean muscle during weight loss are promising, but studies of protein effects on inflammation during weight loss are few and their findings equivocal. Thus, we examined the influence of increased protein intake on inflammatory markers in a 6-month, randomized, controlled weight reduction study of obese (BMI ≥ 30 kg/m²), older (≥ 60 years) adults with physical frailty (Short Physical Performance Battery [SPPB] score 4–10), who were randomized to either a Control weight loss diet (0.8 g protein/kg/day; C-WL; $n=14$) or a higher protein (animal source, 2/3rds beef) diet (1.2 g protein/kg/day; HP-WL; $n=25$) in a 1:2 ratio. Reduced kcal intake in both arms and target protein intake in HP-WL were confirmed by 3-day records. Outcomes included function by SPPB and serum levels of 11 biomarkers of inflammatory status. In both arms, weight loss ($\sim 8\%$) was achieved and SPPB score improved, with a superior functional response in HP-WL ($P<0.05$). Several markers of inflammation improved, but only in the HP-WL group, for whom leptin ($P<0.001$), CRP ($P<0.01$), and ICAM-1 ($P<0.01$) were decreased and adiponectin increased ($P<0.01$); however, only adiponectin trended ($P<0.07$) towards a difference by group. Findings from this pilot study show beneficial inflammatory responses to HP-WL in obese, frail older adults; however, confirmation in a larger study is needed.

DIET QUALITY IS ASSOCIATED WITH HEALTH-RELATED QUALITY OF LIFE IN AFRICAN AMERICAN AND WHITE ADULTS

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Health-related quality of life (HRQoL) is associated with mortality and morbidity in older adults. Diet quality has been shown to affect HRQoL measures; however, past research has focused on adherence to the Mediterranean diet, and few studies have examined aging populations. The purpose of this study was to compare HRQoL with the Healthy Eating Index (HEI)-2010, a diet quality measure based on compliance with US federal standards, in a racially and socioeconomically diverse urban sample. This analysis included 1176 of 3720 participants from the *Healthy Aging in Neighborhoods of Diversity across the Life Span* (HANDLS) study. Participants were 30–64 years old at baseline. Tertiles of baseline HEI-2010 were regressed against follow-up HRQoL (physical and mental component scores (0–100) of the Short Form 12 (SF-12)) with BMI, race (African American vs White), follow-up time (years), and socioeconomic status (SES) ($<$ or $>125\%$ of 2004 US poverty guidelines) as covariates. The mean ($\pm$ SE) HEI-2010 score was 43.1 ± 11.7 (out of 100), and mean mental and physical HRQoL ($\pm$ SE) scores were 49.7 ± 11.7 and 40.6 ± 6.4 , respectively. Lower HEI scores ($p=0.002$, $\beta=1.294$), lower SES ($p<0.001$, $\beta=-4.646$), longer follow up time ($p=0.047$, $\beta=0.720$), and African American

race ($p<0.001$, $\beta=2.899$) were associated with poorer mental health. Lower HEI scores ($p=0.002$, $\beta=0.693$) and higher BMI ($p<0.001$, $\beta=-0.164$) were associated with poorer physical health. Findings corroborate past research on the Mediterranean diet, suggesting there are several eating patterns that may improve HRQoL.

COMPARISON OF WEB-BASED INTERVENTIONS FOR WEIGHT LOSS AND WEIGHT MAINTENANCE IN RURAL WOMEN

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This community-based clinical trial compared 3 web-delivered interventions, web-based only (WO) with web-based supplemented by peer-led discussion (WD) or professional email counseling (WE), on achieving weight loss and weight maintenance among rural women, ages 40–69. Rural women ($n=301$, baseline BMI of $28\text{--}45$ kg/m²) were randomized to WO, WD, or WE groups. All groups received access to the comprehensive website which included self-monitoring and interactive features for healthy eating and activity. The primary analysis focused on each of 3 phases separately [Phase 1 guided weight loss (baseline to 6 mo); Phase 2 guided weight loss and weight maintenance (7 to 18 mo); and Phase 3 self-directed weight maintenance (19–30 mo)]. Linear mixed models were used for analysis. Intervention groups did not differ from each other in mean change on body weight, with this finding consistent across all phases and for all pairwise comparisons. Across the groups, estimated mean weight loss after Phase 1 ranged 4.0 to 5.5 kg (4.2 to 6.2% of initial body weight). All groups had increases ($p < 0.05$) in weight after Phases 2 and 3, with average weight increases of 2 kg and 1 kg after Phases 2 and 3, respectively. The lack of group differences were potentially due to the robust nature of the web-site available to all groups. While weight loss was modest, the use of web-based interventions may be clinically relevant for reaching rural women on a public health level, as small weight reductions are linked with health benefits.

ASSOCIATION OF ADIPOSITY, TELOMERE LENGTH AND AGE: NHANES 1999–2002

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Background: Telomere shortening is associated with age and risk of medical co-morbidity. We assessed the relationship between measures of adiposity with leukocyte telomere length and whether it is influenced by age.

Methods: Subjects with dual energy x-ray absorptiometry (DEXA) measures were identified using the National Health and Nutrition Examination Survey 1999–2002. Obesity was categorized using body fat (BF%: low/high; men $\geq 25\%$; females $\geq 35\%$), body mass index (BMI) categories, and waist circumference (WC) (low/high, men ≥ 102 cm; females ≥ 88 cm).

Telomere length relative to standard reference DNA (T/S ratio) was assessed using quantitative polymerase chain reaction. Weighted multivariable regression models evaluated the association of telomere length with adiposity, both continuously and categorically (low/normal BF%, low/high WC, BMI 18.5–24.9 kg/m²=referent), adjusted for age (where indicated), race, sex, education, smoking, co-morbidities, and physical activity. The interaction between age strata and adiposity was assessed and subsequent models stratified by age.

Results: We identified 7,827 subjects (4,056 female; 2,672 age ≥ 60 years). Mean age was 46.1 years. Overall telomere length was 1.05 ± 0.01 (SE) that differed by BF% (low/high: 1.12 ± 0.02 vs. 1.03 ± 0.02 ; $p < 0.001$), BMI (underweight 1.08 ± 0.03 ; normal 1.09 ± 0.02 ; overweight 1.04 ± 0.02 ; obese 1.03 ± 0.02 ; $p < 0.001$), and WC (low/high 1.09 ± 0.02 vs. 1.02 ± 0.02 ; $p < 0.001$). Adjusted estimates between telomere length and adiposity measures were: BF% ($\beta = 0.0033 \pm 0.0008$; $p < 0.001$), BMI ($\beta = -0.025 \pm 0.0008$; $p = 0.005$), and WC ($\beta = -0.0011 \pm 0.0004$; $p = 0.007$). All age x adiposity interactions were significant ($p < 0.001$). Model estimated mean difference (Age > 60–Age < 60) was: BF% (-0.14 ± 0.01 ; $p < 0.001$), BMI (-0.15 ± 0.001 ; $p < 0.001$), and WC (-0.0015 ± 0.0004 ; $p < 0.001$). No significant association was present between telomere length and adiposity over age ≥ 60.

Conclusions: A negative association between adiposity and telomere length was observed but age abrogates this relationship.

HANDGRIP STRENGTH ASSOCIATED WITH DIET QUALITY IN URBAN AFRICAN AMERICAN AND WHITE ADULTS IN THE U.S.

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Muscle mass loss and progressive declines in strength, associated with loss of physical functioning, increase with age. Diet quality can affect muscle strength and performance. Handgrip strength is an indicator of total-body muscle strength and physical performance. This study investigated the association between diet quality and handgrip strength in 2140 African American and White adults examined in baseline *Healthy Aging in Neighborhoods of Diversity across the Life Span* study. Diet quality was measured by Mean Adequacy Ratio (MAR) of 17 micronutrients from two dietary recalls. Handgrip strength was assessed using the Jamar Hydraulic Hand Dynamometer. Mean MAR ($\pm$ SE) scores were 73.93 ± 0.31 and mean handgrip strength was 34.68 ± 0.29 . When compared across tertiles, handgrip strength was significantly associated with MAR; with each tertile of MAR, handgrip strength significantly improved; (1st tertile- $32.2 \pm .47$, 2nd tertile- $34.5 \pm .50$, 3rd tertile- $36.8 \pm .53$). Multiple regression models were used to explore the cross-sectional relationship of MAR to handgrip strength, adjusting for potential confounders. Model one included the main effects (race, age, sex, and socioeconomic status (SES)), model two included main effects and MAR as a continuous variable. Model three included main effects, MAR and race x SES interaction. Being African American ($\beta = 2.1$; $p < 0.001$), younger ($\beta = -.30$; $p < 0.001$), male ($\beta = 16.49$; $p < 0.001$), and higher MAR scores ($\beta = .06$; $p < 0.001$) were associated with greater handgrip strength in Model 3. SES was significantly associated with handgrip strength in model 1; however, in model 3, SES

and race x SES interactions were not significant. Better diet quality is important in maintaining handgrip strength.

PHYSICAL PERFORMANCE INFLUENCED BY DIET QUALITY IN U.S. URBAN WHITE AND AFRICAN AMERICAN POPULATIONS

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Repeated chair stands are recognized as a measure of lower body strength. Diet quality can effect both muscle strength and mass, as well as risk of developing sarcopenia. The primary objective of this study was to examine the association of physical performance with diet quality by exploring the relationship between number of completed chair stands and diet quality in urban White and African American adults examined in Wave 3 (2009–2013) of the *Healthy Aging in Neighborhoods of Diversity across the Life Span* (HANDLS) study. The HANDLS study is a prospective epidemiological study designed to examine the roles of race and socioeconomic status on health disparities. Baseline wave (2004–2009) examined 3720 people. Lower body strength was measured by the number of completed repeated chair stands (0–10) by 2019 participants. Diet quality was assessed by diet diversity serving (DDS) scores (0–40), calculated using two 24-hour dietary recalls. Cross-sectional linear regression was used to determine the relationship between number of completed repeated chair stands and DDS scores, adjusting for the following covariates: race, socioeconomic status (SES), age, and sex. The mean ($\pm$ SE) DDS score was 16.6 ± 0.02 , while the mean chair stands completed was 8.6 ± 0.07 . Being African American ($\beta = 0.496$; $p = 0.001$), higher SES status ($\beta = 0.780$; $p < 0.001$), younger ($\beta = -0.064$; $p < 0.001$), and male ($\beta = 0.495$; $p = 0.001$), along with higher DDS scores ($\beta = 0.035$; $p = 0.006$) resulted in being able to complete more chair stands. These findings provide evidence of the importance of consuming a diet consisting of a wide variety of foods to maintain physical performance.

THE HEALTHY NORDIC DIET AMONG OLDER INDIVIDUALS PREDICTS INCIDENT DISABILITY IN A 10-YEAR FOLLOW-UP

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We investigated whether adherence to the healthy Nordic diet among older individuals was associated with incident disability 10 years later. We studied 972 participants from the Helsinki Birth Cohort Study who were free of disability at baseline. At the mean age of 61 years the Nordic diet score (NDS) was calculated based on a validated food-frequency questionnaire that the participants filled in. Higher scores indicated better adherence to the healthy Nordic diet. At the mean age of 71 years, participants' incident disability was assessed using a self-reported questionnaire and was based

on two levels of disability: mobility difficulty (difficulty in walking 500 m) and self-care dependence (difficulty in dressing or bathing). Association between the NDS and incident disability was tested by logistic regression analysis. In total, 92 participants (9.5%) developed difficulty in walking 500 meters and 44 participants (4.5%) developed difficulty in dressing or bathing during 10-year follow-up. After adjusting for age, BMI, educational attainment, physical activity, smoking, and energy intake, the likelihood of having difficulties in walking 500 m were lower among those in the highest NDS fourth than among those in the lowest NDS fourth (OR 0.29, 95% CI 0.12, 0.67). In addition, the odds of having difficulties in dressing or bathing were lower among those in the highest NDS fourth than among those in the lowest NDS fourth (OR 0.35, 95% CI 0.12, 0.99). In conclusion, adherence to the healthy Nordic diet among older individuals predicted incident disability during a 10-year follow-up.

LATE BEDTIME AND EXPOSURE TO LIGHT AT NIGHT ARE ASSOCIATED WITH METABOLIC DISORDERS IN ELDERLY

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Last decade we observe a rising interest to circadian cycle influence on metabolic disorders and weight control. However, whether changes of sleep characteristics are associated with metabolic syndrome (MS) in the elderly remains unclear.

We selected 88 elderly (60–74 years) patients: 68 with MS and 20 without abdominal obesity and MS. MS was diagnosed according to IDF criteria (2005). Sleep characteristics (bedtime, sleep duration, awakening time, exposure to bright light) were studied by questioning. Data were compared with one-tailed t-test, correlations were calculated using Pearson coefficient.

Bedtime in the elderly significantly correlated with body mass index ($r=0.35$) and waist circumference ($r=0.34$). Sleep duration significantly correlated with body mass index ($r=0.32$). Elderly people with MS went to the bed later (23:35 vs 22:36, $p<0.05$) and awoke later in the morning (07:53 vs 07:00, $p<0.05$) than people without abdominal obesity and MS despite the same sleep duration. Moreover, elderly people with MS showed significantly higher prevalence of light at night exposure (71 % vs 25 %, $p<0.05$).

More late bedtime with stable sleep duration and exposure to light at night are associated with increased body mass and waist circumference, and, thus, may be the factors that contribute to metabolic disorders in elderly.

SESSION 590 (POSTER)

OLDER ADULT MOBILITY AND REHABILITATIVE CARE

FALL EVENTS AMONG OLDER, COMMUNITY-DWELLING MEN: AN EXAMINATION OF RISK AND PROTECTIVE FACTORS

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Falls are a leading cause of nursing home admission and hospitalization among older adults; however, there is surprisingly little research that examines risk and protective factors for falls among community-dwelling older men. Our study is the first to investigate fall events among older men—and to examine racial and ethnic differences in fall risk among men—using a population-based sample.

We analyzed data from 4429 community-dwelling men from the Health and Retirement Study aged 65 and older. We used multinomial logistic regression analyses to examine risk and protective factors for single and recurrent (1 or more) self-reported fall profiles at baseline (2000) and longitudinally (2000–2010). We examined self-reported fall events by race/ethnicity (non-Hispanic white, African American, and Hispanic/Latino), controlling health and socio-demographic characteristics.

In baseline analyses, African American men were less likely than non-Hispanic white men to experience multiple fall events, compared to no falls (RRR: 0.63, $p=0.005$). Racial/ethnic differences in single or recurrent fall events were not statistically significant in longitudinal analyses. Fall risk did not differ between non-Hispanic white and Hispanic/Latino older men.

Consistent with other population-based studies, certain characteristics (e.g., older age, ADL limitations, greater depressive symptoms) were associated with a higher relative risk of single and/or recurrent fall events over follow-up.

This study identifies risk and protective factors of single and recurrent falls among older men, which can inform clinical practice and falls prevention programs for diverse community-residing older adult populations.

EXPERIENCES OF VIOLENCE ACROSS LIFE COURSE AND ITS ASSOCIATION WITH MOBILITY DISABILITY IN OLDER AGE

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Background: Life course exposure to violence may lead to disability in old age. We examined associations between life course violence and mobility disability in older participants of the International Mobility in Aging Study (IMIAs).

Methods: During the IMIAs 2012 baseline survey, men and women aged 65–74 years were recruited at five cities ($n=1995$): Kingston and Saint-Hyacinthe (Canada), Tirana (Albania), Manizales (Colombia), and Natal (Brazil). Mobility was assessed by the SPPB and by two questions on difficulty in walking and climbing stairs. Childhood physical abuse history and the HITS instrument were used to gather information on childhood exposure to violence and violence by intimate partners or family members. Multivariate logistic regression analysis models were constructed to explore associations between violence and mobility disability.

Results: Psychological violence either perpetrated by partner or family was more frequent than physical violence. Compared to men, women were more often victims of all types of violence. Experiences of childhood physical abuse and adult physical violence either by family or partner were related to mobility disability (adjusted for age, sex, childhood socioeconomic status, education and research site). Those

exposed to physical violence by a partner showed 40% to 63% greater odds of mobility disabilities. Those exposed to childhood physical abuse showed 43% to 69% greater odds of mobility disabilities. Gender was not an effect modifier for the relationships between any form of violence and mobility.

Conclusion: Our results provide evidence for the detrimental effects of life course exposure to violence on mobility in later life.

ALTERNATIVE COST MODELS FOR DELIVERING IN-HOME BALANCE IMPROVEMENT AND FALLS PREVENTION PROGRAMMING

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The risk of falling increases with age with one in three older adults experiencing a significant fall each year. Falls are the number one cause of fractures, hospital admissions for trauma, loss of independence, and injury deaths among older adults. Virtually all available falls prevention programs that focus on older adult weight training and balance improvement are exclusively group taught in congregate settings. An NIH/NIA-funded research study assessed the efficacy of a self-taught, in-home, balance improvement curriculum for individuals who do not wish to take advantage of centralized, group taught falls prevention programming. Three alternative cost models were arrived at for Area Agencies on Aging (AAA) wanting to implement the program in communities experiencing varying levels of resource scarcity. Based on two focus groups conducted with staff (N=23) at two northern New England AAAs, the alternative cost models offered are particularly sensitive to potential budgetary limitations in small towns and rural communities. Programmatic costs of the three models vary based on decisions as to the utilization levels of staff versus volunteers, the frequency of follow-up home visits as compared to calls to clients, the length and intensity of training, and the decision to utilize mobile technology for data collection and documentation. Rural AAAs and other older adult health promotion agencies in particular will benefit from implementation options that are sensitive to the cost, time, and physical challenges associated with both staff and clients travel in geographically isolated regions.

PIONEERING A MEDICATION SELF-ADMINISTRATION PROGRAM IN A TERTIARY HOSPITAL REHABILITATION WARD

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Introduction: Assisting patients to regain independence in medication management is an integral part of rehabilitation pharmacist care. A structured self-administration of medication program (SAMP) is needed as an objective measure of patients' ability to self-manage medication and support patient-centred care.

Aim: To assess and improve rehabilitation patients' ability to self-manage medications using SAMP and provide further support for unsuccessful patients.

Method: An assessment tool was developed to identify eligible patients. SAMP consisted of four stages: (1) initial pharmacist counselling with use of medication list, (2) supervised self-administration, (3) independent self-administration and (4) patient-to-pharmacist teach-back assessment. A Drug

Regimen Unassisted Grading Scale (DRUGS) was used to assess patients' understanding of medication. A validated Medication Regimen Complexity Index (MRCI) was used to assess change in complexity of medication regimen.

Results: The program had a high success rate with 14 out of 20 participants successfully completing the SAMP. The mean age of participants was 74.4 years. The participants were self-administering a mean of 6.1 medications on admission and 10.4 on discharge, with a mean increase in MRCI of 45%. Successful SAMP participants demonstrated a mean change in DRUGS score from 90.6% to 98.4%. Seventy-eight percent of successful participants reported increased confidence. Two patients self-withdrew. Most importantly, SAMP identified 4 patients as unable to safely self-administer giving the pharmacist opportunity to arrange alternative medication management.

Conclusion: SAMP improved patients' understanding and ability to self-manage medications. Furthermore, it enabled objective assessment of patients' capacity to manage their medications aiding decision making for discharge planning.

PREVALENCE OF HEARING IMPAIRMENT AND ASSOCIATED FACTORS AMONG OLDER U.S. ADULTS

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Hearing impairment significantly impacts older people's communication and interaction with others, and their ability to understand and follow doctors' advice. This study evaluated the prevalence rate of hearing impairment and associated factors among older U.S. adults. Data from the 2013–2014 National Health and Nutrition Examination Survey (NHANES) were analyzed. Hearing impairment was assessed through self-reporting of serious hearing difficulties. To account for the complex multistage sample design in NHANES, SAS survey procedures were utilized to analyze the data. All analyses were based on the weighted data for a better representation of the U.S. population. The current analysis contained 1,264 individuals aged ≥65, representing 12.4% of the NHANES sample, with 44.3% males. Age distribution was 34.0%, 26.3%, 16.0%, and 23.8% for 65–69, 70–74, 75–79, and 80+, respectively. Race distribution was 80.0%, 8.6%, 7.2%, and 4.2% for White, Black, Hispanic, and Asian, respectively. The prevalence of hearing impairment was 16.5% overall, 20.1% for males, and 13.5% for females. This rate increased significantly with age (27.0% among age 80+). Hispanic and White older adults had a significantly higher prevalence of hearing impairment than Black and Asian older adults. Those who lived alone, had an annual income of \$35,000 or less, and had poor health status were more likely to experience hearing impairment (all p-values < .05). Approximately one in every six older adults suffers from serious hearing impairment. Besides aging and some demographic factors, older adults with lower socioeconomic status and poor health status had a significantly higher risk for the condition.

LIFE SATISFACTION AMONG OLDER KOREAN ADULTS WITH DISABILITIES: AN APPLICATION OF THE PACID MODEL

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This study aimed to examine whether the Psychosocial Adaptation to Chronic Illness and Disability (PACID) model is a well-established framework for older Korean adults with disabilities and to investigate the associated factors of life satisfaction (LS) among them. A sample of 384 older Korean adults with disabilities obtained from the Korea Welfare Panel Study data (2014), a representative national survey funded and approved by Korean government, was used in this study. Structural equation modeling was employed to examine the dynamics among the antecedents (i.e., causes of disability, age and income at disability onset, gender), process factors (i.e., depression, self-esteem, disability severity, functional ability, course of disability condition, discrimination experiences, use of services, social support, education, income) and outcome (i.e., LS) based on the PACID model. The research model had good model fit, indicating that the PACID model was well applied to older Korean adults with disabilities. The findings showed that various factors had direct and indirect influences on LS. Depression, self-esteem, functional ability, discrimination experiences and income directly affected LS. Age at disability onset influenced LS through functional ability and discrimination experiences; income at disability onset affected LS through depression, self-esteem and income; causes of disability affected LS through income. Findings suggest that programs and services are required to improve the levels of depression, self-esteem and functional ability of older Korean adults with disabilities in order to enhance their positive feelings toward life. Findings also suggest policy makers should pay attention to ways to reduce their discrimination experiences and increase their income level for better LS among older Korean adults with disabilities.

THE EFFECTS OF HEALTH ON MULTIDIMENSIONAL DISABILITY AMONG OLDER ADULTS: AN APPLICATION OF THE ICF

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This presentation will report on findings from a study conducted among 10,451 Korean older adults (65+) sampled through the *2014 Survey of Living Conditions and Welfare Needs of Korean Older Persons*. The study had three objectives. First, to investigate whether chronic illnesses influenced multidimensional disability among Korean older adults; secondly, to analyze whether service-related environmental factors affected the multidimensional disability and thirdly, to test whether the service-related environmental factors moderated the association between chronic illnesses and multidimensional disability. Using the ICF as a conceptual model, the data was analyzed using structural equation modeling. For the purpose of this study, the multidimensional disability was composed by the following three dimensions: psychological/emotional functions, activity capacity and participation frequency; and the service-related environmental factors were composed by the following two factors: accessibility and infrastructure. Key findings showed that the higher the number of chronic illnesses the higher the level of multidimensional disability. Better accessibility to welfare facilities had a positive effect on all three dimensions of disability, and better infrastructure proved to increase the level of activity

capacity, although it had no statistically significant association with participation frequency. Furthermore, the analysis showed that the better infrastructure the lower psychological and emotional functions among older adults. Infrastructure had a moderating effect on the association between chronic illnesses and multidimensional disability. Based on these findings, I argue that there is an urgent need to enhance older Koreans' health status. The findings furthermore suggest that an increase in the number of welfare facilities and accessibility to these facilities can play an essential role in reducing the level of multidimensional disability and alleviating the negative influence of chronic illnesses on multidimensional disability among Korean older adults.

SESSION 595 (POSTER)

PHYSICAL ACTIVITY AND EXERCISE I

PROMOTE: TAILORING PHYSICAL ACTIVITY INTERVENTIONS TO PROMOTE HEALTHY AGEING

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Physical activity (PA) and the reduction of sedentary behavior positively influence healthy aging. PA results in increases in aerobic capacity and strength and is associated with less age-related cognitive decline. Further, a pronounced sedentary behavior, i.e. prolonged periods of sitting or overall inactivity, increases mortality risk regardless of PA level [1]. The interaction between sedentary behavior, dedicated exercise and PA level, and their effects on physical and mental fitness has not yet been fully elucidated.

120 healthy older adults (OA) participated in a 10-week exercise intervention within the PROMOTE project on tailoring PA interventions to promote healthy ageing. The intervention was tailored to individuals' age, gender, and previous PA behavior. Participants were randomized into two intervention groups (IG) and a waiting-list control group. Both IGs received a web-based self-regulatory counseling aid, which aims to support the participants in reaching a sufficient PA level. IG differed in the way of PA monitoring: subjective self-report vs. subjective self-report and objective measure of PA using an off-the-shelf activity tracker. (Non-) activity behavior (assessed objectively via ActiGraph) as well as physical and mental fitness were assessed at baseline and post intervention. Multiple regression and moderation analyses will be performed to analyze the interaction of dedicated exercise, supportive-technology, PA level and sedentarism and their effect on physical and mental health.

We expect sedentary behavior to moderate the association between PA and physical/mental fitness. Results will contribute to optimized health promotion programs and recommendations for OA.

[1] Hagger-Johnson, et al. (2016). *American J Prev Med* 50(2), 154–160.

EFFECTS OF COMBINED EXERCISE ON INFLAMMATORY FACTORS IN OLDER WOMEN WITH SARCOPENIC OBESITY

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This study aimed to evaluate the effectiveness of a combined exercise program on physical performance related to the risk of falling and inflammatory factor in community-dwelling sarcopenic obese elderly women.

Twenty-four participants with Sarcopenic Obese elderly women (≥ 70 years) were randomly assigned to either the intervention ($n=12$) or control ($n=12$) group, and the intervention comprised an individually tailored combined exercise program. The combined exercise program included resistance and aerobic exercise for 12 weeks.

The ANOVA and deltas of change ($\Delta\%$) were used for data analysis. The level of significance was set at $p<0.05$. The effects of greater statistical significance on body composition related the variables "time", "group" and the interaction between the two (time $\times$ group) were observed for the percentage of body fat ($F = 42.750$, $p < .01$), upper lean mass ($F = 29.342$, $p < .01$) and lower lean mass ($F = 45.333$, $p < .01$), arm curl ($F = 38.918$, $p < .01$), functional reach ($F = 9.651$, $p < .05$), chair sit-and-down ($F = 57.894$, $p < .01$), preferred walking speed ($F = 16.154$, $p < .01$), open-eyes one-legged standing time ($F = 5.199$, $p < .05$) were significantly improved after the intervention. Moreover, the mean values of serum lipids (triglyceride, HDL cholesterol, HOMA-IR) and levels of high-sensitivity C-reactive protein, IL-1 β and TNF- α) were significantly improved in exercise group as compared in control group.

Combined exercise training is associated with reduced inflammatory activity such as hs-CRP, IL-1 β and TNF- α in this population, and improve the physical performance related to the risk of falling in this population.

PREVENTION OF REHOSPITALIZATION OF FRAIL GERIATRIC PATIENTS

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A literature search was done to determine if rehospitalization of frail geriatric patients could be prevented with the use of specific personalized home exercise programs. Five relevant studies had an exercise group and a control group. Authors of two of the articles reported significant reductions of rehospitalizations due to exercise program implementation. The results in the other articles pointed to exercise significantly impacting physical activity, quality of life, frailty, and overall health status. These results strongly indicated implementation of exercise programs for frail older adults for decreased rehospitalizations. To strengthen future research in this area there is a need to standardize outcome measures to determine physical ability as well as the definition of frailty. Rehospitalization of frail older patients could be

prevented with utilization of prescribed exercise programs. Therapists must be proactive to obtain referrals for home health patients who may benefit from a personalized home exercise program.

LEG CYCLING TRAINING ON CARDIORESPIRATORY FITNESS, MUSCLE STRENGTH, AND WALKING SPEED IN OLDER ADULT

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Purposes: This study was to explore if cycling motion training could improve cardiorespiratory endurance, lower extremity muscle strength and walking speed in older and young adults. **Methods:** Twenty-three healthy older adults and twenty-three healthy young adults were recruited. A stationary cycling system was used to provide exercise training at moderate exercise intensity for 30 minutes/day, 5 days a week for a month. A cycling training session consisted of 15-minute forward cycling and 15-minute backward cycling, at the pedaling rate of 60 revolutions per minute. Six-Minute Walk Test, 10-Meter Walk Test and a dynamometer test were used to assess cardiorespiratory fitness, lower extremity muscle strength, and walking speed respectively, prior to the start of the training, at the termination of the training, and at one-month follow-up. A mixed-model ANOVA was used to analyze training effects on outcome measures, with Bonferroni post-hoc test. **Results:** The ANOVA results showed no significant group differences for the 6-Minute Walk test and the 10-M Walk Test, while significant group differences on lower extremity strength. For both groups, significant training effects on the 6-minute Walk Test, 10-Meter Walk Test, and lower extremity strength were found at post-training ($p<0.01$) and follow-up ($p<0.05$). **Conclusion:** The results suggested that the cycling training protocol used in this study can effectively improve cardiorespiratory endurance, lower extremity muscle strength, and walking speed in both older and young adults and appear to be a practical exercise.

SHORT PHYSICAL PERFORMANCE BATTERY DIFFERENCES BETWEEN PHYSICALLY ACTIVE AND SEDENTARY OLDER ADULTS

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The aim of this study was to compare the performance in Short Physical Performance Battery (SPPB) between physically active and sedentary older adults. A cross-sectional study was conducted with 123 older adults (mean: 72.68 ± 7.06 years old), who were divided into two groups: physically active (Study Group – SG; $n=75$) and sedentary older adults (Control Group – CG; $n=48$). The SPPB evaluates lower limb performance using three tests: balance (SPPBb), gait speed (SPPBg) and lower limb force (SPPBf). The final score is the sum of the three tests, ranging from 0 to 12. Statistical analysis showed a significant difference (Mann-Whitney test: $p=0.004$) between the groups in relation to total SPPB scores (SG: 8.73 ± 1.88 and CG: 9.67 ± 1.97 points). In the SPPB subtests, the SPPBb was significantly

different ($p=0.018$) between the SG (3.77 ± 0.54) and the CG (3.48 ± 0.77). The SPPBf was significantly different (Mann-Whitney test: $p=0.017$) between the SG (SG: 2.25 ± 1.10) and the CG (CG: 1.76 ± 0.99 points). By analyzing the balance tests evaluated in the tandem position (heel of one foot directly in front of and touching the other foot) there was a significant difference (Mann-Whitney test: $p=0.020$) between groups (CG: 8.43 ± 2.99 and SG: 9.46 ± 2.05 seconds). No differences were noted in the feet side by side position and the semitandem position (heel of one foot along side the big toe of the other foot). In conclusion, older adults who were physically active had a better lower limb performance in the lower limb strength and balance tandem positions compared to older adults living a sedentary lifestyle.

LEAD LEG PREFERENCE OF THE 8-FOOT UP-AND-GO

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The 8ft-up-and-go (UPGO) test is a commonly used tool for assessing agility and dynamic balance in older adults. The purpose of this study was to determine if lead leg impacts UPGO performance. Participants were 31 adults (males = 7, females = 24) over the age of 65 years, with a mean age of 82.03 years ($SD = 6.93$). Volunteers completed three UPGO tests of two trials each with the fastest time recorded for each test. In the initial test, participants performed the UPGO with no instruction on lead leg. Researchers noted the lead leg chosen (called preferred leg). In subsequent tests, participants were instructed to use either the right or left leg as the lead in random order. Results indicate no difference in performance between the three tests ($p = .10$). In the initial test, twenty-four participants preferred the right leg, while seven preferred the left leg. Although non-significant ($p = .19$), participants who preferred the left leg had scores 0.74 seconds faster than those who preferred the right leg on the initial UPGO test. When grouped by preferred leg, participants who preferred the right leg performed significantly better when instructed to use the right leg than during their preferred leg test ($p = .03$) which could indicate a familiarization effect. Those who preferred the left leg did not see a similar improvement in subsequent tests perhaps due to the high initial performance or the small sample size. While some evidence indicates a difference in performance between lead legs, further study is needed to draw definitive conclusions.

PERSON-CENTERED WALKING TO MAINTAIN THE MOBILITY, ADL FUNCTION, AND QUALITY OF LIFE OF LTC RESIDENTS

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Aim: To determine the efficacy of a person-centered multifaceted walking intervention (MWI) to maintain the mobility, ADL function, and QOL of LTC residents with dementia.

Method: An interrupted time-series design was used. Measures of mobility (2-minute walk test[2MWT], Timed-Up-and-Go[TUG], gait speed), ADL function (Functional

Independence Measure[FIM]), and QOL (Alzheimer's Related Quality of Life Scale[ARQOL]) were collected before and after the 2-month pre-MWI phase, and at the middle and end of the 4-month MWI phase. The MWI consisted of a *one-to-one walking regime* and an *individualized communication care plan* tailored to the resident provided up to 4x/week for 4 months. RM-ANOVA was used to evaluate MWI efficacy.

Results: All eligible residents ($n=26$), PSW staff ($n=21$) and power of attorneys ($n=25$) enrolled in the study. During the pre-MWI phase, residents experienced a significant decline in mobility: TUG increased by 4.4% (mean difference = 4.15 sec., $P=0.01$), 2MWT decreased by 9.7% (mean difference = -5.78 m., $P=0.03$), gait speed decreased by 11.3% (mean difference = -0.05 m/sec, $P=0.022$), decline in ADL function (mean difference = -17.88, $P=0.03$), and a loss of QOL (mean difference = -1.84, $P=0.030$). During the MWI phase, the TUG improved by 32.1% (mean difference = -8.58, $P=0.000$), 2MWT improved by 51.2% (mean difference = 27.47, $P=0.000$), gait speed improved by 55.1% (mean difference = 0.23, $P=0.000$), ADL function increased by 25% (mean difference = 15.60, $P=0.000$), and QOL increased by 7.8% (mean difference = 2.44, $P=0.063$).

Conclusion: Findings provide preliminary evidence for a future trial, and a greater understanding of the role of person-centered care in delivering PA in LTC.

SUBJECTIVE AND OBJECTIVE PHYSICAL ACTIVITY IN OLDER ADULTS WITH AND WITHOUT ALZHEIMER'S DISEASE

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Physical activity has many health benefits, even among older adults diagnosed with Alzheimer's disease (AD), yet relatively little research has characterized the typical daily activities of people with AD as compared to their non-impaired counterparts. Modern technology allows us to objectively measure the amount and intensity of physical activity, but other methods are still needed to link objective amount and intensity data to information about types of activities. Older adults rarely engage in structured exercise or sports. Thus, we evaluated the types of everyday activities in which older adults with and without AD engage and the objectively measured activity counts generated by those activities. In older adults with ($n=38$) and without ($n=47$) AD, we measured physical activity for one week, objectively using a thigh-worn postural monitor (ActivPal_{TM}), and subjectively using activity diaries. Activity counts were averaged over 30 minute intervals to match the diaries. Sedentary activities were the most common self-reported activity type (38.4% of all waking self-reported activity, mean 83.1 counts/min), followed by indoor chores (19.4%, 88.7 counts/min) and errands away from home (14.0%, 89.1 counts/min). During leisure walking, participants with AD had lower objective activity counts/min than those without AD [$F(1,55)=9.4$, $p<0.01$], suggesting they walk less vigorously. Objective activity counts were lower in participants with AD [$F(1,65)=5.7$, $p<0.05$] and women [$F(1,65)=9.4$, $p<0.01$] during outdoor chores, suggesting less vigorous engagement. Understanding differences by AD status and gender during common types of unstructured physical activities may help to design more

effective and targeted physical activity interventions to promote health.

PHYSICAL ACTIVITY, COGNITIVE DECLINE, PLATELET CHANGES IN ALZHEIMER'S DISEASE AND HEALTHY OLD ADULTS

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We investigated potential associations between platelet morphological changes, level of physical activity, and age-related cognitive decline by analyzing blood samples of volunteer healthy old elderly adults with different exercise functional capacities. We also compared the morphology of platelets from age-matched healthy adults and Alzheimer's disease (AD) patients. Physical activity was assessed by the International Physical Activity Questionnaire (IPAQ, long form), and functional exercise capacity was assessed by agility (8-foot up-and-go), lower body strength (chair stand), and aerobic capacity (6-minute walk) tests. Cognitive function was assessed by the Mini Mental State Examination (MMSE) and Cambridge Neuropsychological Automated Battery (CANTAB). Compared to sedentary healthy adults, active healthy adults had significantly better functional exercise capacity in all physical fitness tests, better performance in visual sustained attention and reaction time tests, smaller platelet volumes, and larger platelet distribution width. There were significant correlations between platelet morphological markers and neuropsychological performance on visual learning and memory, rapid visual processing, and visual sustained attention tests. Compared to healthy elderly adults matched by age and educational level, AD patients had lower MMSE scores, which were associated with larger platelet volumes. Physical exercise in the elderly is associated with less cognitive decline, which may be correlated with reduced platelet volumes. Mean platelet volume, which is usually disregarded in standard blood sample analyses, may be used in association with cognitive assessments to improve differentiation between normal and pathological aging.

AEROBIC AND RESISTANCE TRAINING TO REDUCE CANCER-RELATED FATIGUE: EFFICACY IN ONCOGERIATRIC PATIENTS

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Despite the high prevalence of cancer in the elderly, there is no strong evidence regarding the efficacy of exercise training for reducing debilitating effect of cancer-related fatigue (CRF) and improving quality of life (QoL) in the oncogeriatric population. Hence, the objective of our study is to determine the impact of combined aerobic and resistance training on CRF and QoL in older adults undergoing cancer treatment. A total of 40 older adults (65–80 years) with an ongoing treatment for a curable cancer will be recruited

and randomised in two groups: 1) combined training (EX, n=20) and 2) control group (CON, n=20). All variables will be measured before and after 12 weeks of intervention: CRF (FACIT-Fatigue), QoL (*European Organization for Research and Treatment of Cancer Quality of Life Questionnaire*), physical capacity (Senior Fitness Test) and body composition (fat and lean body mass, DXA). Our preliminary results show that 12 weeks of mixed exercise training alleviated CRF (Δ_{EX} : -5 vs. Δ_{CON} : -15) and the deterioration of global QoL (Δ_{EX} : -16.7; Δ_{CON} : -41.7). Physical functioning remained stable (Δ_{EX} : 0 vs. Δ_{CON} : -20) and cognitive functioning improved (Δ_{EX} : 33.3 vs. Δ_{CON} : 0), both in EX group only. Finally, lean body mass (Δ_{EX} : +0.5 kg; Δ_{CON} : -3.0 kg) and physical capacity improved in EX while it declined in CON. To conclude, our preliminary results show that combined training is feasible and have a positive impact on CRF and physical capacity. Furthermore, our intervention mitigated the reduction of QoL in older adults undergoing cancer therapy.

THE EFFECTS OF PHYSICAL TRAINING CESSATION ON EXECUTIVE FUNCTIONS IN OLDER ADULTS

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Combined strength and aerobic (S+A) and gross motor skills programs (GMS) have shown promise in selectively improving executive functions (EF) of older adults. However, interruptions in training may occur resulting in losses of training-induced physiological benefits. So far, little is known about the effects of physical training cessation on EF.

Therefore, forty older adults (70.5 ± 5.51 years; 67.5% female) who had completed an 8-week S+A or GMS program followed by an 8-week training cessation period were included in this study. Performances in the Random Number Generation (RNG) test (inhibition and working memory) in a single task (ST) and a dual-task (DT, walking at 4 km.h⁻¹) were analyzed.

Two-way ANOVAs, with repeated measures for time (pre, post intervention and follow-up), revealed a significant time effect for inhibition scores. For example, Turning Point Index (TPI - occurrence of sequence changes from ascending to descending numbers) improved in ST for all time comparisons (pre to post intervention and post to follow-up) whereas TPI performances in DT improved from pre intervention to follow-up and from post intervention to follow up ($p < 0.05$). However, participants exhibited worse performances ($p < 0.05$) from pre intervention to follow-up (ST and DT) and from post intervention to follow-up (ST) for one working memory score (redundancy index).

Our study demonstrates training cessation can selectively impact EF. Interestingly, performances for inhibition in a single and a dual-task can be improved after a period of physical training cessation, regardless of the exercise intervention employed.

PROACTIVE REACH AND TELEHEALTH MONITORING (GEROFIT) ENHANCE RESISTANCE EXERCISE AT RURAL SETTINGS

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GeroFit, a health promotion exercise program for older Veterans, is well-received and supported by Primary Care (PC). However, we observed low referral numbers relative to the thousands of older veterans, limitations in space, resources, and long driving distances for potential participants.

We developed Proactive Reach: 1) partnership with rural PC leadership and providers, 2) use electronic medical records (EMR) to identify individuals without any contraindication to GeroFit, and 3) telehealth assessment and counseling (physical activity, aerobic, resistance, flexibility, balance exercises), and mailed GeroFit instructions, National Institute of Aging Go4Life book, pedometers and resistance bands.

Then, we implemented Telehealth Monitoring (phone): response, use, adherence and progress.

We identified 302 older subjects, and successfully completed Proactive Reach in 236 (78%). At baseline: average age 69.6 ± 7.2 , body mass index $29.3 \pm 5.9 \text{ kg/m}^2$; 21% declined services, 60% admitted not doing any exercise, 38% reported aerobic exercise, and only 2% reported resistance exercise.

We contacted again 107 subjects for Telehealth Monitoring. Fifty-one (48%) did not respond or declined further participation, 22 (20%) reported not having received materials, 34 (32%) confirmed receipt and satisfaction with the program. Effective use: book (79%), pedometer (11%), resistance bands (53%). Barriers: book (6%), pedometer (0%), bands (6%), neither (58%), other (25%).

Overall, 58% reported improved physical activity, and 38% effectively incorporated resistance exercise.

Proactive reach using EMR effectively identifies and delivers exercise interventions in rural PC, enhances physical activity, and increases awareness and implementation of resistance exercise. Further studies on telehealth monitoring are warranted, including cost-effectiveness and use of new technologies.

SEX-DEPENDENT EFFECT OF EXERCISE ON BRAIN HEALTH IN OLDER ADULTS WITH VCI

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Aerobic training (AT) is a promising strategy for the promotion of brain health. However, a large amount of variation exists in its efficacy, and importantly, it is greatly underappreciated that biological sex may moderate the effect of aerobic training on cognition. Few studies have directly or comprehensively compared males and females to address the question of sex differences in the magnitude of AT efficacy. Therefore, we conducted a secondary analysis of data acquired from a 6-month single-blind randomized controlled trial of AT in older adults with mild subcortical vascular cognitive impairment (sVCI), a population at high risk of progression to dementia. Executive processes were measured at baseline and trial completion using: 1) Trail Making Test (TMT; set-shifting); 2) Digit Symbol Substitution Test (DSST; sustained attention); 3) Stroop-Color Word Test (selective attention & conflict resolution). Total WML load (mm^3) was quantified using a semi-automated analysis pipeline at baseline and 6-months. We found that AT significantly enhanced TMT performance in females compared with controls. Notably, AT was ineffective in males. Groups did not differ in DSST or Stroop performance. Our results underscore the need for future studies to consider biological sex as a key moderator of the positive effect of exercise on brain health.

SESSION 600 (POSTER)

REHABILITATIVE CARE

CHRONIC DYSFUNCTIONAL AND PAINFUL FOOT IN ELDERLY

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Introduction

Older people frequently develop impaired balance and functional ability [6]. One main cause of this affection is represented by the foot and ankle problems. This condition affects the quality of the life in elderly. One important role in the disability of this patient is played by the painful foot.

Material and method

In this study we want to demonstrate the relationship between the painful foot, the disability and the quality of life in older people. We selected 30 patients (17 women and 13 men), aged between 65- 80 years old, who suffered from severe foot pain associated with disability for the last 3 months or more. We observed the walking speed, the endurance and we correlated this with the analog visual scale. We modulated this with gender, race, age, IMC, comorbidities, smoking status and the number of other pain locations.

Results

We could observe that the incidence of foot pain is really high, and also is increasing in the last years. This symptom is directly proportional with the disability prevalence and also with the limitation of the activities of the daily living. Hallux deformities, calluses or corns, edema, hammer toes and pes planus are the main affections that cause this symptom. [1].

Conclusions

The two components of pain, the sensory and the emotional, influence each other and correlated with the reduced functional ability, the increased risks of falls and the reduced physical and mental (depression) aspects influence the quality of life for older persons. These aspects are very important ones especially when the treatment solution is in discussion.

THE TIMED UP AND GO TEST WITH ADDITIONAL MOTOR TASK FOR ASSESSING OLDER ADULTS WITH CHRONIC STROKE

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Many daily activities involve multiple motor functions which have to be performed simultaneously. For example, carrying objects while walking is frequently mentioned as risky activities for falls in people with stroke.

The Timed Up and Go test (TUG) is an objective measure for assessing functional mobility. A version of TUG with an accompanying manual task (TUG_{motor}) has been developed to investigate the effect of performing multiple motor tasks on functional mobility in older adults. Participant is required to stand up, walk 3 meters, turn, walk back and sit down while holding a glass of water in one hand. The time to complete the task was recorded.

Thirty-three chronic stroke survivors and 32 healthy controls participated in this cross-sectional study. In addition to the TUG_{motor} times, stroke-specific impairments including Fugl-Meyer Assessment for the Lower Extremities (FMA-LE) scores, paretic hip abductor and knee flexor muscle strength, Berg Balance Scale (BBS) scores; the Timed Up and Go Test (TUG) times were recorded.

The TUG_{motor} completion times demonstrated excellent intra-rater, inter-rater and test-retest reliabilities, with intra-class correlation coefficients ranging from 0.944 to 0.987. The TUG_{motor} times correlated significantly with stroke-specific impairments. The MDC of TUG_{motor} times was 3.5 seconds, and the TUG_{motor} cut-off time of 13.5 seconds could discriminate participants with stroke from healthy older adults.

The TUG_{motor} is a reliable and easy-to-administer clinical tool for assessing advanced functional mobility in older adults with chronic stroke.

A CITIZENS JURY TO INFORM POLICY ON REHABILITATION FOR PEOPLE IN RESIDENTIAL CARE WITH HIP FRACTURE

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It has long been recognised that eliciting the views and preferences of members of the public can improve health care decision making. One way of engaging members of the public in decision making is via Citizens' Juries. Citizens' Juries bring together a small group of people (jurors) who represent members of the public and ask them to consider a particular aspect of health care that is often complex (a 'wicked'

problem). The aim of this jury was to consider (1) should there be an investment in physical rehabilitation services in residential care for older people following hip fracture? and (2) If so, what are some options for providing this service (considering funding, models of service delivery and equity)? A group of 13 jurors in Australia listened to presentations from expert witnesses including rehabilitation and palliative care specialists, a residential care provider, a health economist and three consumers. Following deliberation, all members of the jury agreed that there needs to be a greater focus on promoting independence and rehabilitation in residential care and that upskilling of care staff is required. Twelve of the thirteen jurors agreed that in-reach rehabilitation services should be provided for this population with certain parameters. The remaining juror had reservations. The jurors felt that rehabilitation should not focus on physical recovery exclusively but should be flexible to meet the needs of the person; for some people this may include a greater focus on pain management or psychosocial rehabilitation. All jurors agreed that rehabilitation should take place in the residential care setting.

THE GERIATRIC DEPRESSION SCALE (GDS) IN GERIATRIC REHABILITATION

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Background: The geriatric depression scale (GDS) is a widely used test the mood of patients in German geriatric clinics.

Aim: It should be investigated whether a depressive mood on admission was associated with a reduced amelioration in independence in the course of geriatric rehabilitation.

Methods: In a retrospective study 1453 patients in the years 2006–2009 in the center for medicine in old age were investigated. Beside the GDS several assessment tests were included like the Functional Independence Measure (FIM), and the Mini Mental State Examination (MMSE).

Results: 1315 (90.5%) of the patients showed a GDS-Score of 5 points or lower and were, according to the test, not depressive. Only 138 (9.5%) had 6 points or more and had to be classified at least as slightly depressive. The mean age of those with a GDS of 0–5 points was 81.7 ± 7.4 but 79.0 ± 8.3 years for those with 6–15 points ($p < 0.001$). There was no difference with the MMSE (24.6 ± 4.8 versus 25.0 ± 4.6 points, n.s.). The FIM on admission was 86.9 ± 21.5 for those not classified as depressive versus 82.8 ± 21.3 points for those with a GDS over 5 points ($p < 0.05$). The FIM on discharge was 101.9 ± 20.0 versus 96.4 ± 20.5 points ($p < 0.05$). The improvement in the independence in the FIM therefore not different in the two patient groups (15.0 ± 12.7 vs. 13.6 ± 12.8 points, n.s.).

Conclusion: Over 90% of the geriatric patients admitted to a clinic for geriatric rehabilitation were not in a depressive mood. A depressive mood was associated with a younger age as well as with a slightly lower FIM on admission and on discharge, but there was no significant difference for the improvement of the FIM. A depressive mood should therefore not be an obstacle for the admission to geriatric rehabilitation.

BEYOND THE ISOLATED SWALLOW: DYSPHAGIA IN THE CONTEXT OF PERFORMANCE DURING A MEAL

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Dysphagia (difficulty in swallowing) makes the socially and culturally important meal situation problematic in elderly people, and may lead to decreased health, well-being and quality of life. Since eating, drinking and swallowing are complex and integrated neuromuscular processes, it is proposed that assessment of dysphagia should be based on a multi-stage process of ingestion: pre-oral (anticipatory), oral, pharyngeal, and esophageal. However, there is limited literature regarding the influences of the individual ingestion stages on the swallowing safety in dysphagic elders during a meal. As a part of a comprehensive needs assessment for developing and enhance dysphagia rehabilitation, this study aimed to provide insights into which specific ingestive skill impairments influences unsafe swallowing in elderly (65+) people with dysphagia. A cross-sectional study with 328 Danish elderly people (mean age: 77.7 ± 11.6 years) referred to occupational therapy for swallowing evaluation was carried out, and data on mealtime performance was collected using the McGill Ingestive Skills Assessment. Multiple logistic regression models showed that unsafe swallowing during a meal was significantly associated with: 1) inability to maintain a seating position, 2) inability to self-feed, impaired judgment and energy and 3) reduced labial seal, inability to bite and chew food items, piecemeal deglutition, inability to coordinate respiratory pattern during ingestion and inability to clear the airway in case of aspiration. Since impairments in all stages of ingestion tend to occur concurrently in elders with dysphagia, the goal of rehabilitation should not only address the swallowing impairment, but also eating as an activity of daily living.

GENDER IN GERIATRIC REHABILITATION—ARE THERE ANY DIFFERENCES?

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Background: Gender may have an influence on the results of geriatric therapy and rehabilitation. The aim of this study was to analyze the activities of daily living (ADL), evaluated by the Functional Independence Measure (FIM) on admission and on discharge made by women and men.

Patients and Methods: Data of 2496 patients with a wide variety of diseases from the years 2006–2009 were analyzed. The patients were treated in the Center for Medicine in the Elderly in Hannover (Germany), a clinic with both acute and rehabilitative geriatric care.

Results: 1802 (72.2%) of the patients were women and 695 (27.8%) men. The mean age of the patients was 81.6 ± 7.7 years (women: 82.5 ± 7.3 ; men: 79.2 ± 8.3). Cognition was not different between women and men (women: 23.6 ± 5.6 ; men 24.1 ± 5.3 points; n.s.).

The FIM on admission for women and men was alike (women: 84.0 ± 21.9 ; men: 83.3 ± 23.9 points, n.s.). The mean improvement of the FIM was 14.3 ± 13.4 points (women: 14.7 ± 13.2 ; men: 12.9 ± 13.6 ; n.s.). No differences were

found neither for the motor nor the cognitive FIM. No differences were found for the FIM items.

Conclusion: Although women were slightly older than men, there was no gender difference of the whole FIM or FIM domains on admission as well as on discharge. This was also true for functions where men might have an advantage like climbing stairs or where women might have more interest in like hygiene.

MEDICAL OUTCOME AND UTILIZATION FOR HIP FRACTURE PATIENTS WITH OR WITHOUT OUTPATIENT REHABILITATION

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The National Health Insurance (NHI) in Taiwan has not yet covered the post-acute care and only provides outpatient rehabilitation after discharge for hip fracture. This provides an opportunity to examine whether outpatient rehabilitation also improves the outcomes and reduces the medical utilization. The purpose of this study was to compare the medical outcomes and utilization in hip fracture patients receiving or no receiving outpatient rehabilitation.

The data of this retrospective cohort study were from the NHI Research Database. Propensity score matching by gender, age, Charlson Comorbidity Index, and Adjusted Clinical Groups with the 1:4 matching ratio was employed. A total of 3585 patients aged 65 and over admitted for hip fracture between 2005 and 2012 were further divided into two groups, 717 receiving and 2868 not receiving outpatient physical therapy during the first three months after hospital discharge. Each hip fracture patient was followed for one year. The outcomes included death, emergency use, and re-hospitalization. Medical utilization included outpatient, emergency, and inpatient costs. Cox proportional hazards regression and generalized linear models were used.

Patients receiving outpatient rehabilitation demonstrated significantly lower mortality rate than those without rehabilitation (12.7 % vs. 16.7 %, $p < 0.05$). Rehabilitation group had statistically significant lower risk of death (HR=0.74, 95% CI=0.59–0.94). However, patients receiving rehabilitation were at higher risk of emergency (HR=1.15, 95% CI=1.02–1.30) and re-hospitalization (HR=1.37, 95% CI=1.22–1.55). Rehabilitation group also had higher medical utilization ($p < 0.05$).

Patients receiving outpatient rehabilitation have lower risk of death, but higher risk of emergency, re-hospitalization, and medical utilization.

RANDOMIZED CONTROLLED TRIAL OF OCCUPATIONAL THERAPY IN ELDERLY WITH MILD AND MODERATE DEMENTIA

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Non-pharmacological intervention has been reported to reduce the symptoms of dementia. However, the few studies to have examined the effects of occupational therapy, emphasize specific domains, such as physical, functional and

quality of life. This study aimed to investigate the effects of occupational therapy on multiple key functional domains in patients with mild to moderate dementia. An open label randomized control trial was conducted among patients attending 2 memory clinics in India. Of 319 attendees screened, 100 had dementia (DSM-IV criteria) and were randomized to a novel occupational therapy programme of 2 sessions per week including relaxation, physical and cognitive exercises, and personal and recreational activities or standard medical treatment (control). Participants were reassessed after 5 weeks. The mean age of participants was 69.4 years with 78% male, 18 participants were lost to follow-up. Experimental and control participants were matched for demographic factors and severity of dementia. Using an intention to treat analysis the intervention group showed improvement in the primary outcomes. Geriatric Depression Scale (14.8 ± 4.4 to 13.3 ± 4.1 ; 95% CI (0.9, 2.0), Bristol Activities of Daily Living scale (23.1 ± 6.1 to 17.5 ± 4.7 ; 95% CI (3.8, 7.2), Modified Physical Performance Test (17.0 ± 3.1 to 19.6 ± 3.7 ; 95% CI (3.8, 7.2). Significant improvements were also noted in MMSE, BEHAVE-AD and the physical, psychological and environmental domain of WHOQOL-BREF ($p < 0.01$). This novel occupational therapy programme can improve physical performance, functionality, mood, cognition, behavioural status, and quality of life in mild to moderate dementia patients at short-term. Future studies are required to assess long term effects

REDEFINING DINING PRACTICES IN CARE FACILITIES THROUGH COMMUNITY-BASED PARTICIPATORY RESEARCH

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As related to eating, older adults, especially those with swallowing problems (dysphagia), experience increased risk of mortality and malnutrition, and a loss of socialization, autonomy, and identity. Given required dependencies and adaptations, these eating-related negative outcomes may be further magnified among nursing home residents. Thus, one goal of person-directed care in these facilities is to enhance the dining process by understanding how to best support dining-related quality of life while balancing safety/risks, resident preferences, and quality of care goals (e.g., quantity of intake, decreased dysphagia-related sequelae such as pneumonia). The purpose of this study was to conduct a needs assessment in skilled nursing facilities using community-based participatory research (CBPR) methods in order to understand the dining-related needs, goals, and barriers of various stakeholders. In-depth interviews were conducted with 21 individuals across seven groups: residents with dysphagia, nurses, nursing assistants, dietary staff, speech-language pathologists, occupational therapists/assistants, and residents' family members. Interviews and data analysis were guided by grounded theory and CBPR methodology. Multiple process/procedural-based themes emerged across groups including how communication, transparency and education promote positive dining experiences, while lack of routine normalization, food presentation, and environment contribute to negative experiences. Attitude/relational-based themes centered around the meanings of autonomy and

identity, the quality of staff-resident relationships, the level of staff investment, and the stigmas associated with altered eating. These findings suggest the importance of taking an interdisciplinary approach to dining and highlight potential relevant and malleable intervention targets toward the design of new dining program models.

ACTIVITY PATTERNS AND MOBILITY BARRIERS IN A REHABILITATION SETTING

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Functional decline in common in older inpatients and often necessitates inpatient rehabilitation following resolution of an acute illness/injury to restore independence. Limited mobility has been identified as an important predictor of functional outcomes in older acute care inpatients, but few studies have examined mobility in inpatient rehabilitation settings. This prospective observational study conducted in a purpose-built urban rehabilitation facility in Brisbane Australia used mixed methods to identify current mobility levels and barriers and enablers to mobility. Mobility levels were measured using activity mapping across two wards (a rehabilitation ward $n=37$ and restorative care ward $n=42$). A trained observer cyclically observed all ward inpatients over an 8 hour period (8am-5pm). On average, patients spent about 8% of day time upright or mobile (standing, walking or actively wheeling), and spent less than one third of day-time out of their bedrooms. Barriers and enablers were identified by a validated staff survey ($n=84$: 52 nursing, 25 allied health professionals, 7 other) and semi-structured patient interviews ($n=30$). Staff agreed that mobilisation benefited patients, and had knowledge, skills and physical resources to mobilise patients. Staff barriers included insufficient nurse-patient ratios, uncertainty about workload implications, concern about risk of staff injuries, patient contraindications to mobilising, resistance from patients and lack of interest from families. Patients rated the importance of mobilising very highly, but reported little mobilising outside of therapy sessions. Patient-reported barriers included lack of nursing assistance, lack of family and visitors, and pain. Findings will inform quality improvement strategies to enhance mobility in rehabilitation inpatients.

REHABILITATION OUTCOMES OF THE OLDEST-OLD PATIENTS AFTER HIP FRACTURE SURGERY: A PROSPECTIVE STUDY

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Hip fracture (HF) incidence is growing progressively with an age-related trend. In recent years, the average age of elderly patients admitted to acute care units and rehabilitation facilities has increased steadily, but research about

clinical and functional rehabilitation outcomes in this age group is still limited. In order to contribute to fill this gap, the aim of this study was to investigate the functional and clinical outcomes of the oldest-old HF patients in comparison with younger subjects.

We prospectively enrolled 328 patients (80.5% females, mean age 85.2 years) admitted to the Geriatric Rehabilitation Unit of Regional Hospital of Valtellina and Valchiavenna (Sondrio, Italy) in the period 2012–2015. We divided them according to age: Group 1 (age <85, N=152) and Group 2 (age ≥85, N=176). All subjects underwent a comprehensive assessment according to a well-established orthogeriatric protocol and were compared. Outcome measures included the Barthel Index (BI) at discharge, the occurrence of medical complications, and death during the 30-day rehabilitation period.

The groups had similar baseline characteristics, and showed a similar incidence of complications. The baseline BI score was higher in Group 1 than in Group 2, but the recovery in terms of mean BI gain was significant in both cases (+36.2, $p < 0.001$, and +24.8, $p < 0.001$, respectively).

If carefully managed, the *oldest-old* have a good potential of recovery after HF surgery. The dissemination of comprehensive orthogeriatric protocols should be promoted because it allows to optimize the individuals' rehabilitation course, and to invest resources in patients irrespectively from their chronological age.

COGNITION, NOT LENGTH OF STAY, PREDICTS REHABILITATIVE IMPROVEMENT IN TRANSITIONAL CARE

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Activities of daily living disability for older adults is likely an outcome of physical limitations, environmental constraints, cognitive impairment, and psychosocial factors. During medical rehabilitation, physical therapy emphasizes physical improvements, but does not systematically consider cognitive ability or mood as part of treatment. The current study assesses the extent to which cognitive and psychosocial status at admission (intake) predicts patients' physical therapy progression (walking improvement) in a transitional care facility. Environmental conditions were considered constant for all patients. In a sample of adults ($n=93$; 65.6% female) aged 38–98 ($M = 75.17$; $SD = 9.72$) receiving physical rehabilitation, we used data from the St. Louis University Mental Status (SLUMS) exam, Resident Mood Interview (PHQ-9 from the Minimum Data Set), and 2-Minute Walk Test (2MWT). Mean intake 2MWT = 106.76 feet ($SD = 95.44$), or 32.54 meters ($SD = 29.09$), suggesting significant physical impairment. Intake SLUMS scores indicated 38.7% Dementia, and 28% Mild Neurocognitive Disorder. Mean number of weeks in rehabilitation was 4.09 ($SD = 1.87$; range 2–12). Linear regression models indicated that cognitive ability at intake (SLUMS score $B=.420$; $p < .01$) predicted improvement in walking ability (change in feet on the 2MWT from intake to discharge), even after accounting for gender ($B=-.318$; $p < .05$), age ($B=-.078$; $p = n.s.$) and number of weeks in rehabilitation ($B=0.159$; $p = n.s.$). Model R-squared = 0.22, with mood excluded from the model due

to bivariate insignificance with 2MWT. Intake cognitive function may be a useful predictor of rehabilitation success, rather than length of stay.

UNMET MEDICAL AND REHABILITATION NEEDS IN COMMUNITY: LIVING OLDER ADULTS WITH STROKE IN MEXICO

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Stroke patients often need intensive medical care and rehabilitation to regain functional independence to live independently in the community. However, stroke patients often times do not receive sufficient medical care and rehabilitation, especially in lower and middle-income countries such as Mexico. The aim of this study was to explore the health characteristics of Mexican older adults who have experienced a stroke and determine if this population is receiving sufficient care and rehabilitation. We examined 15,354 participants from the Mexican Health and Aging Study-2012 wave. A total of 365 participants reported having been told by a physician that he/she had experienced a stroke in the past two years. The mean age of participants with self-reported stroke was 69.9 years and 58% were residing in an urban area. The majority had falls (55%), fracture (12%), upper limb disability (69%), and lower limb disability (86%). Comorbid conditions including hypertension (72%), diabetes (37%), and obesity (25%) were highly prevalent. Nearly half of stroke patients reported limitation in daily activities (53%), vision impairment (48%), difficulty in speaking (38%), and difficulty in expressing him- or herself (35%) due to stroke. Approximately 53% of stroke patients reported having received stroke-related medical treatment and only 18% reported having received physical therapy. These results indicate stroke patients in Mexico often experience comorbid health conditions and patients may have unmet medical care and physical therapy needs. These unmet needs may ultimately lead to long-term disability, which increases the burden on the patients, their caregiver, and the health care system in Mexico.

DEVELOPMENT OF ASSESSMENT METHOD FOR PHYSICAL PERFORMANCE BY Z-SCORE IN OLDER PEOPLE

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We have previously reported development of the physical performance score by z-score (PPSz) for assessing instrumental activities of daily living (IADL) disability risk among older individuals. The aim of this study was to investigate the validity of PPSz for community-dwelling older individuals. A total of 117 participants aged 65 years or older were recruited from the community (mean age, 72.4 ± 6.4 years; 23 male). The following physical performance tests were measured for the PPSz: 5-m walking times at comfortable pace and at maximum effort; timed up-and-go test; 5-repetition chair stand test; and grip strength. Measurement values

from those tests were transformed into z-scores, and summed to calculate PPSz in the present study. Z-scores for each test were calculated according to methods described in a previous study (Kamide et al., in print). As an assessment of IADL, the subscale of the Tokyo Metropolitan Institute of Gerontology Index of Competence (TMIG-IC) was used. Statistical analysis after adjusting for age and sex showed that PPSz was significantly lower for individuals with IADL disability than for those without IADL disability. Furthermore, the receiver operating characteristic curve was used to assess the ability of PPSz to discriminate IADL disability risk. The area under curve was 0.81 (95% confidence interval, 0.68–0.94), with 91.2% sensitivity and 66.7% specificity. The PPSz developed in this study could thus detect the presence of IADL disability among community-dwelling older individuals and may be useful for assessing IADL disability risk in older people.

NEW CONCEPT FOR SUPPORTING THE ELDERLY HAVING GARBAGE TROUBLES

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Introduction: The garbage gathering system in Japan is complex. People have to separate their garbage according to several different categories, which is difficult for many elders. Many elders in Japan are having problems of separating their garbage. We have developed a new way for supporting the elders having garbage troubles.

Method: This new concept has three characteristics. The first is the technology done automatically, specially designed for the elders who are poor at using modern technologies. The second is to stimulate and urge the elders to be able to separate and throw the garbage by themselves without direct support from the others. The third is that we have chosen the bed ridden and person with disability who are able to use IT devices for supporting the elders. We have experimentally tried this new method of separating the garbage to support the elders having garbage troubles and recorded the results.

Result: The participants in our experiment were six elders and five persons with disability. The elders were able to solve their garbage problems and the persons with disability were able to feel self-efficacy.

Discussion: We were able to seek some possibilities for supporting the elders with garbage troubles through this new method. However, there are some points we have to reconsider.

Conclusion: We believe that these three characteristics of our new garbage separating method will help the elders with garbage problems and lead the persons with disability to have their fair occupational rights in the society.

FUNCTIONAL DETERIORATION IN A GERIATRIC UNIT—HOW OFTEN DOES THIS HAPPEN?

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Background: Most patients in a geriatric unit show an improvement of their functional abilities. But unfortunately this is not always true. Additionally due to changing financial

resources the treatment results may have deteriorated over the past years.

Methods: In the Center for Medicine in the Elderly in Hannover, an in-patient geriatric clinic in Germany 756 patients in 2004 and 2527 in the years 2008 to 2009 were analyzed. The measure for the activities of daily living (ADL) was the Functional Independence Measure (FIM). Moreover data from 1602 patients from 2014 were included, but here the Barthel-Index (BI) was used as ADL measure. Improvement resp. deterioration was defined as more or less than 0 points on the ADL scale between admission and discharge.

Results: As shown by the FIM 5.2–6.0% of the patients deteriorated, 3.0–6.2% remained unchanged and 88.9–90.9% improved. As judged by the BI 6.2% deteriorated, 12.6% remained unchanged and 81.2% improved.

Conclusion: Over ten years and with two instruments to measure activities of daily living, deterioration was only seen in about 5–6 % of the patients. About 95% remained unchanged or improved in their independence. In a usual care setting the percentage of elderly patients, who show declining ADL abilities may be much higher (e.g. Sager et al., 1996).

THE EFFECT OF EXPIRATORY MUSCLE STRENGTH TRAINING ON THE SWALLOWING FUNCTIONS OF THE ELDERLY

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The Effect of Expiratory Muscle Strength Training/EMST is reported not only to strengthen the respiratory muscle, but also improve the ability to swallow, and activate superficial muscles of the suprahyoid muscle group. Effects on the improvement in aspiration have not been fully determined yet.

Objective: To determine the effects of EMST on the swallowing functions of the community elderly residents using day-care centers, based on the accumulative time spent for the thrice saliva-swallowing. To expect that EMST would improve respiratory function, phonation and the ability to swallow in the elderly.

Methods: 31 community elderly residents using day-care centers were asked to participate in the 4-week intervention program for the study. The Threshold Trainor was used to undergo 5-set, 5-times-per-day EMST trainings at 75% load of maximum expiratory pressure/MEP, for 4 weeks. The participants underwent home training independently, monitored their compliance with study protocols, and reported on the log sheet. Swallowing functions were evaluated by accumulative time for thrice saliva-swallowing; respiratory functions, by MEP, and maximum inspiratory pressure/MIP; while phonation functions, by maximum phonation time/MPT. Comparative analyses between baseline time and that after 4 weeks intervention were done using t-test.

Results: Accumulative time for thrice saliva-swallowing was significantly reduced from 26.40 at baseline to 18.58 seconds 4 weeks after the intervention. Effects of intervention were also significant in: MPT-9.79 at baseline, prolonged to 11.62 seconds after 4 weeks; MEP-22.47, to 26.86 cmH₂O; MIP-19.06 to 21.02 cmH₂O after 4 weeks.

Conclusion: The study findings suggest that EMST could improve the swallowing functions in the elderly patients. The repeated EMST training leads to the shortened time necessary for swallowing. This may be explained by the fact that the pathway for swallowing is partially shared with that of phonation. The prolonged expiration time seems to have led to the improved phonation.

COGNITIVE FUNCTION DURING REHABILITATION AFTER HIP FRACTURE

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Aim; Both hip fracture and dementia are major reason for elderly to be with long-term care. Hip fracture has been reported to deteriorate cognitive function. However, we little experience deterioration of cognitive function after hip fracture during rehabilitation. The aim of this study is that whether rehabilitation could prevent elderly with hip fracture from deterioration of cognitive function.

Method; We analyzed elderly with hip fracture by using Japanese rehabilitation database. Inclusion criteria are aged 65 or older, evaluated physical and cognitive function before and after rehabilitation and elderly with hip fracture. Elderly who were suffered from psychological symptoms which effect on cognitive function was excluded. Physical function and cognitive function were evaluated by using functional independence measure (FIM) and mini-mental state examination (MMSE) respectively. The data were compared before and after physical and cognitive function by paired-t test. Moreover, we divided into 3 group according to cognitive function ($MMSE \geq 24$, $23 \geq MMSE \geq 14$, $13 \geq MMSE$) and same analysis was done.

Result: The number of subjects were 475. The mean age was 83.4 ± 7.4 . The length of hospital stay was 44.0 ± 27.4 days. FIM was significantly improved compared before with after rehabilitation. Positive correlation was shown between the length of hospital stay and MMSE gain (after MMSE – before MMSE). Similar result was seen in analysis which divided into three groups.

Conclusion: Although hip fracture has been reported that alter cognitive function in the elderly, cognitive functional deterioration was not seen during rehabilitation period.

BENEFITS OF PHYSICAL THERAPY MANAGEMENT OF SPINAL STENOSIS IN THE GERIATRIC POPULATION: A CASE REPORT

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Spinal Stenosis is a common diagnosis among the geriatric population and is often associated with significant pain, loss of function and high medical costs. The patient in this case was referred with a diagnosis of lumbar spinal stenosis. He was experiencing severe pain and functional deficits. Additionally, he was scheduled to receive steroid injections. The patient was examined and treated by two physical therapists in an outpatient orthopedic setting. Interventions included patient education for aquatic home exercise program, manual therapy, functional strengthening and spine stabilization. Following one month of physical

therapy, patient demonstrated a meaningful change in spine active range of motion, neural tension, functional strength, manual muscle testing and Revised Oswestry Low Back Pain Questionnaire. Patient's improvement allowed him to function at his desired level and avoid costly injections. The results of this case demonstrate that a patient with a diagnosis of spinal stenosis can achieve meaningful changes in short term outcomes and self-management of spinal stenosis with physical therapy and compliance with home program. The duration and cost of physical therapy over 9 visits was equal to or less than the cost of a single steroid injection. Many patients with similar diagnoses go without treatment or undergo expensive medical interventions without prior utilization of physical therapy services. The purpose of this case report is to highlight the benefits of physical therapy in the management of spinal stenosis.

PHYSICAL PERFORMANCE MEASURES IN COMPETITIVE SENIOR ARCHERS

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Older adults are showing greater participation in sports competition and have been found to demonstrate physical performance superior to their community-dwelling counterparts. However, very little is known about the impact of competitive archery on the physical health of older adults. Eighteen competitive archers over the age of 50 completed a short health and exercise history and participated in a physical screen of waist circumference, wait-to-hip ratio, BMI, grip strength, chair stands, balance, and gait speed. Outcomes were compared to the results of 1,628 senior athletes participating in the same health screen who engaged in athletic competition unrelated to archery. Archers reported spending a significantly greater amount of time in strength training ($F=3.89, p=.048$) than other senior athletes but reported slightly less time spent on cardiovascular training. They showed significantly higher rates of diabetes ($\chi^2=12.28, p<.001$) but a lower incidence of cancer ($\chi^2=5.18, p=.023$). No other differences in health or training history were seen. Archers demonstrated performance superior to other senior athletes on measures of grip strength ($F=10.59, p=.001$), usual gait speed ($F=9.44, p=.002$), fast gait speed ($F=10.46, p=.001$) and single leg balance on foam ($F=6.32, p=.01$). All other comparisons were non-significant. Senior archers unexpectedly excelled in physical performance measures already associated with longevity, health and fall prevention. These benefits may be related to the sport-specific tasks of pulling a bow, maintaining a steady stance and walking to retrieve arrows. Longitudinal analysis with larger numbers of senior archers should be conducted to confirm any health benefits associated with archery.

SESSION 605 (POSTER)

RESEARCH METHODS: QUALITATIVE AND QUANTITATIVE APPROACHES

SYSTEMATIC MEASUREMENT OF NON-RESPONSE IN TRIALS WITH NURSING HOME RESIDENTS

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Non-response in trials can cause bias, potentially impairing the reliability and validity of research results. Few systematic analyses have examined the reasons for non-response in surveys of nursing home residents (NHR). However, standardized assessment of these reasons may guide efforts to obtain higher response rates in this target group. We performed a cluster-randomized controlled trial in NHR from twelve nursing homes who were ≥ 65 years of age and without moderate or severe cognitive impairment. The aim was to improve pain management, and analysis was performed before (T0, $n=239$) and after an intervention (T1, $n=206$; T2, $n=177$). We additionally recorded open-ended comments throughout the trial to investigate the reasons for unit non-response by questioning NHR, legal representatives, nursing staff, and/or trained interviewers. The non-response rate was 60.8% at baseline, with a 25.9% attrition rate from T0 to T2. We performed content analysis following the “step model of inductive category development,” using all open-ended comments ($n=522$) to develop a system of categories representing the reasons for non-response in nursing homes. Overall, we identified four major categories of refusal—general refusal, health reasons, accessibility, and excessive demands—which further comprised 17 subcategories. In view of the insufficient number of trials that include very old people, we will discuss options for increasing response rates in future studies. Notably, as NHR commonly have legal representatives (e.g. a lawyer) due to cognitive impairment, non-response is often based on “third-party decisions”. Accordingly, it is necessary to discuss ethical issues in non-response analyses with NHR.

CULTURAL CONSIDERATIONS IN FOCUS GROUP RESEARCH WITH AMERICAN INDIAN FAMILY CAREGIVERS

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The use of focus groups in gerontology to capture information on experiences, perceptions and attitudes related to aging and older people has burgeoned over the past 20 years. While researchers have given attention to procedural issues in conducting focus groups, there has been little examination of the effects of cultural factors in the use of this method. This presentation analyzes experiences from focus groups conducted with American Indian tribes in the U.S. Southwest and Oklahoma as part of research on the long-term care needs of elders and their family caregivers. Focus groups were used to establish content validity of a caregiver burden scale for a survey of family caregivers, and to explore the experience of caregiving to frail elders within reservation and other rural settings. This method was selected as being culturally compatible for use with tribal groups that have a strong oral tradition including storytelling and “talking circles”, an indigenous process that involves active listening and the opportunity for all participants to contribute their views on subjects under discussion. Issues that emerged in conducting these focus groups including the influence of cultural orientation to confrontation, cultural role definition that affected who identified themselves as caregivers, the decorum

accorded to older focus group members, the latitude of community and tribal concerns, and the public idealization of elder care, are discussed in terms of their effects on the focus group process. The implications of these influences are considered from a cultural framework for focus groups and in recommendations for research practice.

EXPLORING ENGAGEMENT IN DEMENTIA: EMERGING THEORETICAL AND METHODOLOGICAL APPROACHES

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Ensuring quality of life for residents in long-term care homes poses complex challenges, especially for individuals with advanced dementia who often spend long periods alone in passive activity. While arts-based and creative programming have been shown to provide opportunities for meaningful engagement, there is limited understanding of the experiences of the residents participating, especially those with advanced dementia. My doctoral research seeks to better understand the social and emotional engagement of older adults with advanced dementia living in care, drawing particular attention to their experiences of participating in an innovative inter-generational dance programme.

Given the challenges of including older adults with severe cognitive impairment as research participants, in this presentation I address the need for conceptual and methodological development aimed at identifying and refining research approaches that look beyond the confines of language and memory. The theoretical framing of this study examines opportunities to understand persons with dementia in terms of phenomenological concepts of embodiment, personhood, and meaningful engagement. These conceptual underpinnings in turn support a methodological framing that draws on visual ethnographic approaches designed to analyse experiences of people with advanced dementia through observing their interactions, gestures, movements, and expressions. Preliminary findings illustrate the potential of this approach utilizing *visual* data as a vehicle to *hear* the voices of people with advanced dementia who are no longer able to communicate and participate in usual ways. Emerging theoretical and methodological approaches that provide more nuanced understandings of the experience of dementia are critical - *because everyone is someone*.

CARE MANAGERS' PERCEPTIONS OF ACP BARRIERS AND BENEFITS: NUANCES FROM A MIXED METHODS ANALYSIS

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Barriers and benefits of advance care planning (ACP) experienced by Area Agency on Aging (AAA) care managers (CMs) were analyzed from a mixed methods approach. This methodology is used to acquire a deeper understanding of perspectives and practices related to ACP, and to identify nuances between quantitative and qualitative data. A two-part study was conducted with CMs; 458 participated in a survey, and 62 also participated in one of 8 focus groups.

Results from both surveys and focus groups showed that CMs felt knowledgeable about ACP. CMs were generally comfortable (67%) and confident (67%) when discussing ACP, and qualitative data confirmed that comfort levels tended to rise with experience and personal history with consumers. While ACP was not always easy, and there were some who were uncomfortable due to cultural factors, CMs recognized that consumers were generally comfortable with dying and found value in ACP. While surveys indicated 78% disagreed that ACP takes too much time, qualitative data revealed a more moderate position: some reported time was a “big barrier,” and when others placed ACP as a priority, there was not enough time for other obligations. Finally, CMs recognized their important role in a team-based approach to ACP (64%), despite the fact that they wished physicians would take a more active role.

Mixed methods analysis helps unravel complex nuances of CMs perceptions about ACP. In this study, CMs reported their attitudes about ACP, which were confirmed through a rigorous grounded theory qualitative analysis of focus group discussions.

RACIAL DIFFERENCES IN MISCLASSIFICATION OF HEALTHY EATING BASED ON FFQ AND 24-HOUR DIETARY RECALLS

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Accurate measurement of dietary intake is an important component in the assessment of racial disparities in healthy eating among older adults. We examined the agreement in alternative healthy eating indices (AHEI) based upon Women's Health Initiative food frequency questionnaire (FFQ) and 24-hour dietary recalls (24HR) by race among urban older women. In 2014 and 2015, 49 White and 44 Black women 65 years and older living in Washington, DC, were queried about diet using both FFQ and 24HR. The correlation coefficients (ρ) of 56 nutrient intake measures and agreements in AHEI based on FFQ and 24HR were compared by race. The median ρ was 0.50 for Whites and 0.21 for Blacks. For 48 measures, ρ was lower for Blacks. Whites had a strong correlation of >0.5 for 25 items, while Blacks had strong correlations for only 3 items. Based on FFQ, the mean (SD) of AHEI was 54.0 (10.3) for Whites and 45.9 (8.8) for Blacks ($p<0.001$). Based on 24HR, the mean (SD) was 43.9 (10.8) for Whites and 33.2 (9.6) for Blacks ($p<0.001$). Using 32 as the cutoff (40% of maximum AHEI score), diet quality of 50% of Blacks and 14% of Whites was classified as unhealthy based on 24HR versus 2.6% and 0% based on FFQ. These results suggest that the FFQ had limited ability to accurately assess nutrient intake and healthy eating among Blacks, and underestimated racial differences in healthy eating. Further improvement in FFQ is needed for assessing racial disparities in healthy eating among older adults.

DEVELOPMENT OF THE HELP-SEEKING PREFERENCE SCALE FOR ELDERLY

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The purpose of this study was to develop the Help-seeking Preference Scale for elderly and to investigate the factors correlated with help-seeking preference among the elderly. A self-administered questionnaire survey was conducted by mail (N=1680). A Questionnaire consisted of a draft of the Help-seeking Preference Scale for elderly (12 items), demographic variables, social variables, physical condition, and others. 602 responses (302 men and 300 women) were analyzed.

Factor analysis (maximum likelihood method and promax rotation) was conducted with the 12 items. The results indicated 2 factors consisting of 10 items: (1) ‘desire to receive supports,’ 6 items ($\alpha=.83$), and (2) ‘reluctance to receive supports,’ 4 items ($\alpha=.70$). The test-retest reliability and the criterion-related validity of two factors were enough to use. Multiple regression analysis indicated that the desire to receive support was positively correlated with financial difficulty and decline in physical performances. Also, the reluctance to receive support was correlated with the subjects’ financial difficulty, social variables (neighborhood association, participating groups etc.), and demographic variables (sex, spouse).

The result suggests that the Help-seeking Preference Scale was both reliable and valid. And the results of multiple regression analysis suggests that the subjects’ financial circumstance influences the attitude toward receiving support from others. Moreover, while the willingness to receive support was positively correlated with the decline in physical ability, the reluctance to receive support was positively correlated with weak social ties.

APPLYING QUALITATIVE METHODS TO “BIG DATA”: INVESTIGATING LATE-LIFE OF SUICIDE

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Efforts to prevent suicide in later life are hampered by a lack of empirically-informed theoretical models. Most empirical research relies either on population mortality statistics, which are representative of all suicides but lack context, or on “psychological autopsy” studies of decedents which include detailed information but rely on small, non-representative samples. We sought to overcome these limitations by applying an interdisciplinary framework and qualitative analytic approach to Restricted-Access data from the National Violent Death Reporting System, a US population-based suicide registry that includes narrative text descriptions of the circumstances surrounding each death. We used a data mining approach to analyze 28,200 qualitative narratives of suicide deaths among adults age 55 and older from 2003–2012. We identified textual themes using clustering analysis and modeled the relationships across themes using association analysis. Preliminary themes extracted included those related to health (e.g., chronic pain, cancer), means of self-harm (e.g., overdose, fall), recent events (e.g., death of a spouse, admitted to a long-term care facility) and psychiatric history. While qualitative analysis of “big data” addresses

many limitations of existing methods of investigating suicide, it presents new challenges for both quantitative and qualitative researchers. It presents a conceptual challenge to consider how the subjective nature of lived experience for decedents (especially when it is constructed by others as in these case narratives) obscures our understanding of the causes of self-harm in later life. It also presents an analytic challenge through the need to engage in machine learning methodologies to handle these large datasets.

REVIEW OF DATA VISUALIZATION PRACTICE IN GERONTOLOGY

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Data visualization is an effective strategy to achieve clear scientific data communications. Gerontology has produced a tremendous amount of cross-disciplinary data based on surveys, experiments, and qualitative methods. Types of data and analytical techniques have become more diverse than ever before. However, little is known about how gerontologists use data visualization to communicate their research. The purposes of this study are to document data visualization practice in the premier gerontology journal and to provide basic guidelines for more effective data communication. To capture historical trends, all data graphics published in 1984, 1994, 2004 and 2014 issues in *Journal of Gerontology Series B (JGSS)* were examined and classified into common types. Results showed that the numbers of articles with data graphics increased from 29 data graphics in 16 (out of a total of 63) articles in 1984 to 163 graphic elements in 67 (out of 109) articles in 2014 in JGSS. Interestingly, the most frequently used data graphics were fairly simplistic: dynamite plots --- a modified bar-chart that displays means and standard deviations --- (45% of articles with data graphics), line-graph (18%) and box-plot (9%). Based on the review of data graphics and current literature in data visualization, it is recommended that data graphics should be diversified and tailored for target audiences, better able to stand alone, and more informative than simple summary statistics. Finally, the advantages and disadvantages of commonly used data graphics for displaying data distributions are illustrated with data from different simulated distributions (e.g., normal, skewed, bimodal).

A MIXED METHODS STUDY OF HOW NURSING HOME RESIDENTS VIEW THEIR SOCIAL RELATIONSHIPS AND INTERACTIONS

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As part of a larger study of social cognition and social functioning in nursing home residents ($N=40$) with and without cognitive impairment, participants responded to open-ended questions about their day-to-day interactions with staff and other residents, as well as their ongoing relationships with family and friends. Beginning with a content analysis of verbatim transcripts, themes were constructed inductively first within and then across participants' responses to the interview questions. Next, data from measures of social cognition and cognitive status, as well as nursing staff's ratings of their social behavior, were used in within-participant analyses to

identify possible cognitive and behavioral correlates of residents' self-assessments of interpersonal relationships and interactions. Finally, patterns of perceived change in the residents' social functioning were characterized in cross-participant comparisons of these combined individual qualitative and quantitative results.

Participants' social experiences appeared to be determined not only by long-established habits and preferences and length of time at the nursing home, but also by their cognitive status and social cognition competencies. A common theme though, regardless of cognitive status, was the importance of managing ongoing relationships and day-to-day interactions so as to reduce one's own stress as well as burden on others. For those with little or no cognitive impairment, maintaining a sense of self was also a priority, especially as they became frailer and as they witnessed cognitive decline in their peers. Examples will be given of how participants with moderate cognitive impairment but intact social cognition assess their relationships and interactions with others.

COMPARING DAILY DAIRY METHODOLOGIES: MTURK VS. TRADITIONAL APPROACHES

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To our knowledge, only one study has used mTurk (Amazon's crowdsourcing platform) to collect daily dairy data and it excluded older adults. We compare benefits and challenges associated with conducting a 9-day daily dairy study of older adults on mTurk vs. traditional approaches (i.e., in-person recruitment with paper-and-pencil data collection). The speed of recruitment (hours in mTurk vs. weeks in traditional methods) was balanced by a higher rate of participant drop-off in the mTurk sample. Of 167 individuals in the mTurk sample who agreed to participate only 139 met study criterion; 116 continued to day 2, and only 71 made it to day 9 (43% retention vs. 78% in our traditional sample). In comparison to our traditional sample, mTurk participants were more likely to be white, younger, male, and not retired. Methodologically, collecting data via mTurk allowed for more precise timing of cognitive measures, as well as verification of survey completion timing. However, recruitment via mTurk meant we were unable to personally explain the process to participants. Although detailed procedures were sent to participants, mTurk participants generated more emailed questions than traditional participants. mTurk presented additional challenges specific to daily dairy designs as the mTurk system is best designed to accommodate one-time cross-sectional research. We present problems and solutions related to designing a daily dairy study of older adults compatible with mTurk, paying participants, recruiting participants, validating participants' ages, and managing mTurk fees. Overall, we present mTurk as a viable option for daily dairy collection with older adults.

INFORMATIVE METHODS TO WORK ON FOOD FREQUENCY QUESTIONNAIRES DATA

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Purpose and methods: Interest on studying the relationship between food intake (FI) and diseases status is increasing. FI data are usually collected by food frequency questionnaires (FFQ) leading to a large number of variables to be considered in statistical models.

Two approaches have been adopted in order to deal with FI data: *a priori*, by taking into account of clinical expertise aimed to build scores like Mediterranean Diet Score for example, or *a posteriori*, by adopting classical statistical methods to shrink information in a few number of covariates such as factorial analysis or principal components analysis. Unfortunately *a posteriori* methods are not enough reliable depending on their poor power in explaining complex correlation structures.

We are going to propose the Differential Networks method to overcome both arisen problems, in order to identify differences in the correlation structure between different groups.

An application of this method was aimed to study the link between FI and the occurrence of depressive symptoms in the InCHIANTI Study. CES-D score assessed depressive symptoms while FI data were collected by the EPIC-FFQ. A set of confounders was taken into account by modeling residuals derived from multivariate regression.

Results: Data on 665 participants (age=72.6 ± 5.9, 334F) with MMSE ≥ 24 were considered. Preliminary results showed that not-depressed participants seemed characterized by a complex pattern while depressed participants showed an easier one leading to a more random behavior in FI.

Conclusion: Properly modelling of FI data could be crucial to increase informative power to determine the role of food in diseases.

THE NORWEGIAN LONGITUDINAL STUDY ON LIFE COURSE, AGEING, AND GENERATION (NORLAG)

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The objectives of the Norwegian panel study on life course, ageing and generation (NorLAG) are to: explore conditions for active ageing and wellbeing in later life; examine how different social contexts respond to long lives and ageing populations; and provide knowledge needed for the development of sustainable policies and practices in the field.

NorLAG is framed in a life course perspective and builds on the assumptions that ageing and old age are embedded in life pathways, that pathways are interdependent, and that the shape of life reflects the historical context. The longitudinal design gives the opportunity to examine different life phases, as well as to explore ageing as a process. The study includes four main domains: 1. Work and retirement, 2. Family and intergenerational relationships, 3. Quality of life and mastery, 4. Health and care.

NorLAG includes survey data from three waves (2002–03; 2007–08 and 2016–17) and annual registry updates on income, social benefits and civil status. NorLAG1 comprises of 5,559 respondents aged 40+ yrs (67%). Of these, 3,774 also participated in the second wave. NorLAG2 includes persons aged 18–79 years (N=15,156) and was merged with

the international Generation and Gender Survey. NorLAG3 includes persons 50+ yrs who have responded to one of the previous waves (N=9,300).

NorLAG's strengths are the combination of longitudinal survey and register data, large samples, possibilities to analyze role change and life events over time, extensive data on close family members, and a rich set of validated psychological and sociological scales.

LEVERAGING LARGE DATA: ASSESSING SOCIAL PARTICIPATION IN THE HEALTH AND RETIREMENT STUDY

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Continued participation in social activities is associated with positive health outcomes and higher quality of life among community dwelling older adults. Large datasets have the potential to reveal useful information regarding social participation and the factors that impact it; however, most datasets measure social participation via individual items. We use data from the Health and Retirement Study (HRS) to assess whether the five items from the psychosocial questionnaire pertaining to social participation (volunteer with youth, charity work, education, social clubs, non-religious organizations) form a reliable, cohesive scale. The psychosocial questionnaire is administered to an alternating subsample in each wave of the HRS since 2008. We included respondents 65 and older who returned the psychosocial questionnaire in 2010 and 2012 with responses to the social participation items (n=4,317 and n=3,978). In order to test whether the social participation items formed a reliable and cohesive scale, we first used the data from the 2010 wave and performed exploratory factor analysis (EFA) of the social participation items. All five items loaded onto a single factor (i.e., Eigen value >1.0) and had borderline reliability (Cronbach's alpha=0.68). We then used the 2012 sample and performed a confirmatory factor analysis (CFA) on the five items using a structural equation model. The CFA showed reasonable fit (RMSEA = 0.04, CFI = 0.99). Results suggest that a scale derived from the social participation items in the HRS may be useful in characterizing general social participation levels and identifying factors that can promote social participation in older populations.

SESSION LB610 (POSTER)

LATE BREAKER POSTER SESSION 1

ASSOCIATIONS OF CHILDHOOD SOCIOECONOMIC POSITION WITH FRAILTY TRAJECTORIES AT OLDER AGE

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Poor socioeconomic circumstances during childhood have been shown to be associated with negative health outcomes at older age. Frailty is an important outcome associated with ageing, but research on risk factors of frailty is lacking. We aimed to assess associations of childhood socioeconomic position (CSP) with frailty trajectories at older age. Data on well-being, health, socioeconomic situation, and retrospective life course from 17,916 individuals aged 50 years and over included in the longitudinal Survey of Health, Ageing, and Retirement in Europe study was used. Frailty, including pre-frailty, was operationalized as presenting either weakness, shrinking, exhaustion, slowness, or low activity. Confounder-adjusted multilevel logistic regression models were used to analyze associations of CSP with frailty trajectories. Results showed that disadvantaged CSP was associated with higher risk of (pre)frailty and that this association was mediated by education for both men and women (OR=1.45, $p<0.01$; OR=1.43, $p<0.01$, respectively). A lower level of education was associated with a lower risk of (pre)frailty (OR=0.97, $p<0.001$, both men and women). Also lower skill main occupation class was associated with an increased risk of (pre)frailty in both men and women (OR=1.20, $p<0.01$; OR=1.28, $p<0.001$, respectively). Moreover, health behaviors and demographics seemed to increase the risk of being (pre)frail. The findings suggest that CSP is associated with frailty trajectories at older age, which can be explained by adult socioeconomic position, in particular by education. The results can help in improving frailty trajectories by stimulating educational achievement and associated consequences across the life course.

INCIDENCE OF DEMENTIA IN PREDOMINANTLY MALE U.S. VETERAN CENTENARIANS

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Background: Centenarians are the fastest growing age group globally, yet little is known about US Veteran centenarians' incidence of dementia and its impact on survival.

Methods and Results: retrospective longitudinal cohort study of elderly U.S. Veterans. Subjects are community – dwelling Veterans living in rural areas, born between 1904 and 1914 who survived to at least age 80. The study included 47936 octogenarians, 27176 nonagenarians, and 1378 centenarians. Kaplan–Meier method was used to estimate the cumulative incidence of dementia within age groups. Incidence rates were compared using log-rank test.

Cox proportional-hazards model used to estimate unadjusted hazard ratios. Veteran centenarians were 92.5% male, 85.9% white, 38.3% widowed, 90.5% served in World War II and 72.1% had no service related disability. Significant

differences in dementia incidence rate were observed. By age 89 years, the estimated risk for dementia was 0.21% in the centenarian group, 3.1% in the nonagenarian group and 9.1% in the octogenarian group. Whereas by age 99 years, the risk of dementia increased to 8.3% for the centenarian group and 20.4% for the nonagenarian group. The difference in incidence rate remained between the statistically significant across age group ($P = <.0001$). The Hazard Ratio for dementia incidence among octogenarians and nonagenarians compared with centenarians is 8.9 CI 95% (7.2- 10.8) and 2.7 CI 95% (2.3- 3.3), respectively.

Conclusion: While dementia is generally under-recognized in the elderly, the study found that being a centenarian remained significantly associated with a reduced risk of dementia compared to both octogenarians and nonagenarians.

THE RELATIONSHIP BETWEEN BABY-BOOMERS' CONSUMPTION PATTERN AND DEPRESSION AMONG KOREAN RETIREES

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The purpose of this study is to examine the characteristics of baby boomers' consumption patterns among retirees and the effect of their consumption patterns on depression.

This study used the 5th data of Korea Retirement and Income Study(KReIS) of Korea National Pension Research Institute. Of those who were born in Korea from 1955 to 1963, total 2,034 retirees were included in this study. The Latent Profile Analysis(LPA) structured the empirical patterns of consumption and then multiple regressions analyzed the relationship between consumption patterns and depression.

In general, retirees spent more on private households and health care expenses. Overall the five consumption patterns were classified: (1) Basic life-oriented type(26.9%), (2) Balanced consumption life style(29.3%), (3) Social life-oriented type(18.3%), (4) Leisure-oriented type(18.5%), and (5) Education-oriented type(7.0%). The level of retirees' depression was associated with higher dissatisfaction with leisure activities, higher education, having no spouse, lower subjective health, higher limitations in physical functions, having any diagnosed disability, having fewer children, and more negative self-perceived economic status. Regarding their consumption patterns, the education-oriented type showed significantly lower depression than the basic life-oriented type.

These results suggest meaningful implications for better understanding of the baby-boomers' economic burden and life styles. In light of a key generation of silver industry and market, gerontological research on baby-boomers should expand its scope towards more inclusive measures of consumption in later life.

BIG DATA FOR RESEARCH ON AGING

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The interdisciplinary field of aging research is poised to benefit from the confluence of new data sources, new types of researchers, and new security and storage technologies.

Electronic health records can be linked with novel built environment data, in order to reduce reliance on surveys for health surveillance and to facilitate new studies on environmental determinants of wellbeing. Computer scientists, social scientists, and biomedical scientists bring complementary analytic and contextual knowledge to the field. Advances in sensor technology, cloud storage services, and cryptography can ensure that real-time data is both usable and secure. This confluence can be best leveraged by a shared research infrastructure for trusted information on effective aging research and healthcare interventions. The Center for Urban Science and Progress at New York University (CUSP) has built such an infrastructure. Users can remotely access microdata and novel data on the built environment, collaborate across fields and organizations, and responsibly disseminate urban policy research results to data providers and their stakeholders. We report here how the technical design must be directly informed by user expectations and must incorporate a training program, in order to incentivize a diverse community of active researchers and data providers. We demonstrate that it is indeed possible to balance usability with data security. We will introduce conference attendees to new urban informatics data for the aging research community. Further, conference attendees will learn how a pilot Aging Research Data Facility can operate as a secure research infrastructure for researchers, computer scientists, and practitioners to develop and disseminate evidence-based best practices in gerontology.

FRAILITY PREVENTION IN AT-RISK OLDER ADULTS IN THE PRIMARY CARE AND COMMUNITY SETTING

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Research demonstrates it is possible to prevent and/or delay frailty. Comprehensive geriatric assessment (CGA), patient directed chronic disease management planning and health coaching have been identified as effective frailty prevention interventions for older adults. The CARES (Community Action and Resources Empowering Seniors) Project combines all three interventions in a collaborative inter-disciplinary model that introduces the CGA and FI calculation capacity into primary care physicians' electronic medical record (EMR)

Methods: Seniors aged 65 to 85 with an estimated clinical frailty score between 3 and 5 receive personalized health coaching for up to six months from Self-Management BC at no charge in weekly telephone contacts. Before and post coaching, primary care physicians conduct a CGA, which is embedded in the electronic health record and able to calculate a Frailty Index (FI). The effect of the combined intervention on frailty is evaluated by comparing the baseline and follow-up FI-CGA scores and quality of life assessments.

Results: Pilot studies CGA-FI scores of the participants were statistically significantly (0.032) decreased post intervention, which is equivalent to 2 less health problems at follow up. Meanwhile, 59% of participants reported an increase in their health attitude and 67% reported an increase in exercise frequency.

Discussion: CARES involves physicians, health coaches and patients in the prevention of frailty. The electronic CGA, FI and free health coaching provide both a measurement and management strategy to address frailty in the primary care and community setting.

Conclusion: Preliminary results suggest CARES is effective in delaying frailty. CARES empowers seniors to engage in self-management of their health in partnership with their physician. Together they are able to track and address frailty development through the use of the electronic CGA and FI results. Fraser Health in British Columbia, Canada has adopted CARES as part of a senior care strategy. More research is pending.

HEALTH AND SELF-PERCEPTION OF HEALTH—DO WELFARE REGIME AND SOCIOECONOMIC STATUS HAVE GENDER EFFECT?

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Health is measured by subjective or self-perceived health as well as by objective parameters as the number of chronic illnesses or physical limitations. There is a well-established relationship between socioeconomic status and health indicating that individuals with lower income are likely to be less healthy than those with high income. Factors such as education, material status, social position, and work situation shown to be important determinants also in the perception of health. The study applies a cross sectional and a longitudinal study based on SHARE (Survey of Health, Ageing and Retirement in Europe) in its first, second and fifth waves. The cross-sectional model is based on data from 16 European countries, divided to 5 different types of welfare regimes, of 132,845 responders (mean age 65.8±10.5) 55.8% of whom are women, to investigate the influence of welfare regime and socioeconomic status on health and self-perceived health. A second longitudinal model explores changes over time between the first, second and the fifth wave (a period of about 10 years) in health parameters and self-perceived health in correlation to changes in sociodemographic and socioeconomic factors. The study found significant gender differences in self-perceived health and that welfare regimes have an effect both on health perception and on health indicators that in some regimes (e.g. the Mediterranean countries) differ for men and women. A better understanding of the differences in socioeconomic abilities of men and women on their health is needed for framing social policies in different countries and regimes.

THE ROLE OF COMMUNITY OBLIGATION IN DEPRESSION DIAGNOSIS

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By 2030, depression is projected to be the foremost contributor to global disease burden. In cross-sectional studies, religious involvement and volunteerism are protective against depression. Connectedness to the welfare of a community

(community obligation) may also have long-term protective effects on depression.

Participants included 1,928 adults ages 45–76 without depressive symptoms who participated in the 1995 Midlife in the US (MIDUS)I survey and 10 years later in MIDUSII. Using logistic regression, we determined the effect of self-rated contribution to others (5-point scale), altruism, civic obligation, and volunteerism at MIDUSI on depression at MIDUSII. We also examined the effect of change in contribution to others and change in volunteerism on depression.

Excellent self-rated contribution to others (vs. good) at MIDUSI and a decrease in contribution to others from MIDUSI to MIDUSII were associated with greater odds of depression at MIDUSII (OR2.37, 95%CI 1.23, 4.57 and OR2.27, 95%CI 1.43, 3.60, respectively), after adjusting for age, gender, marital status, employment, health insurance, socioeconomic status, social contacts, and chronic conditions. Altruism, civic obligation, volunteerism, and change in volunteerism were not associated with depression. Multiple conditions, female gender, and partner loss were predictive of depression, while employment at MIDUSII and older age were protective.

Excellent self-rated contribution and a decrease in contribution to others over 10 years were associated with depression; the paradoxical relationship between excellent self-rated contribution and depression was unexpected. No other components of community obligation were predictive of depression. Additional studies examining the longitudinal relationship between community obligation and depression are warranted.

TO WHAT EXTENT CAN A PURPOSE-BUILT RETIREMENT VILLAGE BE DESCRIBED AS AN AGE-FRIENDLY COMMUNITY?

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Background: In 2003, a research team from Keele University completed a three-year Lottery-funded project examining health, identity and well-being amongst residents in the then newly built Berryhill Retirement Village. More than 10 years on, this unique follow-up study explores the ways in which the village has evolved and responded to residents' changing needs over time. An overarching aim was to investigate the extent to which Berryhill may be defined and experienced as an "age-friendly community".

Method: In Phase One of the current project, 25 in-depth interviews were carried out with long-term residents (including six who took part in the original study). In Phase Two, a survey questionnaire was distributed to the whole resident population (149). The survey explored age friendliness in more depth across each of the eight domains identified by the World Health Organisation (2007) as being: Built environment, Transport, Housing, Social participation, Respect and Social inclusion, Civic Participation and employment, Communication and Information, Community support and Health services.

Results: Residents predominantly reported positive experiences in terms of opportunities to increase social participation and to be enabled to maintain independence in each phase of the research. However, the losses experienced by some residents in terms of changes in health, bereavement,

and changing roles and responsibilities created barriers to activities and wider community engagement.

Conclusion: The findings demonstrate the benefits of a longitudinal research in highlighting the different challenges staff and residents face in dealing with change across time. The relationship between loss and wellbeing in a communal environment has implications for regular reviews of policy and practice.

SLOW PROCESSING SPEED PREDICTS FALLS IN OLDER ADULTS WITH A FALLS HISTORY: 1-YEAR PROSPECTIVE COHORT

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Background/Objective: Recent epidemiologic data suggest that deficits in processing speed predict future injurious falls. Our primary objective was to determine a parsimonious predictive model of future falls among older adults who experienced ≥ 1 fall in the past 12 months based on the following categories: counts of 1) total, 2) indoor, 3) outdoor or 4) non-injurious falls; 5) one mild or severe injury fall (yes versus no); 6) an injurious instead of a non-injurious fall; and 7) an outdoor instead of an indoor fall.

Design: 12-month prospective cohort study.

Setting: Vancouver Falls Prevention Clinic, Canada (www.fallsclinic.ca)

Participants: 288 community-dwelling older adults aged ≥ 70 years with a history of ≥ 1 fall resulting in medical attention in the previous 12 months.

Measurements: We employed principal component analysis (PCA) to reduce the baseline predictor variables to a smaller set of 5 factors (i.e., processing speed, working memory, emotional functioning, physical functioning and body composition/fall risk profile). These 5 factors were used as predictors in regression models predicting the incidence of falls over a 12-month prospective observation period.

Results: Among older adults with a falls history, processing speed was the most consistent predictor of future falls; poorer processing speed predicted a greater number of total, indoor, outdoor, and non-injurious falls, and a greater likelihood of experiencing at least one mild or severe injurious fall (all p values $< .01$).

Conclusion: Poorer performance on the processing speed factor, a trainable factor, was independently associated with the most costly type of falls – injurious falls.

THE IMPACT OF PEER MENTORING IN RESIDENTIAL CARE ON THOSE VISITED

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Depression and loneliness are biopsychosocial determinants of health, which contribute to functional decline and mortality among older adults living in residential care.

Research in other settings indicates peer support may be effective at reducing depression and loneliness and enhancing social identity. Therefore, an innovative peer mentoring intervention was developed based on the social identity theory in which volunteers and residents (mentors) form a supportive team. Mentors meet weekly, receive education and then external volunteers pair up with resident volunteers to visit socially isolated residents (visitees). This pilot study was conducted to explore visitees' experiences with the intervention and perceived outcomes. Data were collected for 74 visitees in 10 homes in Ontario, Canada. The effectiveness of the program was assessed over a 6-month period using qualitative interviews and quantitative outcome measures including standardized measures of depressive symptoms and loneliness. Attendance at other programs was also monitored. During their interviews visitees described strong emotional connections with their peers, which contributed to feelings of empowerment and an interest in becoming mentors themselves. Visitees reported reduced symptoms of depression ($p = 0.02$) and loneliness ($p = 0.02$), and a 60% increase in the number of other monthly programs attended was observed ($p \leq 0.01$). The findings of this pilot suggest that peer mentorship may be a promising means of reducing symptoms of depression and loneliness, which are extremely prevalent in these settings. These findings will inform revisions to the program that will be evaluated in future research examining the efficacy of this intervention.

SKILLED NURSING FACILITIES ADMISSIONS AND HOSPITAL READMISSIONS IN PATIENTS WITH HIP FRACTURES

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Compare risk of 30-day and 90-day hospital readmission associated with post-acute services between skilled nursing facilities (SNF) and inpatient rehabilitation facilities (IRF), for patients with hip fractures. Secondary analysis of Medicare claims data (2012–2014), linking inpatient claims, enrollment indicators, patient-level assessment data from SNF and IRF settings, and the provider of services files. We identified index stays for patients with hip fractures using medical severity diagnosis related groups and ICD-9 codes in acute hospitals, and who were discharged to SNF or IRF. We only selected cases age 66 or older and on Medicare fee-for-service who survive 90-day follow-up ($n=60,347$). Selection bias associated with post-acute discharge destinations was handled using propensity score as the inverse probability of treatment weights in the outcomes models, along with adjusting for unbalanced patient-level covariates (socio-demographic characteristics, condition severity, acute length of stay, intensive care unit use, previous admission status, Elixhauser comorbidity index, and Hierarchical Condition Category composite score), and hospital-level covariates (profit status, size, urban/rural, presence of IRF as an unit). Risk for 30-day readmission was significantly lower for those discharged to IRF 0.93 (95% CI=0.87–0.99) as compared with SNF. The likelihood of 90-day readmission was also significantly lower for IRF discharges 0.91 (95% CI=0.87–0.96) compared with SNF. The risk of 30-day and 90-day hospital readmission was significantly higher for

those discharged to SNF. With the proposed episode-based payment model for hip and femur fractures, it is important to determine and compare quality of post-acute services, for selection of effective and efficient discharge setting.

EFFECT OF DAY SERVICE USAGE FREQUENCY ON THE CONTINUATION DURATION OF HOME LIVING

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Purpose: The purpose of this study was to clarify the relationship between day service usage frequency and the subsequent continuation duration of home living based on long-term care insurance certification information on elderly people who had received their start care need certification.

Methods: The subjects were 4,674 elderly people (1,646 men, 3,028 women) aged 65 years or older in X Region of Japan who had received an initial certification in the long-term care insurance system between 2000 and 2013. The continuation duration of home living was calculated as the number of months from the effective first date of certification in the examination taken at home until the home living end date or the observation end date. The relationship between day service usage frequency and continuation duration of home living was analyzed using the Cox proportional hazards model.

Results: Hazard ratios that showed a significant trend for continuation of home living in users of outpatient services compared with the non-use group were 1.33 (95% Confidence interval [CI]: 1.14–1.54) in the twice weekly group aged 75–84 years and 1.17 (95% CI: 0.99–1.39) in the twice weekly group aged 85–94 years.

Conclusion: The results suggest that use of day services up to two times a week is a factor in the continuation of home living. That trend was seen to be relatively higher with age, and was not seen in people who used these services three times a week or more.

FORESHADOWING ALZHEIMER'S: VARIABILITY AND COUPLING OF OLFACTION AND COGNITION

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The earliest stage of Alzheimer's disease (AD) pathology begins in one of the main components of the olfactory pathway, the entorhinal cortex, making deficits in smell a potential prospective biomarker for the early detection of AD. A bivariate longitudinal coupling model was used to determine whether assessment-to-assessment variation in olfaction mirrors variation in cognition over time. The model included terms for age, sex, education, ApoE e4 allele, and autopsy diagnosed AD pathology.

Using a sub-sample of 573 individuals: the between-person variation in odour identification had a robust positive

association to episodic memory ($b = 0.129$, $SE = 0.0135$, $P < 0.001$; conditional $R^2 = 0.86$). Higher AD pathology was related to both lower episodic memory at baseline ($b = -0.236$, $SE = 0.0685$, $P < 0.001$), and faster declines in episodic memory ($b = -0.059$, $SE = 0.017$, $P < 0.001$). Additionally, more rapid declines in olfactory identification were robustly associated with more rapid declines in episodic memory scores ($b = 0.011$, $SE = 0.0039$, $P < 0.001$). The within-person coupling between olfaction and episodic memory was robust and positive ($b = 0.07$, $SE = 0.016$, $P < 0.001$), indicating that odour identification and episodic memory scores fluctuated together over time.

This research indicates that at a given occasion, individuals with higher olfactory scores also have higher episodic memory scores. This coupled relationship indicates that olfactory testing can be a useful tool for assessing cognitive decline and possibly an inexpensive screener for pathological brain changes.

INCIDENCE OF HEART FAILURE IN PREDOMINANTLY MALE U.S VETERAN CENTENARIANS

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Background: Male centenarians are generally under-represented in centenarian studies. The United States Veteran cohort has the largest known male centenarians of any nation. Here we study Veteran centenarians' incidence of Heart Failure and its impact on survival.

Methods and Results: retrospective longitudinal cohort study of elderly U.S. Veterans. Subjects are community-dwelling, born between 1910 and 1915, who survived to at least age 80. The study included 31,109 octogenarians, 52,419 nonagenarians, and 3,351 centenarians. Kaplan-Meier method was used to estimate the cumulative incidence of heart failure within age groups. Incidence rates were compared using log-rank test. Cox proportional-hazards model was used to estimate unadjusted hazard ratios. Veteran centenarians were 97.0% male, 88.0% white, and 31.8% widowed. 87.5% served in World War II, 63.9% had no service related disability. Significant differences in HF incidence rates were observed. By age 89, incidence of HF for octogenarians was 19.3%, v. 3.3% for nonagenarians and 0.4% for centenarians. By age 99 incidence of HF for nonagenarians increased to 15.8% and 3.3% for centenarians. Differences in incidence rate remained significant across age groups ($P = < .0001$). The Hazard Ratio for heart failure incidence among octogenarians and nonagenarians compared with centenarians is HR 36.54 CI 95% (29.90- 44.66) and 5.37 CI 95% (4.42- 6.52), respectively.

Conclusion: In a large cohort of predominantly male U.S. Veterans, compared with octogenarians and nonagenarians, centenarians had the lowest incidence of heart failure after age 80, demonstrating compression of morbidity and extension of health-span in this unique group of survivors.

USING TRANSCRANIAL DIRECT CURRENT STIMULATION TO REDUCE CHRONIC PAIN IN ELDERLY INDIVIDUALS

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The prevalence of chronic pain drastically increases with age. The objective of this study was to determine if transcranial direct current stimulation (tDCS) could be a valid treatment option to relieve chronic musculoskeletal pain in elderly individuals. Twenty-four chronic pain patients were randomized to receive either anodal tDCS over the contralateral motor cortex (2 mA, 20 minutes; $n = 12$) or sham tDCS ($n = 12$) for 5 consecutive days. Pain logbooks were used to measure pain intensity on the days before, during and after treatment sessions, and the Margolis pain drawing and scoring system was used to assess the number of painful areas. Analysis of the pain logbooks revealed that real tDCS led to a reduction in pain ($p \leq 0.04$), while sham tDCS did not produce any change. Patients from the real tDCS group also reported a decrease in the number of painful areas, while the patients in the sham tDCS group reported no change. Every patient who received real tDCS reported an alleviation of pain. These results suggest that anodal tDCS applied over the motor cortex can decrease pain, and that this effect persists for several days following treatment. To our knowledge, this study is the first to investigate the analgesic effect of tDCS with a randomized, controlled trial in elderly individuals. The results can support the use of this technique in chronic pain patients aged 60 years and older. Future studies are necessary to determine whether these results can be replicated using a larger population.

THE MOLECULAR BIOLOGIC STUDY ABOUT THE CIRCADIAN RHYTHMIC CONTROL OF MICTURITION FUNCTION

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Circadian rhythmic(CR) disruption shows adverse effects like fatigue, nocturia, sleep-disturbance, and mood disorder which are common in elderly. We investigate the relationship between CR and water metabolism(WM) and expression of circadian-clock-gene(CCG) in peripheral bladder and central-micturition-centers(CMC).

In 8-week-old male(C57BL/6J male; WT) and CCG knock-out mouse(per1-/-per2-/-; PDK), metabolic cage was used to know WM according to CR in 12:12 LD-photoperiodic(LD cycle) and constant-dark(DD cycle). To know CCG expression, activation of Per2 promotor was checked after harvesting the bladder of adult/neonate mouse. We checked the expression of CCG; Bmal1, Rev-erba by extraction of RNA after reverse transcription and the check the rhythmic expression of CCG in micturition related tissues (detrusor, sphincter and uroepithelium, MRT) in WT and PDK to know the existence of peripheral clock in bladder. To know CCG

expression in CMC, real-time-RT-PCR was used in every 3 hours for 24-hour in DD cycle in WT and PDK.

WM was increased in DD cycle of WT, however, this was disappeared in PDK. CR is not related with environment but related with endogenous CR. We observe the activation of Per2 promotor CR, and characteristic circadian expression pattern of CCG in MRT of WT, but not observed in PDK, which means bladder peripheral clock is well functioned. In spinal level, unlike PDK, CCG expression rhythm was observed in WT. But there was no rhythmicity in upper CMC.

Endogenous CR in WM exist. Bladder peripheral CCG exists in MRT. But in terms of CMC, we can find CCG expression only in lower CMC.

GLYCAEMIA BUT NOT THE METABOLIC SYNDROME IS ASSOCIATED WITH COGNITIVE DECLINE IN AGEING MEN

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Objectives: Previous research has indicated that components of the metabolic syndrome (MetS), such as hyperglycaemia and hypertension, are negatively associated with cognition. However, evidence that MetS itself is related to cognitive performance has been inconsistent. In this longitudinal study, we aimed to investigate whether MetS or its components affect cognitive decline in ageing men and whether any interaction with inflammation existed.

Design: Longitudinal study over a mean of 4.4 (SD $\pm$ 0.3) years.

Setting: Multi-centre European male Ageing Study (EMAS).

Participants: Men aged 40–79 years.

Measurements: Cognitive functioning was assessed using the Rey-Osterrieth Complex Figure (ROCF), the Camden Topographical Recognition Memory (CTRM) task, and the Digit Symbol Substitution Test (DSST). High-sensitivity C-reactive protein (hs-CRP) levels were measured using a chemiluminescent immunometric assay.

Results: Overall, 1,913 participants contributed data to the ROCF analyses and 1,965 subjects contributed to the CTRM and DSST analyses. In multiple regression models, the presence of baseline MetS was not associated with cognitive decline over time ($p > 0.05$). However, logistic ordinal regressions indicated that high glucose levels were related to a greater risk of decline on the ROCF Copy ($\beta = -0.42$, $p < 0.05$) and the DSST ($\beta = -0.39$, $p < 0.001$). There was neither a main effect of hs-CRP levels nor an interaction effect of hs-CRP and MetS at baseline on cognitive decline.

Conclusions: We found no evidence for a relationship between MetS or inflammation and cognitive decline in this sample of ageing men. However, glycaemia was negatively associated with visuo-constructional abilities and processing speed.

A SYSTEMATIC REVIEW OF CHANGE POINT STUDIES ON COGNITIVE AND NEUROLOGIC OUTCOMES PRECEDING DEMENTIA

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Older adults who ultimately develop dementia experience accelerated cognitive decline long before diagnosis. The current systematic review aimed to summarize the literature on preclinical change points (CPs) in relation to mild cognitive impairment (MCI) and dementia, identifying the order in which cognitive and neurological outcomes decline and factors that modify the onset of decline. Eligible studies included preclinical MCI/dementia CP models for cognitive/neurological outcomes from longitudinal cohorts free of early-onset dementia or concurrent neurological disorders associated with cognitive decline. The search protocol yielded 16 eligible studies describing 9 cohorts (1 pre-MCI, 8 pre-dementia). Only the MCI cohort involved neuroimaging and motor outcomes, identifying CPs for increased ventricular cerebrospinal fluid volume (CP=3.66 years before onset [95% CI: 0.75–5.58]) and white matter (WM) hyperintensities (10.58 years [5.15–Unknown]). Gait resulted in the earliest CP at 12.10 years (8.10–Unknown), while finger tapping declined after diagnosis. Across domains, cognitive abilities declined roughly 3–4 years prior to MCI. The earliest observed CP for dementia was perceptual speed (10.90 years [7.50–14.40]). Verbal memory was most commonly measured, with CPs ranging from 1.00–8.60 years pre-diagnosis. The latest cognitive ability to decline was reading ability (0.40 years [-0.10–0.11]). Greater education, female gender, and involvement in cognitively-stimulating activities significantly delayed CP onset. CPs preceding Alzheimer's disease occurred earlier than CPs preceding vascular dementia. The findings from this systematic review suggest that neurological and cognitive changes occur long before MCI/dementia diagnoses. Lifestyle, dementia type, and gender influence the onset of decline, but few studies evaluated CP moderators.

STATE QUALITY OF CARE LAWS AND NURSING HOME OUTCOMES IN THE UNITED STATES

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Introduction: Low quality of care in nursing homes has presented long-standing policy challenges for consumers, researchers and policy-makers. However, the impact of regulation on quality has only recently been addressed and current studies focus on enforcement stringency. Although all nursing homes are subject to federal standards, some states have adopted additional regulations in different areas of care. Using this natural experiment, this study is the first to analyze the contents of quality of care state regulations, compare them to federal regulations, tease apart specific components and link them to a corresponding quality outcome.

Methods: State laws for all 50 states and D.C. were compiled using primary legal research methods and secondary sources. Next, quality of care laws were analyzed and linked quantitatively to quality indicators developed and publicly reported by CMS.

Results: Using data from 2011 and coding laws as dichotomous variables, adjusted regression results on outcome variables showed that compared to states that were only subject to federal standards, states that went above federal regulations had better outcomes such as less high-risk residents with pressure ulcers, less residents who self-report moderate

to severe pain and less residents experiencing one or more falls with major injury.

Discussion: There is some evidence to support that more stringent state regulations have a positive relationship with quality of care in nursing homes. This study is well positioned to inform policy-makers on existing regulations and whether and how regulation is associated with better quality in the nursing home setting.

ORGANIZATIONAL FACTORS OF RESIDENT WEIGHT LOSS IN GERMAN NURSING HOMES

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Background: Nursing care in Germany is faced with a radical change in quality report standards. Until now nursing home quality has been measured mostly on the basis of structural and care process criteria. By the year 2018, new quality indicators will be implemented by law that include measures of resident outcomes. The results of this doctoral project should contribute to scientific discourse on quality reporting standards for German nursing homes. **Theoretical Orientation:** Using Donabedian's structure-process-outcome framework (1988), we assumed that structural indicators of quality are associated with outcome indicators. **Methods:** The data for this study came from the internal quality management of the Caritas Association and form the "EQisA"-project, within which the indicators of nursing home outcomes were developed and validated. The sample consisted of 221 German nursing homes which included data of over 22 thousand residents. For the investigation of relationship between organizational characteristics and weight loss a logistic regression analysis was used. **Findings:** The analysis showed that resident-to-staff ratios and mortality rate were associated with weight loss of residents with low cognitive impairment. **Conclusion:** The findings indicated that resident weight loss is more probably to occur in facilities with lower staffing levels of registered nurses and additional care staff and in facilities with higher mortality rates. However, there are only a few studies in Germany that examine this kind of relationships. More research using a broader national sample of nursing facilities would be needed in this field.

SUPERVISORY LEADERS IN AGING: PRACTICE CHANGE TO STRENGTHEN SOCIAL SERVICE DELIVERY TO OLDER ADULTS

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Social services for older adults are instrumental in addressing vulnerabilities associated with aging. Yet, practitioners report needing expanded geriatric knowledge and better supervision. This poster reports outcomes of the first full year of implementation of a social work supervisor continuing education program. The program provides advanced training that enhances gerontological knowledge as well as supervisory skills in teaching and leadership. Positive

outcomes from three pilot programs led to a 2015 expansion, funded by the John A. Hartford Foundation under the auspices of the National Association of Social Workers. Now called Supervisory Leaders in Aging, the program is being adopted and tested in four states (IL, FL, MD, and NY), with plans for subsequent national implementation. NASW anticipates training nearly 160 MSW supervisors between 2015 and 2017. These supervisors will, in turn, provide support to more than 1,200 direct practitioners, potentially enhancing the health and well-being of more than 100,000 older clients annually. Trainees self-rated frequency of supervisory practices during the prior month, related to workshop content, were measured with the Practice Inventory for Supervisors in Aging Services. This novel measure was administered prior to the first session and three months after the final session. Statistically significant findings demonstrate that 18 previously used best practices were maintained by participants and 12 underutilized best practices were adopted as a result of education received during workshops, with variability across training sites. The program is shown to enhance supervisory practice overall. Implications of this tested model for enhancing workforce capacity will be discussed.

PREVALENCE AND CORRELATES OF FRAILTY IN CHINESE OLDER ADULTS: CHINA HEALTH AND RETIREMENT STUDY

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Frailty is an age-related medical syndrome of decreased resilience to stressors and is associated with numerous adverse outcomes. Although there is preponderance of literature on frailty in developed countries, limited investigations have been conducted in developing countries including China, which has the world's largest aging population. We examined the prevalence of frailty in China by socio-demographics and geographic region, and investigated health and functional correlates of frailty. Data are from the 2011 baseline survey of the China Health and Retirement Longitudinal Study on 5,301 adults aged ≥ 60 years (mean=67.9, SD=6.9). Frailty was assessed using 5 criteria: weakness, slowness, exhaustion, inactivity, and shrinking. We classified individuals with 0, 1–2, and 3–5 criteria as "robust," "prefrail," and "frail," respectively. The prevalence of frail and prefrail were 7.0% and 51.2%, respectively. Higher frailty prevalence was observed in persons who were older, women, and had lower education level. Frailty prevalence ranged from 3.3% in the Southeast to 9.1% in the Northwest, and was >1.5 times higher in rural vs. urban areas. Frail vs. nonfrail individuals had higher prevalence of chronic conditions including cardiovascular disease, lung disease, kidney disease, stomach disease, and arthritis. Frail persons also had higher prevalence of falls, depression, disability, and functional limitation. In summary, the frailty prevalence among Chinese elders was similar to that in Western populations and we found substantial socio-demographic and regional disparities in frailty prevalence. This standardized frailty assessment may be incorporated into geriatric practice in China to identify the most vulnerable elders to reduce morbidity and disability.

THE CONNECTION BETWEEN SOCIAL SUPPORT AND COGNITIVE FUNCTION AMONG ELDERS IN RURAL EAST CHINA

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This study aims to investigate the cognitive function of elders who live in rural areas of East China and studied the relationship between different subtypes of social support and cognitive function.

Two hundred and twenty-two elders aged 60 years or more were randomly selected from 9 villages of Jiande County. The assessment package included: General Characteristics Questionnaire, PHQ-9 (9-item Patient Health Questionnaire), DSSI (Duke Social Support Index), and MMSE (Mini-mental State Examination). The analysis methods included descriptive statistics and logistic regression.

The final sample included 218 participants, and 57 of them may have potential cognitive problems. Results showed that the education level, residential arrangement, and daily activities frequency may have positive relationships with cognitive function ($p \leq 0.05$). Age, the depressive symptoms presence, and overall scores of social support were negatively associated with cognitive function ($p \leq 0.05$). In the logistic regression, the best fit model indicated that elders reported more perceived social support were more likely to maintain good cognitive function.

This study found the social support's positive effect on buffering the decline of cognitive function in elders of rural East China, especially perceived social support. The positive connection between perceived social support and cognitive function indicates the importance of social support intervention approach in rural China. Further study will explore the protective effect of perceived social support in other areas, such as Midwest China, and the methods to prevent the abnormal cognitive decline in the regards of psychosocial factors for promoting healthy aging in rural China.

NEW IMPLICATIONS FOR DIABETES EDUCATION: PHYSICAL ACTIVITY BARRIERS AMONG DIABETIC OLDER ADULTS

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An estimated 33% of U.S. adults ≥ 65 have type 2 diabetes (T2D). Physical activity is a key component of successful T2D self-management. Yet, only 25% of older adults with T2D meet American Diabetes Association physical activity guidelines. Newly available findings from a NIA-funded ethnographic study of T2D among African-American and non-Hispanic Whites ($n=83$) provide insights into participants' questions and concerns that impede their physical activity. Systematic, thematic analyses using Atlas.ti, reveal first, considerable confusion regarding the appropriateness of physical activity in the context of changing comorbidities. Second, concerns regarding insulin levels and fears about exercising alone undermine the perceived safety of physical activity. Finally, participants struggle to find specific types of physical activity that match their fitness level, lifestyle preferences, and economic constraints. Faced with these barriers, participants report not being physically active, even as they

acknowledge the importance of physical activity for their T2D control. These findings are of immediate relevance to diabetes education. Personalized, ongoing diabetes education that is tailored to address physical activity in the context of T2D and participants' comorbidities is critically needed. Furthermore, detailed information on the range of community physical activity opportunities, their accessibility, and safety for participants may play a critical role in increasing levels of physical activity among the diverse older adults with T2D.

ERRORLESS TRAINING CHANGES VISUOMOTOR CONTROL IN REACHING UNDER VISUAL DEFICIENCY AMONG OLD ADULTS

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Aging problems influence older adults on motor learning and control, such as coordination difficulties. Errorless training, aiming to prevent the accumulation of explicit knowledge in movement execution, is regarded as a potential training method to obtain motor benefit through visuomotor adaptation. Twenty-two right-handed healthy older adults (Mean age = 70.07 years, SD = 2.37) with normal or corrected-to-normal vision participated in the study and were trained to do a reaching task in the scenarios of changing the target size that minimized or promoted movement errors (i.e., errorless or errorful groups, respectively). The simulated vision deficiency was conducted by blocking parts of visual feedback of the hand controlled mouse cursor. Gaze behaviors and motor performance data was recorded by the EyeLink (SR Research, Canada). Both errorless and errorful training groups improved participants' motor performance in reaching under simulated vision deficiency. However, only errorless training but not errorful training could decrease reaching movement time with improvement in reaching accuracy. Additionally, different training methods affected gaze behaviors differently. Errorless training group demonstrated a significant decrease in first fixation duration on the target ($p < .001$) while errorful and normal training groups increased the duration. Participants in the errorless training group conducted more tracking actions to enter or leave the target area ($p = .011$), implying that perceptive dependence might be transformed from vision to proprioception. Errorless training affects gaze behaviors and motor performance positively during simple reaching task in older adults and might change the visuomotor control in reaching under the limited visual information situation by inducing a decrease in the dependence on vision with compensation by the proprioception.

SPIRITUALITY AND INTRINSIC RELIGIOSITY: MODERATORS OF WISDOM AND PSYCHOLOGICAL WELL-BEING RELATION

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General opinion suggests that wisdom, intrinsic religiosity, and spirituality are linked to favorable outcomes. Research done so far about this topic verify this belief. Yet, to the best of our knowledge, there is not any study investigating the potential effects of intrinsic religiosity and spiritual well-being on

the relation between wisdom and psychological well-being (PWB) among elderly. Hence, the present study proposes and tests this moderation model. Three-Dimensional Wisdom Scale (3D-WS), Religious Orientation Scale (ROS), Spiritual Well-being Subscale of Mental, Physical, Spiritual Well-being Scale (MPSW), and Psychological Well-being Scale (PWS) were administered to 165 Turkish elderly people whose age ranged from 65 to 88. Wisdom and spiritual well-being had significant positive correlations with each other and they seem to contribute to PWB. In addition, a significant moderating effect of spirituality on wisdom-PWB association was found. Yet, intrinsic religiosity was unrelated to wisdom and PWB, and it did not have a moderating role in this relation. Findings regarding spirituality and wisdom are consistent with the literature while findings about intrinsic religiosity are contrary to expectations. This study emphasizes that wisdom and spiritual well-being should be taken into consideration when dealing with elderly in mental health or health settings.

A PROFILE OF AFRICAN AMERICAN CAREGIVERS FOR FAMILY MEMBERS WITH MEMORY PROBLEMS IN THE DEEP SOUTH

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Interventions formulated to help caregivers have generally not included enough African Americans (AAs) to determine if they are effective within this population. The current investigation provides information on AA caregiving issues and needs. Participants were recruited from the Birmingham, AL metro area and received a \$25 gift card for completing a telephone interview. Caregivers provided information on demographics, social support, problems encountered as caregivers, and interest in services if they were made available. Of the 29 caregivers enrolled, 21 were female (72%) and 8 male (28%). The average age of caregivers was 53.76 years (range = 22 – 77) and they reported caring for individuals with average scores on the AD8 Dementia Screening Scale of 7.3 out of 8 and 10.8 out of 18 on the Clinical Dementia Scale Sum of Boxes (above the cutoffs for probable dementia). Caregivers reported between 1 and 20 members in their social support networks and 14 (48%) caregivers were employed. Caregivers reported problems dealing with the family member not remembering who they were, taking care of the family member's financial affairs, and other comorbid conditions such as high blood pressure and diabetes. Additionally, 23 caregivers (79%) reported being interested in at least 1 of the services listed. These data will be utilized to provide initial evidence of if the New York University Caregiver Intervention, an efficacious counseling and support intervention, can be pilot tested as constructed to address issues of AA caregivers in the Deep South or if cultural modifications need to be made.

OBJECTIVE PHYSICAL ACTIVITY, SEDENTARY TIME, AND INCIDENT DISABILITY IN OLDER ADULTS

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Substantial evidence shows that higher levels of moderate-to-vigorous physical activity (MVPA) are associated with lower risk of disability, and an emerging body of literature suggests a higher level of sedentary time (ST) is related to a higher risk of disability. However, most studies assessed MVPA and ST using questionnaires. This prospective study investigated the associations of accelerometer-assessed PA and ST with risk of disability among 1,603 participants from the prospective population-based Sasaguri Genkimon Study, who were aged ≥ 65 years and without disability at baseline in 2011. MVPA and ST were assessed by a tri-axial accelerometer in 2011. During follow-up, incidence of disability was defined as first certification for personal support or care by the national long-term care insurance system of Japan. Cox proportional hazards models were used to estimate adjusted hazard ratios (HR) and 95% confidence intervals (CI) for the onset of disability. Over a median follow-up of 3.8 years, incident disability was identified in 149 participants (9.2%). After adjusting for sex, age, education, living status, cognitive impairment, multi-morbidity, smoking and drinking status, higher level of MVPA was associated with lower risk of disability. After additional adjustment for ST, those in the two higher tertiles of MVPA showed lower risk of disability compared to the lowest tertile group, with adjusted HR (95% CI) of 0.51 (0.32–0.81) and 0.52 (0.30–0.91), respectively. No association was observed for ST. These data demonstrated clear benefits of MVPA for prevention of disability.

THE DIFFERENTIAL IMPACT OF SOCIAL PARTICIPATION AND SOCIAL SUPPORT ON PSYCHOLOGICAL WELL-BEING

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Being socially involved is theorized to diminish age-related declines in cognitive and emotional functioning. However, different facets of being socially involved may differentially impact functioning in older adulthood. In the present study, we aimed to expand on it by investigating the impact of two distinct aspects of social engagement - social support and social participation - to assess their impact on change in psychological well-being in two samples from the three-wave Wisconsin Longitudinal Study spanning 19 years (1992–2011): the original high school graduate respondents and their siblings. The goal of the present study was to examine (a) age-related trajectory of psychological well-being (PWB) and (b) whether interindividual differences in social participation and social support influenced intraindividual change in psychological well-being. Using latent growth curve models, we found general declines in psychological well-being from middle to old adulthood. Social participation predicted the slope of psychological well-being, that is, individuals high in social participation demonstrated a less steep decline in psychological well-being across the three time points than individuals low in social participation. Social support, however, did not demonstrate a buffer effect on declines in psychological well-being. Developmental implications of the age-related trajectory of psychological well-being and the relationship with social participation are discussed.

THE HEALTHY AGING INSTRUMENT (HAI): DEVELOPMENT AND PSYCHOMETRIC EVALUATION

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The purpose of this study was to develop, refine, and evaluate the psychometric properties of the Healthy Aging Instrument (HAI). The HAI is a multidimensional instrument that attempts to measure the process of healthy aging in a Thai context. Themes emerged from focus groups and in-depth interviews, which were used to develop an item pool. The HAI was reviewed for content format by five experts and for clarity and readability by 10 older adults. The content validity index among the experts was high. After the pretest, the HAI consisted of 46 items. To test construct validity and internal consistency, the HAI was completed by 403 older adults in Southern Thailand. Evaluation of construct validity through principal component factor analysis with varimax rotation and using factor loading greater than 0.40 yielded nine factors: 1) Being Self-Sufficient and Living Simply, 2) Managing Stress, 3) Having Social Relationships and Support, 4) Making Merit and Good Deeds, 5) Practicing Self-Care and Self-Awareness, 6) Staying Physically Active, 7) Staying Cognitively Active, 8) Having Social Participation, and 9) Accepting Aging, which explained 62% of the variance in the process of healthy aging. Cronbach's alpha for each of the subscales ranged from 0.69 to 0.80 with an overall alpha of 0.88. The HAI demonstrated adequate internal consistency reliability and showed evidence of content and construct validity. It requires less than 15 minutes on average to administer and had no item-level missing data rates.

GENDERED INTERGENERATIONAL SUPPORT AND FUNCTIONAL LIMITATIONS OVER TIME AMONG RURAL OLDER CHINESE

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Objectives: There is much unknown regarding how familial and cultural factors contribute to the relationship between social support and physical functioning over time in later life. This study examined the dynamic relationship between intergenerational support and functional limitations over time among rural-dwelling older Chinese adults, as informed by the gendered filial norms and expectations within the Chinese context.

Methods: Data came from a regional representative longitudinal study The Well-Being of Older People in Anhui Province in 2001, 2003, 2006, and 2009. There were 1,322 respondents aged 60 or older having at least one son and at least one daughter at baseline, 1,080 respondents in 2003, 834 respondents in 2006, and 631 respondents in 2009. Functional limitations were measured as the sum of 11 items reflecting difficulty in performing personal and instrumental activities of daily living on a 3-point scale. Gendered intergenerational support was measured by instrumental support and emotional support from caregivers including sons, daughters, daughters-in-law, and sons-in-law. Cross-lagged

panel analysis with maximum likelihood estimation was conducted.

Results: Good model fit was demonstrated ($\chi^2(457) = 1390.088$, $p < .001$; CFI = .900; RMSEA = .039; SRMR = .063). Receiving more instrumental support from sons was significantly correlated with more functional limitations at a later time, whereas receiving more instrumental support from daughters-in-law was significantly correlated with fewer functional limitations at a later time.

Conclusion: Caregiver support programs and policies should take into consideration of the gendered nature of intergenerational support and its relationship with physical functioning in later life.

LONGITUDINAL EFFECTS OF AN INTERGENERATIONAL MOBILE TECHNOLOGY PROGRAM ON OLDER DIABETES PATIENTS

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Mobile technology and tablet computing devices are gaining its popularity among older adults but the potential to improve their health is underutilized. Given the overwhelming prevalence of chronic disease in this population, Intergenerational Mobile Technology Opportunities Program (IMTOP) tested using the technology for older adult diabetes self-care. In a wait-listed comparison trial, 237 adults aged 55 and above with Type 2 diabetes participated in eight weekly intervention sessions at a general hospital in Taiwan. The intervention incorporated Chronic Disease Self-Management Program (CDSMP) to empower participants with diabetes self-management knowledge and skills. Each participant was given a tablet installed with the IMTOP App that was designed to encourage diabetes patients to regularly record their blood glucose, blood pressure, and self-care activities. College students (N=111) were recruited as volunteers to support seniors learning technology. Patients were linked via a communication app to form a social support network. All participants completed the baseline assessment, 233 and 226 completed 4-month and 8-month follow-up, respectively. The longitudinal effects were evaluated using linear mixed-effects models including contrasts compared mean estimates at each follow-up to the baseline. The results indicate a stable over-time improvement in overall diabetes self-care ($p < .0001$). Specifically, patients reported more blood-glucose testing, foot-care, and risk reduction (all with $p < .0001$), specific diet ($p = .04$), and reduced the frequency of smoking ($p = .03$). Both the WHOQOL physical health ($p = .03$) and self-rated general health ($p = .001$) were enhanced. Moreover, financial barriers to healthcare ($p < .0001$) and depression ($p = .001$) decreased over follow-ups. The findings support the effectiveness of IMTOP intervention over time.

RELATIONSHIP BETWEEN HAND GRIP STRENGTH AND FUNCTIONAL class IN ELDERLY PATIENTS WITH HEART FAILURE

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Methods: We performed a cross-sectional analysis of the study population, which comprised 120 adults with chronic stable cardiac failure and an EF $\leq 50\%$. Participants were from urban and rural households attending the Geriatric outpatient unit of the FOSCAL Clinic, in Santander (Colombia), who were enrolled in the FORCE study. Anthropometric and physical measurements were taken and EF and HF assessed using echocardiogram. Peak handgrip strength (the highest value achieved from three trials in each hand) was measured using a Jamar dynamometer, and calf circumference assessed. We evaluated associations between hand grip strength and functional class by New York Heart Association (NYHA) classification using Wilcoxon's Rank Sum Test. Patients gave written informed consent to participate, and the study was approved by the ethics committee of the FOSCAL clinic.

Results: The median age of the patients was 64.5 years with an age range between 29–88 years. The percentages for stages of cardiac failure were for NYHA I of 35%, NYHA II of 44%, and for NYHA III / IV of 21%; Finding a force average of 32 kg, 26.3 kg, 20.9 kg respectively. Statistical significant differences in the analysis of variance of all groups according to the NYHA classification ($p < 0.0001$) were described.

Conclusions: Patients with heart failure have a gradual decrease in hand grip strength in different stages according to NYHA functional class. We propose the realization of dynamometry as a useful, easy and economical measure, with a potential impact to evaluate the progression of heart failure.

LONGITUDINAL PATTERNS OF CHANGE IN SENSE OF PURPOSE IN LIFE FOLLOWING STROKE ONSET

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A considerable body of research has linked having a sense of purpose in life with positive health outcomes in later life. However, it is less clear how the onset of a major health condition may impact one's sense of purpose long-term. In particular, stroke represents the leading cause of acquired adult disability worldwide and is commonly associated with significant physical and psychological symptoms capable of impairing one's ability to pursue major life goals. Using data from the Health and Retirement Study, the present study explored changes in purpose scores in a total of 90 participants suffering from stroke between 2006 and 2010. Purpose, demographic, social, and personality characteristics were assessed prior to stroke onset in 2006, and again four and eight years later. Overall, participants exhibited mean-level decline in purpose in life following stroke, though there was significant variability in purpose change within the sample. Cluster analyses revealed 4 distinct patterns of purpose change across the eight years of the study, suggesting both adaptive and maladaptive change patterns in purpose following stroke. These findings mirror past work from the post-traumatic growth literature demonstrating similar patterns of adaptation following potentially traumatic life events. Discussion will focus on demographic and psychosocial factors distinguishing these groups including personality and close relationship support.

A LONGITUDINAL STUDY OF THE NAVIGATION PATTERNS OF DEMENTIA PATIENTS AND THEIR RELATIONSHIP TO MMSE

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Studies of the navigational patterns of assisted living facility residents with dementia have resulted in many insights into the progression of dementia e.g. more tortuous navigation has been associated with declining mental capability. In this pilot investigation, we found minute changes in navigational features such as speed, path-efficiency, angle-turn and, ambulation-fraction were predictive of cognitive function. In this study, navigational data of 10 subjects living in an assisted living facility were collected daily over a period of one year using an Ultra-wideband real-time location system with an accuracy of 20cm at 1Hz using a method described by Kearns et al. (2012), and compared with their cognitive status as measured by the Mini Mental State Exam. Six subjects had received clinical diagnoses of dementia with MMSE scores averaging 13.33 (SD=7.6) while the four control subjects' MMSE averaged 18 (SD=9). We hypothesized that linear trends in the aforementioned features over a lengthy period might provide useful information concerning dementia's progression. We employed linear contrast analysis to identify increasing and decreasing trends in the features and evaluated the change using one-way ANOVA to compare the trends within the two diagnostic groups. Two patients evidenced significant linear trends in angle-turn and path-efficiency with the maximum variability captured by angle-turn (14.7% and 11.7%). Both subjects were later found to have very low MMSE value (6 and 9 respectively). In four other residents angle-turn consistently increased over the 1-year monitoring interval suggesting that their cognitive abilities may have correspondingly deteriorated over this interval.

DEVELOPING AND VALIDATING THE LIFESTYLE COGNITIVE DEVELOPMENT QUESTIONNAIRE

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Prior research has suggested that intellectual engagement may have a positive impact on the aging brain. While intellectual engagement has been employed in different ways in previous cognitive interventions, it has not been clearly defined. This issue may be one reason why experimental studies testing the causal relationship between intellectual engagement and cognitive functioning have produced mixed results. Wu, Rebok, and Lin (in press) propose that six factors define optimal intellectual engagement: 1) open-minded input-driven learning, 2) individualized scaffolding, 3) growth mindset, 4) forgiving environment, 5) serious commitment to learning, and 6) learning multiple skills simultaneously. Currently, there are no extant measures that accurately assess levels

of intellectual engagement. The current study reports the development of a new measure of intellectual engagement, the Lifespan Cognitive Development Questionnaire, which includes six scales designed to measure different aspects of intellectual engagement. Across two studies, we found that the scale reliabilities ranged from $\alpha=.493$ (learning multiple skills simultaneously scale) to $\alpha=.744$ (forgiving environment scale). The results of an exploratory item factor analysis were not fully in accord with theoretical expectations. The questionnaire serves as an initial effort to assess intellectual engagement and future work will focus on developing additional items that better represent the theoretical factor structure.

MICROCIRCULATION, MUSCLE STRENGTH AND BODY COMPOSITION IN OLDER ADULTS WITH AND WITHOUT SARCOPENIA

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The number of older people is rapidly growing worldwide. Sarcopenia is the age-related loss of muscle mass and function that evolves to adverse health outcomes such as disability and loss of independence. Purpose: to compare body composition, muscle strength and microvascular function in older adults with and without sarcopenia. Methods: thirty-eight eutrophic inactive elderly, aged 72 ± 6 years, weight 65 ± 10 kg, mini mental state examination 25 ± 4 points, were classified as sarcopenic ($n=12$) and no sarcopenic ($n=26$), assessed by dual energy x-ray absorptiometry (DXA). All volunteers underwent assessments of body composition (DXA), handgrip strength, vascular reactivity [venous occlusion plethysmography (VOP)] and microvascular evaluation [nailfold videocapillaroscopy (NVC)]. Independent samples Student t-tests were used to compare variables between groups and Spearman correlations to compare microcirculation to body composition and handgrip strength. Significance was set at $p<0.05$. Results: Handgrip strength, muscle mass, L2-L4 bone mineral density and femoral neck were higher in no sarcopenic group. Likewise, baseline forearm blood flow and capillary diameters were also higher in no sarcopenic group ($p<0.05$ for all comparisons). The results demonstrated reductions in muscle strength, bone mineral density and basal forearm blood flow in sarcopenia. Although no differences were found in vascular reactivity and functional capillary density between groups, there were positive Spearman correlation coefficients between vascular reactivity and Handgrip strength or appendicular skeletal muscle mass or lean muscle mass as 0.34, 0.35 and 0.39, respectively. Conclusion: Independently of having Sarcopenia or not, better muscle strength and increased muscle mass were found with increasing vascular reactivity.

SEVERE SOCIAL ISOLATION AMONG THE UNMARRIED LIVING ALONE: NATIONAL HEALTH & AGING TRENDS STUDY-NHATS

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Background: Social Isolation is a complex issue that affects the mental and physical well-being of older adults. It is often characterized as the absence of social integration. We examined severe social isolation in community-dwelling adults older than 65 years in the United States.

Methods: This is a cross-sectional study of community dwelling participants in Round 1 of National Health & Aging Trends Study who were unmarried and living alone. Participants were characterized as having severe social isolation if they a) had 0 or 1 person to talk about important things in the last month, and b) responded that they did not participate in any of the following activities in the last month: visiting family or friends; attending religious services; participating in club, classes, or other organized activities; volunteering; and giving care to a person who could not care for themselves. Weighted multivariable logistic regression analyses were performed to identify demographic predictors of severe social isolation.

Results: Of the 2379 study participants, 105 (4.0%) were characterized as having severe social isolation. Weighted multivariable logistic regressions (predictors: age, race, gender, education, and income) found that male gender (7.5% vs 2.7%; OR= 3.44, 95% CI=2.12–5.57), Hispanic vs white race (10.7% vs 3.5%; OR= 2.8, 95% CI=1.22–6.23), and those with less than a high school education vs beyond high school (7.9% vs 2.10%, OR= 2.3, 95% CI=1.10–5.14) were significantly more likely to have severe social isolation.

Conclusion: Among unmarried older adults living alone, male, Hispanic, and lower education are associated with severe social isolation.

SEXUALITY OF MIDLIFE AND OLDER WOMEN: USES OF THEORY IN RESEARCH

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Gerontology is described as rich in data, but poor in theory, a lack which weakens the link between research and applied social gerontology. Reviews of theory in social gerontology at large have been completed in the recent past. However, little work examines theory use pertaining to specific older adult populations or narrower aspects of their lives. This literature review examines how theory is used in literature on the sexuality of midlife and older women. The review includes 21 articles published in English between 2000–2016. Search criteria included theoretical and empirical articles that focused on the sexual lives of mid-life and older women (age 45+). Returned articles were reviewed for substantive theory or methodology and integration of theory. All articles described the dominant narrative of asexuality or sexual decline. However, each positioned their own work as a counter-narrative, representing various theoretical reactions. The majority were framed from a social constructionist or interpretivist orientation. Theories were also differentially integrated throughout articles. While theoretical work is inconsistently integrated into empirical research, its uses have implications for the development of an overall narrative shaped by a body of literature. In research examining

the sexuality of midlife and older women, substantive theories and methodologies react to the culturally dominant, but empirically unsupported narrative of sexual decline, supporting the role of health care and social service providers to acknowledge and affirm the diverse sexual narratives of older women and the ways that socially constructed notions impact sexual experiences in later life.

EXPLORING USERS' SATISFACTION GAP TO LONG-TERM CARE SERVICE STATIONS IN THE REMOTE AREA OF TAIWAN

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Aims: To achieve the goals of "ageing in place" and the universal accessibility of long-term care (LTC), the "Project of Implementing LTC System in Remote Area" has been in operation since 2009 in Taiwan. The government contracts out the program and sets up LTC service stations in remote area to deliver LTC services. By using PZB model (Parasuraman, Zeithaml, Berry, 1988), the study aimed to examine the service gap from the customers' perspectives in order to synergize local resources and deliver appropriate services.

Material and Methods: By convenience sampling at least 10 users from each LTC service station, participants were 206 older adults used one kind or more of LTC services from 23 LTC service stations in remote area. Data was collected by interviews and analyzed by using Multilevel modeling method in SAS 9.4.

Results: Users were mostly women (58.3%), with the age of 65–74 years old (37.4%). The overall satisfactions mean score was 4.366. The results of hierarchical generalized linear models revealed that 1) Users who know the function of service stations and service stations which run by public health centers had higher scores of user's satisfaction; 2) users who had been to and know the function of service stations; also the care managers who had longer LTC working experience got the significant higher satisfaction scores in tangible services.

Conclusion: It is suggested that promoting recognition and accessibility and hire experienced care managers can be helpful to improve user's satisfaction of LTC service stations in remote area.

I CAN'T GET NO SATISFACTION: CHRONIC DISEASE AND SEXUAL SATISFACTION AMONG OLDER COUPLES

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Chronic diseases are especially widespread among older adults, and they can have harmful effects on their sexuality. To examine how an individual's cumulative number of chronic diseases is linked to their sexual frequency and their sexual satisfaction, I draw upon partner-specific learning theory and utilize a gendered sexuality approach. Data from the second wave of the National Social Life, Health, and Aging Project (N=929 dyads) are analyzed using Actor-Partner Interdependence Models to reveal gendered findings. The results show that a husband with fewer chronic conditions has a higher sexual frequency which is in turn related to his own and his partner's sexual

satisfaction, such that having sex more frequently is associated with higher sexual satisfaction for both a husband and his wife. Further, a decrease in a husband's chronic disease burden is also linked to an increase in his wife's sexual frequency, which is thus positively related to her own sexual satisfaction. A wife's sexual frequency, however, is not related to her husband's sexual satisfaction, nor does her own chronic disease burden have any effect on her or her spouse's sexual frequency. The results speak to healthcare providers treating older patients who are concerned about how their health impacts their sexuality and to policy makers working to ensure that adults can have satisfying sex in later life.

LIFE COURSE STAGE AND SOCIAL SUPPORT FOR END-OF-LIFE CAREGIVERS

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Caregivers of terminally ill patients are at risk for anxiety, depression, and social isolation. Social support from friends, family members, neighbors, and healthcare professionals can potentially prevent or mitigate caregiver strain. However, little is known about how social support experiences differ among caregivers at different life course stages. This study uses thematic analysis of data from in-depth interviews with 50 caregivers of patients enrolled in hospice services to compare experiences mobilizing social support among caregivers at two life course stages: midlife caregivers caring for parents and older adult caregivers caring for spouses/partners. Both groups experienced long-term relationships and close social network ties as facilitators of support. For older adult caregivers, physical proximity to sources of social support also facilitated support mobilization. Older adult caregivers identified barriers to accepting social support as including: a preference to autonomously adhere to personal habits and routines, a sense of obligation to fulfill their role as spouses, and a perception that potential sources of support had their own families or other patients to take care of. Midlife caregivers' barriers to accepting social support included domestic conflict arising from multiple, overlapping caregiving roles, and disagreements among multiple siblings providing care for one parent. Findings enhance the understanding of how caregivers' life course stage affects their mobilization of social support resources.

OSTEOSARCOPENIC OBESITY: FREQUENCY AND ITS RELATION WITH FRAILTY AND PHYSICAL PERFORMANCE

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Design: Cross-sectional analysis of a prospective cohort.

Setting: The FraDysMex study, a two-round evaluation of community-dwelling adults from two municipalities in Mexico City.

Participants: Participants were 543 men and women older than 50 years, living in the designated area in Mexico City.

Measurements: Body composition was measured with dual-energy X-ray absorptiometry and OSO was defined by the coexistence of sarcopenia, osteopenia or osteoporosis and obesity. Information regarding demographic characteristics, comorbidities, mental status, nutritional status, history

of falls, fractures and hospitalization was obtained from questionnaires. Objective measurements of muscle strength and function were grip strength using a hand dynamometer, 6-meter gait speed using a GAIT Rite instrumented walkway, and lower extremity functioning measured by the Short Physical Performance Battery (SPPB). Frailty was assessed using the Frailty Phenotype (Fried criteria) and the FRAIL scale.

Results: The frequency of OSO was 16.6% (n=87). Frailty and poor physical performance measured by the SPPB were independently associated to OSO. In a logistic regression model assessing frailty with the Frailty Phenotype the odds ratio (95% confidence interval) for frailty was 5.04 (2.57–9.88), and for poor physical performance it was 2.41 (1.34–4.36). In the model assessing frailty with the FRAIL scale it was 2.12 (1.10–4.11), and for poor physical performance it was 2.53 (1.42–4.51).

Conclusion: OSO is a frequent condition in middle-aged and older adults, and it is independently associated to frailty and poor physical performance.

OLDER ADULTS WITH ALZHEIMER'S DISEASE & OTHER DEMENTIA FIND THEIR VOICE THROUGH DIGITAL PHOTOGRAPHY

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Older adults afflicted by Alzheimer's disease and other dementias can greatly benefit from therapeutic activities that are dignifying and that can provide both physical and mental stimulation. In an effort to integrate technology and art therapy to support individuals with memory loss, residents at various memory care communities in Hawaii were taught how to use digital cameras and guided through the "photo-voice" process. This well-documented process involves taking photographs and then using these photographs to explore the unique thoughts and perspectives of the photographers, which in this case are older adults living in communities specializing in dementia care. Against a common misconception that older adults with dementia cannot learn new skills, the participants in this program found great success evident by their beautiful photographs and vivid reflections, which included reminiscence. Photographs will soon be displayed in public exhibitions to feature the creativity and "voice" of the older adult photographers and challenge perceptions about dementia. Overall, this community program capitalized on current technologies to achieve its program goals—the participants found a therapeutic opportunity to express themselves and the general public increased their awareness about the talents and skills maintained by those with Alzheimer's disease and other dementias.

A COMMUNITY-BASED VIRTUAL REALITY PROGRAM IMPROVES PHYSICAL ACTIVITIES IN PARKINSON'S DISEASE

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Background: Virtual reality (VR) systems are proved to increase motor performance in stroke and elderly. However, the effects have not been established in patients with

Parkinson's disease (PD). Purpose: To examine the effects of VR based training in improving muscle strength, sensory integration ability and walking abilities in patients with PD by a randomized controlled trial. Method: Thirty six participants with diagnosis of PD were randomly assigned to one of the three groups (n=12 for each group). Participants received VR-based Wii Fit exercise (VRWii group) or traditional exercise (TE group) for 45 minutes, followed by treadmill training for another 15 minutes for 12 sessions in 6 weeks. Participants in the control group received no structured exercise program but fall-prevention education. Outcomes included lower extremity muscle strength, sensory integration ability, walking velocity, stride length, and functional gait assessment (FGA). All outcomes were assessed at baseline, after training and at 1-month follow-up. Results: Both VRWii and TE groups showed more improvement in level walking velocity, stride length, FGA, muscle strength and vestibular system integration than control group after training and at 1-month follow-up. The VRWii training, but not the TE training, resulted in more improvement in visual system integration than the control. Conclusions: VRWii training is as beneficial as traditional exercise in improving walking abilities, sensory integration ability and muscle strength in patients with PD, and such improvements persisted at least for 1 month. The VRWii training is then suggested to be implemented in patients with PD.

SELF-REPORTED PHYSICAL FUNCTION AS A PREDICTOR OF HOSPITALIZATION IN THE LIFE STUDY

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Background: For older adults, hospitalization confers functional loss, which in turn increases hospitalizations. Physical function screening may identify an at-risk population for early intervention. The Mobility Assessment Tool – short form (MAT-sf) is a brief, innovative, avatar-based self-report tool that predicts mobility disability. This study explored whether baseline MAT-sf score is associated with number of hospitalizations and time to first hospitalization.

Design: Post-hoc analysis of prospectively-gathered data from the Lifestyle Interventions and Independence for Elders (LIFE) Study, a randomized clinical trial of lifestyle interventions to preserve mobility in older adults, conducted in eight U.S. academic medical centers.

Participants: Among 1635 sedentary community-dwelling older adults enrolled in LIFE, 1574 completed baseline physical function screening including MAT-sf, with scores ranging from 30.2 (low function) to 69.8 (high function).

Measurements: Number of hospitalizations and time to first hospitalization, adjusted for age, gender, race, living alone, clinical site, and baseline comorbid conditions, # prescription medications, and cognition.

Results: Of the 1557 participants with hospitalization data, 726 (47%) experienced at least one hospitalization,

with the majority (78%) of these experiencing 1–2 hospitalizations. For every 10-point increase in MAT-sf defined mobility, there was a 16% decreased rate of all hospitalizations (adjusted rate ratio 0.84, 95% CI: 0.76 to 0.93, $p < 0.001$). Higher baseline MAT-sf scores were also associated with a decreased risk of first hospitalization (adjusted Hazard Ratio 0.83, 95% CI: 0.76 to 0.92, $p < 0.001$, per 10-point increase in MAT-sf).

Conclusion: MAT-sf may identify older adults at increased risk for hospitalizations, who may benefit from care coordination.

USING VIDEO REFLEXIVE GROUPS TO DEVELOP DEMENTIA PRACTICE

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Hospital environments have been criticized as inadequate for meeting needs of patients with dementia. There is a need to explore innovative ways to involve frontline staff to make practical changes. Using videos to show compelling patient stories can be a powerful way for promoting frontline engagement in practice development. This poster reports the perspective of staff on using videos and reflexive groups to develop person-centred care in a medical unit. Methods consisted of video interviews with patients with dementia and 31 focus groups with a total of 50 staff, including nursing, physicians, and allied health. Five substantial themes emerged as important roles of the video reflexive groups in contributing to creating collective commitment and actions to improve dementia practice in the medical unit: (a) seeing through patients' eyes, (b) seeing normal strange, (c) seeing inside and between, (d) seeing with others inspires actions, and (e) seeing team support builds a safe culture for learning. The findings suggest that videos reflexive groups can be an effective strategy for mobilizing positive change in acute hospital wards. In this study, staff participants described visual methods brought a fresh and practical approach to practice development in acute care.

HEALTH AND WELL-BEING OF RETIREES: THE ROLES OF SOCIAL INTERACTION AND EXCHANGE RECIPROCITY

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Utilizing two psychosocial frameworks – the social relationships perspective and the exchange reciprocity theory, this study examines how social interaction and exchange reciprocity affects health and wellbeing of retirees, and whether the effects vary by gender.

Data from the 8th and 9th wave of the Health and Retirement Study (HRS) were analyzed to look into the health and retirement satisfaction of retirees. Logistic regression was used to examine social interaction (positive, and negative social support, self-perceived social hierarchy), exchange reciprocity and demographic information on retirement satisfaction. Heterogeneous choice model was used to examine social interaction, exchange reciprocity and demographic information on retirees' self-reported health. Gender interactions were tested.

Results indicate that positive social interaction and exchange reciprocity were positively related to retirement

satisfaction and self-reported health, while negative social interaction was negatively related to retirement satisfaction and self-reported health. Having the same level of positive social interaction, women have higher odds of reporting more retirement satisfaction. Having the same level of exchange reciprocity, men have higher odds of reporting more retirement satisfaction and better self-reported health.

Incorporating the psychosocial framework helped to understand multiple facets of predictors in affecting retirement wellbeing. It also helped to further our understanding of the gender heterogeneities in successful retirement. Clinical intervention and public policy aiming to target both genders in retirement will be discussed.

ITEMS FOR MEASURING PERSONNEL RETENTION IN INTENSIVE CARE HOME FOR THE ELDERLY

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There is no scale for measuring the retention of nursing and caregiving personnel at intensive care home for the elderly (facilities covered by public aid providing long-term care to the elderly), and the topic has therefore not been discussed. The objective of this research was to find out suitable proposed items for a scale to measure the personnel retention.

Using the Delphi method, 111 prospective items were converged as basic scale items by three rounds. An eight-member panel of experts was convened that consisted of nursing and caregiving researchers and personnel from facilities covered by public aid providing long-term care to the elderly.

The study was approved by the bioethics review committee of the Nagoya University Graduate School of Economics.

As a result, the 111 items were organized into two categories: working environment and personnel support. A total of 29 items, 15 in the working environment category and 14 in the personnel support category, were compiled as proposed scale items.

Because the research yielded basic scale items for measuring personnel retention, it was concluded that a scale for personnel retention can be established by examining reliability and validity with large-sample survey.

WHAT FEELINGS DO PEOPLE WANT TO FEEL WHEN FUTURE TIME IS LIMITED?

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Socioemotional selectivity theory suggests that people prioritize emotionally meaningful goals and are motivated to experience their desired emotion, when they perceive future time as more limited (e.g., at an advanced age). Then, what

affective states do people desire to feel when future time is limited? The present research examined the relationship between future time perspective and the affective states that people ideally want to feel (ideal affect) using a combination of survey, experience sampling, and experimental methods. Two hundred Ninety-nine Hong Kong Chinese aged 18 to 80 years ($M = 46.64$ years, $SD = 20.81$ years; 46% female) participated in the survey and 106 of them participated in the experience-sampling study. Across two methods, we found that people who perceived their future time as more limited valued low-arousal positive states (e.g., calm and peaceful) more than did people who perceived future time as more expanded. Such finding was robust in both trait (from the survey) and momentary (from the experience-sampling) ideal affect. Then, we conducted an experiment among 258 Hong Kong Chinese aged 18–80 years ($M = 43.31$ years, $SD = 20.66$ years; 57% female), in which participants were primed with either a limited future time perspective or an expanded future time perspective. We found that participants in the limited future time condition valued low arousal positive states more and high arousal positive states (e.g., excited and enthusiastic) less than did participants in the expanded future time condition. These findings broaden our understanding of emotional goals in limited (vs. expanded) future time perspective.

END-OF-LIFE DECISION MAKING FOR BLACK OLDER ADULTS WITH DEMENTIA

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Black older adults with dementia worldwide are at risk of facing the end of life without advance care plans, leaving family caregivers struggling to make life-altering, health-related decisions on their behalf. The purpose of this study was to examine surrogate end-of-life decision making for Black older adults with dementia, including understanding of end-of-life terminology, health-related quality of life, and self-efficacy for surrogate decision making. A mixed methods approach was used for cross-sectional data collected from Black caregivers of Black older adults with dementia ($N=65$) in the United States. A subset of caregivers ($n=18$) completed qualitative interviews. Data were analyzed using content and thematic analyses, and statistical analyses of health-related quality of life and self-efficacy. Most caregivers reported the existence of a formal end-of-life plan for their care recipient. The term ‘end of life’ was interpreted as either “healthcare received prior to death”, such as cardiopulmonary resuscitation, “funeral arrangements”, or both. Caregivers reported high levels of self-efficacy for themselves and high levels of health-related quality of life for their care recipients. However, neither measure was associated with the existence of a formal care recipient end-of-life plan. A relationship existed between the presence of formal end-of-life plans and care recipient’s age and number of comorbidities. Study findings support a foundation for effective communication focused on meaning patients and families attach to healthcare terminology. They provide a basis for education and empowerment of Blacks caring for older adults with

dementia internationally, and education of healthcare providers caring for them.

USE AND OPPORTUNITIES OF GEOGRAPHIC INFORMATION SYSTEMS IN HEALTH RESEARCH FOR OLDER ADULTS

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Geographic Information Systems (GIS) enable examination of complex interactions of the environment and health. GIS is a powerful tool for influencing health policy, surveillance of infections, and investigating risks for diseases. The purpose of this systematic review was to describe application of GIS in health research for older adults aged 60+ and identify opportunities for future GPS use. Pubmed, Compendex, and Geobase databases (years 2007–2017) were searched for studies using the terms “older adults” and “GIS”.

The search yielded 43 studies subsequently organized by topic, GIS methods/measures, and region. Study topics were in 5 areas: Influence of the built-neighborhood on health behaviors (e.g., walking, diet, socialization [$n=13$ studies], and on health status (self-rated health, mental health, frailty, disability [$n=8$]); impact of environmental hazards on health and disease risk [$n=7$]; and the measured activity space of older adults’ neighborhoods [$n=2$]. Epidemiological analyses focused on distribution of diseases/conditions (e.g., breast cancer, chronic conditions, respiratory problems [$n=8$ studies]) or healthcare facilities [$n=3$], and patterns of healthcare utilization [$n=3$].

GIS methods/measures were GIS-derived measures (e.g., distance, density [$n=13$ studies]), geospatial analysis [$n=16$], geocoded data [$n=6$], mapping [$n=5$], and global-positioning systems [$n=2$]. Geographic regions were mainly urban areas in US [$n=17$ studies], Europe [$n=10$], Asia/Pacific [$n=10$], and North and South America [$n=6$].

There are numerous other health problems of older adults (e.g., memory loss, heart disease, incontinence, infections) and factors promoting well-being (e.g., safety, social center locations) as well as issues of healthcare accessibility in rural areas that may benefit from insights derived from GIS.

MAKING THE MOST OF MEALTIMES: WHO IS PRESCRIBED MODIFIED TEXTURE FOODS IN CANADIAN LONG-TERM CARE

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Research suggests modified texture foods (MTFs) are prevalent among older adults in long term care (LTC), but characteristics of residents prescribed MTFs are sparsely documented. Making the Most of Mealtimes (M3) is a cross-sectional multi-site study with data from 32 LTC homes in four Canadian provinces (AB, MB, NB, ON). This secondary data analysis applied standardized terminology to examine the current prevalence of prescribed MTF and resident characteristics associated with their prescription.

Resident characteristics were collected from health records and standardized procedures. Homes used 67 different terms to describe MTFs. Diets were re-categorized using the International Dysphagia Diet Standardization Initiative (IDDSI) Framework (pureed, minced, moist and soft/bite sized textures). Bivariate analyses were performed. MTFs were prescribed to 47% (n=298) of the M3 sample (n=639) and significantly differed across provinces ($p < 0.0001$). Resident characteristics significantly associated with MTFs included: longer length of admission; dysphagia and malnutrition risk; dementia diagnosis; fewer vitamins/mineral supplements; prescription of oral nutritional supplementation; lower body weight, body mass index, and calf circumference; greater need of physical assistance; poor oral health status; and more challenges with eating, activities of daily living and impaired cognition. The prevalence of prescribed MTFs was high and diverse across provinces in Canada and residents on MTFs were more vulnerable than residents on regular texture diets. These findings demonstrate the value of using standardized terminology to inform policy and help identify subgroups more likely to consume these diets. (Funded by Canadian Institutes of Health Research).

WORKING LIFE EXPECTANCY WITH AND WITHOUT DISABILITY AT AGE 55 IN THE NETHERLANDS, GERMANY AND USA

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Due to population aging, many countries are reforming their policies by abolishing early retirement routes and raising statutory retirement ages. As health deteriorates with age, many older workers may experience that health limits their workability. The necessity to continue working may depend on the flexibility and generosity of a national pension system. Flexibility refers to early retirement opportunities and their entitlement conditions, and generosity to the post-retirement income as percentage of pre-retirement income. This study compares working life expectancies at age 55 (WLE55) with and without disability across countries differing in pension system. Three countries were selected with decreasing flexibility and generosity: Netherlands, Germany, and United States, using data from the Longitudinal Aging Study Amsterdam (LASA), German Aging Study (DEAS) and the Health and Retirement Study (HRS), respectively. Participants aged 55–65 years at baseline (2002) with a paid job were selected and followed up to 2012/2014 (n=385, n=273 and n=2335, respectively). Two health states were distinguished based on difficulty climbing stairs: with and without disability. WLEs were estimated using the MSM and ELECT packages in R. In the Netherlands, total WLE55 was 5.3 years of which 0.6 with disability. In Germany, total WLE55 was 4.6 years of which 1.1 with disability. In the US, total WLE55 was 7.4 years of which 2.4 with disability. Flexibility and generosity seem to affect the number of working years of older adults both in total and with disability. Governments should be aware that disabled workers need special attention regarding their work environment.

FRAGMENTATION OF PHYSICAL ACTIVITY IS STRONGLY ASSOCIATED WITH GAIT SPEED AND FATIGABILITY

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Low daily physical activity has been linked to poor health and functional performance with aging. However, the health implications of the daily patterns/temporal accumulation of physical activity remain unknown. We created an activity fragmentation index (AFI) to account for the number and duration of daily active bouts using 7-day accelerometry data from the Baltimore Longitudinal Study of Aging (n = 734, mean age 67.8 ± 13.2 years, 50% female). Minute-epoch activity counts were dichotomized into active or sedentary states, and summarized according to the distribution of active bout durations. AFI was calculated as the reciprocal of the average duration of the active bouts. Total daily volume of physical activity was summarized using total log-transformed activity counts (TLAC). Using multiple linear regression models adjusted for age, sex, height, weight, TLAC, and disease conditions, AFI was negatively associated with gait speed ($\beta = -0.06$ m/s, $p < 0.004$), and positively associated with laboratory assessments of high fatigability ($p < 0.001$). TLAC was a significant predictor of gait speed and fatigability until AFI was added to the model, suggesting that the duration and number of active bouts throughout the day mediates the associations among TLAC, gait speed, and fatigability. Together, these results imply that accounting for fragmented daily physical activity may be more important than total volume of physical activity when assessing functional performance in older adults. Further research is needed to validate this measure and determine the longitudinal value of activity fragmentation in predicting adverse outcomes in older adults.

NURSING HOME RESIDENTS' NARRATIVES OF THEIR INTERPERSONAL RELATIONSHIPS

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The cultivation of interpersonal relationships is central to promoting quality of life in nursing homes (NHs), as it is through these relationships that residents, family members and staff come to be valued as unique persons and are empowered as partners in care (Owen & Meyer, 2012). Beyond the care provider-recipient relationship, little research has considered the broader network of relationships experienced by residents. This study aims to explore residents' perspectives regarding the meaning of their relationships with co-residents, families, and staff in NHs. We analyzed individual and group interviews with residents (N=12 sessions; N=12 participants) from two NHs in North Carolina, which were conducted as part of a larger study on person-directed care planning. Informed by narrative inquiry (Jovchelovitch

& Bauer, 2000), the analysis explored various interpersonal relationships and their context through each resident's narration, using a two-cycle coding approach (Saldaña, 2012). Three consistent themes emerged: (i) residents perceived interpersonal relationships as supporting their needs, including the need to feel connected, respected, and supported; (ii) when residents' needs were met through relationships, it led to positive outcomes perceived by residents, such as feeling significant and capable; and (iii) when residents' needs were not attained in particular relationships, it led to negative outcomes including feelings of being neglected, isolated, and helpless. The importance of the findings about interpersonal relationships is discussed in relation to appreciative inquiry (Cooperrider et al., 2003), a strengths-focused approach for helping NH residents, families, and staff co-create personally meaningful living and working environments.

POSTURAL STABILITY AND FALLS RISK IN THE ELDERLY IN BIODEX BALANCE SYSTEM: A RELIABILITY STUDY

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Background: The Biodex Balance System (BBS) platform is an important tool for assessing postural stability and risk of falls in the elderly. The objective of this study was to evaluate the inter-rater and test-retest reliability of the postural stability measures and the agreement of the identification of the risk of falling of the elderly in BBS. **Methods:** methodological study approved by ethics committee (n=34 elderly). The elderly were assessed in the Falls Risk (FR) and Postural Stability (PS) protocols. The platform was unstable in the FR (level 6-2, three repetitions of 20s). The stability was evaluated with and without visual feedback and with closed eyes in the PS (level 4, a repetition of 20s for each visual condition, unstable and stable platform). The elderly were assessed in two days. On the first day two evaluators assessed for inter-rater reliability and concordance study. One of the examiners re-evaluated the elderly after nearly one week to study test-retest reliability and agreement. **Results:** The FR measurements of the two evaluators were significantly different. The inter-rater interclass correlation coefficient (ICC) ranged from 0.48 to 0.71: very good reliability with unstable surface and good to very good reliability with stable surface. The ICC test-retest ranged from 0.64 to 0.91, featuring very good to excellent reliability. Moderate test-retest agreement (Kappa=0.529, p=0.002) and poor inter-rater agreement (Kappa=0.368, p=0.013) were found. **Conclusions:** the measures of postural stability and risk of falls in the elderly in BBS are reliable. Familiarization with the instrument may have improved retest performance evaluations.

THE ASSOCIATION OF CHILDHOOD SOCIOECONOMIC DISADVANTAGE WITH COGNITIVE IMPAIRMENT IN OLDER JAPANESE

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Background: Early prevention strategies for cognitive decline have been proposed, but there is sparse evidence regarding whether socioeconomic disadvantages in childhood are related to cognitive decline in old age. This study examined the association between childhood socioeconomic status (SES) and cognitive impairment among older Japanese.

Methods: In 2015, a cross-sectional questionnaire survey was conducted for all residents aged 65+ in a ward of the Tokyo metropolitan area (n=132,005). Cognitive impairment was assessed with a self-administered dementia checklist. This consisted of 10 items (ranging 10–40), and its validity and reliability were confirmed. The cut-off point for indication of dementia was 17/18; a score of 18+ indicated cognitive impairment. Childhood SES was determined with a single item consisting of five categories (high, middle-high, middle, middle-low, and low). Because the proportion of responses in the “high” category was small, we combined the high and middle-high categories into a single category in the analysis. Covariates included demographics, adult SES, health behaviors, health conditions, and body height.

Results: A total of 75,358 questionnaires were received and analyzed (response rate: 57.1%). Logistic regression analysis showed that middle-low and low childhood SES were associated with cognitive impairment, compared to middle-high/high childhood SES (odds ratio [95% confidence interval]: 1.14 [1.00–1.30] for middle-low; 1.23 [1.06–1.43] for low), after adjusting for covariates.

Conclusions: Socioeconomic disadvantage in early life was associated with cognitive impairment in later life. This suggests the importance of upstream approaches in childhood to aid in prevention of cognitive decline.

STRUCTURAL STUDIES OF ATASE1 AND ATASE2: NOVEL TARGETS FOR ALZHEIMER'S DISEASE AND AGING

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The endoplasmic reticulum (ER) acetylation machinery includes AT-1/SLC33A1, a membrane transporter that transfers acetyl-CoA from the cytosol into the ER lumen, and ATase1 and ATase2, two ER-based Nε-lysine acetyltransferases. Mutations, genetic duplications, and increased gene dosage affecting the ER-based acetylation machinery have been associated with a familial form of spastic paraplegia, developmental delay and premature death, autism spectrum disorder with intellectual disability and progeria-like features, and late-onset Alzheimer's disease (AD). Importantly, AT-1/SLC33A1 is upregulated in p44+/+ mice, a mouse model of progeria, and mice overexpressing AT-1/SLC33A1 display a progeria-like phenotype. Finally, genetic or biochemical inhibition of the ER acetylation machinery can rescue AD in the mouse. At the mechanistic level, the ER acetylation machinery has been linked to maintenance of protein homeostasis within the secretory pathway. As such, ATase1 and ATase2 are currently active targets for therapeutics. Here, we used structural biochemistry and site-directed mutagenesis approaches to identify essential features of the enzymes, including the acetyl-CoA and the peptidyl-lysine binding pockets. We also explored the likely binding orientations of 31 inhibitors

known to affect ATase activity in vitro. Computational docking of the compounds using AutodockVINA identified 9 inhibitors with strong (< -8 kcal/mol) binding and binding pockets which differ between ATase1 and ATase2 in both overall area and residues predicted to be involved in docking. Varied concentrations of these compounds were used to treat H4 neuroglioma cells to observe their effect on autophagy and using electron microscopy and Western blot analysis of known autophagic markers.

A DECISION SUPPORT APP FOR REGISTERED NURSES TO FACILITATE AGING IN PLACE OF PEOPLE WITH DEMENTIA

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Registered nurses (RNs) play an important role in detecting practical problems of persons with dementia and advising them on (technological) solutions to facilitate 'aging in place'. Both are challenging tasks knowing that detecting problems of persons with dementia is very complex and that the availability of new (technological) aids is rapidly growing. Therefore, in co-creation with RNs a decision support app was developed to improve nurses' decision-making and to increase their confidence. The present study aims to assess the usability of this app and to evaluate its potential to increase nurses' confidence in problem assessment and advices on solutions. The usability was tested in three iterative rounds by the project team ($n=4$), technology experts ($n=6$) and district RNs ($n=9$) using heuristic evaluation, a think aloud approach and the Post Study System Usability Questionnaire. Subsequently, written cases have been analyzed with and without the app by RNs. The nurses' level of confidence in problem assessment and advices on solutions has been assessed on 10-cm VAS-scales. The participants valued the app as very usable instrument. Tester feedback resulted in improvements regarding system responses and interface related problems. The study indicated that the app has the potential to increase nurses confidence in problem assessment (mean scores app-users 8.9 versus 7.1 non-users) and advices on solutions (mean scores app-users 9.5 versus 6.8 non-users). To conclude, a usable decision support app is available for clinical practice now. However, its effects should be evaluated in a large sample of RNs, which will be the next step.

COGNITIVE IMPAIRMENT IN KOREAN OLDER ADULTS WITH RHEUMATOID ARTHRITIS

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Purpose: This study explored the prevalence of cognitive impairment in Korean older adults with rheumatoid arthritis (RA) using a set of computerized neurocognitive tests and the factors that were significantly correlated with cognitive impairment.

Methods: Individuals with RA were recruited by their rheumatologists during follow-up visits at one university hospital. Cognitive function was assessed using a set of 6 computerized neurocognitive tests yielding 18 indices covering a range of cognitive domains. Subjects were classified as 'impaired' if they performed 1 SD below age-based population norms on each test. The total cognitive impairment score was calculated by summing the transformed scores. Pearson correlation coefficient analyses were conducted to identify the variables that might be significantly associated with cognitive impairment.

Results: Fifty four subjects with a mean ($\pm$ SD) age of 63.6 (± 10.5) years were included in the final analyses. 85% were female and 87% were married. Mean total cognitive impairment score was 11.1 (± 4.1 , range=2–18). 92% were classified as cognitively impaired on five or more test indices. The proportion of persons who were classified as cognitively impaired on each test were 37% in executive function, 67% in visuo-motor coordination, 72% in language memory, 85% in visuo-spatial memory, 85% in continuous attention, and 92% in selective attention. Education ($r=-.558$, $p<.001$), income ($r=-.491$, $p<.001$), CVD risk factors ($r=.445$, $p=.006$), and functional limitations ($r=-.322$, $p=.024$) were significantly correlated with total cognitive impairment score.

Conclusion: The burden of cognitive impairment in RA is significant. Future studies identifying specific etiological contributors to cognitive impairment are warranted.

ASSESSING FAMILY CARE CONFERENCES IN LONG-TERM CARE: LESSONS LEARNED FROM CONTENT ANALYSIS

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End-of-life (EOL) communication in long-term care (LTC) is often inadequate and delayed, leaving residents dying with unknown preferences or goals of care. Poor communication with staff contributes to families feeling unprepared, distressed and unsatisfied negatively effecting bereavement. Family Care Conferences (FCC) aim to increase structured, systematic communication around goals and plans for EOL.

FCCs were implemented as part of the 'Strengthening a Palliative Approach to Care' (SPA-LTC) project in four LTC sites in Ontario, Canada. The purpose of this sub-study is to evaluate: a) content, b) processes, and c) interdisciplinary engagement using mixed methods. Twenty-four FCCs were held for residents with a Palliative Performance Scale of 40% (nearing death) considered appropriate by staff. Data was collected from FCC forms (i.e., Family Questionnaires, Conference Summaries) and electronic charts. Through directed-analysis, data was analyzed using the Canadian Hospice Palliative Care Association's 'Square of Care' model which includes eight domains of care: Disease Management, Physical, Psychological, Social, Practical, Spiritual, EOL, and Loss/Bereavement.

Findings showed on average each FCC documented 66% of domains with physical and EOL care domains being used

the most, and content about loss/bereavement documented the least. Use of FCC hard copy forms had benefits over standard electronic charts including: higher proportion of goals, timely completion, category for end-of-life care and accessibility. FCCs were attended by an average of three disciplines prompting holistic content although Personal Support Workers (PSW) and physicians attended minimally. Implications to optimize FCCs include tailoring use of FCCs forms, prompting bereavement discussion, furthering engagement of PSWs and physicians.

GENETIC ASSOCIATION OF THE ABCC9 GENE WITH HIPPOCAMPAL SCLEROSIS OF AGING NEUROPATHOLOGY

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Hippocampal sclerosis of aging (HS-Aging) is a common neurodegenerative condition associated with dementia. To learn more about genetic risk of HS-Aging pathology, we tested gene-based associations of the ABCC9 gene, which was reported to be associated with HS-Aging pathology in previous studies. Genetic data were obtained from the Alzheimer's Disease Genetics Consortium (ADGC), linked to autopsy-derived neuropathological outcomes from the National Alzheimer's Coordinating Center (NACC). Of 3,730 subjects with both genotype and autopsy information available to us, those who died at age 60 years or older were included in this study. After applying inclusion/exclusion criteria and quality control filtering, data from 3,251 participants of European ancestry were used in the analyses. Of the 3,251 subjects included in the study, 271 (8.3%) were identified as a HS-Aging case. The ABCC9 gene was significantly associated with HS-Aging when assuming a recessive mode of inheritance. For sensitivity analysis, we confirmed the same results even in people aged 80 years or older at death. The significant gene-based association between ABCC9 and HS-Aging appeared to be driven by a region in which significant haplotype-based associations were found. We further tested the haplotypes as an expression quantitative trait locus (eQTL) using two different public-access brain gene expression databases. The HS-Aging pathology protective ABCC9 haplotype was associated with decreased ABCC9 expression, and the results were consistent in two independent datasets. The gain-of-function haplotype in the ABCC9 gene was protective for HS-Aging in older people.

A PERSON-CENTERED APPROACH TO PREDICTING THE USE OF MEDICAL CARE AND SOCIAL SERVICES IN OLDER ADULTS

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As health and health changes in older adults are characterized by great heterogeneity, their needs and demand for health care also vary widely. Thus, a more personalized characterization of the care needs of older people is required to inform policy makers and to provide stakeholders with more reliable healthcare management tools. The aim of this study was to determine whether the prediction of the use of medical care and social services is improved by looking at a multidimensional health index rather than at individual health indicators separately. The multidimensional Health Assessment Tool (HAT) comprehensively appraises health and functioning in community-dwelling older adults by integrating five clinical indicators: multimorbidity, physical function, cognitive status, basic-activities of daily living (ADL), and instrumental-ADL. We found that a better health status, hence higher values of HAT, was associated with a lower number of both current (same year of assessment) and future (within 3-years after assessment) hospital admissions, hospital days, and hours/month of formal and informal care, following a clear dose-response trend. The association was less straightforward with current/future number of specialist visits and future number of primary care visits. The ability to predict any of the six health outcomes was significantly greater for the HAT than for disability and/or multimorbidity alone, with the exception of specialist visits which showed higher correlation with multimorbidity. In conclusion, our multidimensional index optimally predicts use of medical and social care by considering not only the chronic diseases older people suffer from, but how these interact and impact on functioning.

IS THEORY UTILIZATION LESSENING? AN ANALYSIS OF THEORIES IN PSYCHOLOGICAL GERONTOLOGY RESEARCH

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This study examined which theoretical frameworks and models were most prevalent in the Journal of Gerontology, Psychological Sciences through a content analysis of the articles published between years January 2012 to November 2016. Two hundred and seventy-three articles were examined and 152 articles included a theoretical or model framework. Although some researchers included a framework, not all researchers fully used a theory or model as a basis for their research. For example, some articles only briefly mentioned a theory in the discussion section of the paper. Of those 152 articles, 98 incorporated theory substantially, whereas 54 articles only mentioned theory briefly. With combined results, the most frequently cited or used theory was Socioemotional Selectivity theory ($n = 33$). This was followed by the Five-Factor Model (Big Five Personality; $n = 9$) and Selection, Optimization, and Compensation theory ($n = 7$). Interestingly, 162 of the articles did not specifically present a model or theoretical framework. This might signify a lack of current theories or models properly fitting or guiding the research. However, other factors may have impacted the results. Circumstances such as a large focus on biological research and/or a special addition specifically focused on widowhood. These initial findings give the gerontological community a critical look at how theory and models shape gerontological research and current/future directions

of examination. Further research and examination of theoretical and/or model framework usage amongst gerontology research will help determine the validity of these results.

METABOLIC CROSS-TALK BETWEEN ER, MITOCHONDRIA, AND NUCLEUS: POSSIBLE IMPACT IN AGING

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Nε-lysine acetylation in the lumen of the endoplasmic reticulum (ER) regulates quality control and proteostasis within the secretory pathway. Mechanistically, it has been established that the import of acetyl-CoA into the ER lumen by the membrane transporter AT-1/SLC33A1 is an essential biochemical component of the ER acetylation machinery. Homozygous mutations in AT-1 are associated with developmental delay and childhood death while heterozygous mutations are associated with a familial form of spastic paraplegia. Finally, gene duplications of AT-1/SLC33A1 have been identified in patients with autistic-like features, intellectual disability and dysmorphic features that are consistent with a diagnosis of segmental progeria. Neuron-specific overexpression of AT-1 in the mouse leads to an autistic-like phenotype while systemic overexpression leads to a progeria-like phenotype that mimics an accelerated form of aging. While dissecting the phenotype of these mice, we discovered the influx of acetyl-CoA into the ER causes epigenetic and mitochondria adaptation. In light of the strong relationship between mitochondria biology and TCA engagement with aging and several age-associated diseases, we decided to use a combination of proteomic and metabolomic approaches to dissect the biochemical and molecular mechanisms that mediate the metabolic and functional adaptation of the mitochondria in the above progeria-like animals. These studies were paralleled by ex vivo genetic approaches to identify novel key regulatory elements. The results show that ACLY, SLC13A5 and SLC25A1 are essential in maintaining acetyl-CoA flux within the cell and a functional cross-talk between the ER and the mitochondria.

CHILDHOOD DISADVANTAGE AND METABOLIC SYNDROME: AN EXAMINATION OF GENDER AND HEALTHY LIFESTYLES

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Objectives: We investigate (a) the extent to which healthy lifestyles (physical activity and diet) explain the association between childhood disadvantage and metabolic syndrome (MetS) in midlife, and (b) whether there are gender differences in the associations.

Methods: Data on 1,054 respondents came from the Biomarker Subsample of the Midlife in the U.S. Study. Childhood disadvantage was measured with four indicators: parental education, parental occupational prestige, financial level growing up, and welfare status. MetS is the total number of MetS symptoms defined by the National Cholesterol Education Program. Physically intense activities (> 500 metabolic equivalent minutes per week) were categorized into three domains: leisure, work, and chores. Food

consumption consists of two domains: healthy foods (fruits/vegetables, whole grains, fish, lean meat, non-meat protein) and unhealthy foods (sugary beverages, fast food, high-fat meat).

Results: After adjusting for life course confounding factors, individuals who were disadvantaged in childhood are less likely to participate in physically intense leisure activities with a stronger association for women after adjusting for adult SES. The association between childhood disadvantage and diet, however, appears stronger for men. Compared to advantaged men, those who were disadvantaged in childhood tend to consume more unhealthy food. In the association between childhood disadvantage and MetS, leisure activity is a significant mediator for women; unhealthy food consumption is a significant mediator for men.

Conclusions: Disadvantages in early life shape healthy lifestyles in adulthood. Life-course perspectives and gender-specific approaches are important for behavioral interventions to improve the cardiometabolic health of adults.

EFFECTS OF TAI CHI CHUAN ON IMMUNE AND INFLAMMATORY MAKERS OF ELDERS WITH AND WITHOUT DIABETES

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Background: We have previously shown that moderate exercise of Tai Chi Chuan exercise could increase complement factor H with a decrease of factor B as a proteomic biomarker of Tai Chi Chuan exercise (Clin Chem. 2010;56:127–31.), and diabetic patients with different complications have varied proteomic markers (J Diabetes Metab Disord. 2016;15:24.). This study has further analyzed whether a 12-week program of Tai Chi Chuan exercise improves the inflammatory markers of type 2 diabetes mellitus (T2DM) patients in comparison to aged matched normal elders.

Methods: Plasma low abundance proteins were enriched by depletion of 14 high abundance proteins by an affinity removal system, and subjected to nanoflow liquid chromatography electrospray ionization (nano LC-ESI) mass spectrometry after a gel electrophoresis with in-gel digestion for 8 pairs of plasma from normal elders and T2DM. The plasma differential proteomes between normal adults (n=20) and diabetic patients (n= 24) before and after a 12-week Tai Chi Chuan exercise were validated by enzyme-linked immunoassay (ELISA).

Results: A total of 826 proteins in plasma were consistently identified from 8 plasma samples of normal adults, and 817 were consistently identified in 8 plasma samples of T2DM patients. Using the MetaCore analysis, we found the low abundance proteins in plasma between normal adults and T2DM patients were significantly different in 5 functional pathways. We next selected the 6 proteins (DPP4, PIP, NGAL, L1CAM, THBS2, and GLP1) associated with metabolism or inflammation for validation by enzyme-linked immunoassay. We found that PIP, THBS2, L1CAM and NGAL levels were significantly ($p < 0.013$, Bonferroni correction adjust) higher in T2DM patients than in normal adults. Interestingly, Tai Chi Chuan exercise significantly ($p = 0.04$)

increased DPP4 levels in normal elders but not in diabetic patients. The higher expression of PIP, THBS2, L1CAM and NGAL inflammatory markers in T2DM were not significantly reduced after Tai Chi Chuan exercise.

Conclusions: This study identified that Tai Chi Chuan exercise could increase DPP4 levels in normal elders, but did not significantly reduced inflammatory biomarkers in diabetic patients. Further studies to find another moderate exercise for improvement of inflammatory markers of T2DM patients are needed.

INTERNET-BASED INTERVENTIONS FOR CAREGIVERS OF ASSISTIVE TECHNOLOGY USERS: NEEDS AND PERCEPTIONS

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Providing home-based care to older adults using assistive technology (AT) (e.g. mobility aids, communication aids) can be challenging for family caregivers. MOvIT-PLUS™ is an Internet-based intervention aiming to offer remote monitoring, support and training to dyads of family caregivers and older adults using AT in their daily lives. Using an iterative user-centred design approach, 30 semi-structured interviews were conducted with end-users and key informants to i) identify end-user needs through discussion about past experiences with AT, and ii) explore end-users' perceptions of a mock-up of MOvIT-PLUS™. A modified content analysis approach was used to identify themes from a mix of emerging and expected concepts. Results indicate AT procurement is viewed as an ongoing cyclical process, with potential unmet needs at key moments before and after AT procurement. When expressing their preferences about the MOvIT-PLUS™ mock-up, end-users and key informants were generally supportive of automated monitoring calls and asynchronous training features, such as skill-based video bank. Moreover, end-users express their appreciation regarding professional-led counselling and training features such as videoconferences, but key informants had divergent opinions. These results are guiding the MOvIT-PLUS™ prototype design towards a graded support approach, starting with empowering end-users to resolve AT-related challenges and then adding professional support when needed. This study highlights that Internet-based interventions dedicated to family caregivers should consider concrete daily task challenges, ensure adequate follow-up and offer human support.

EDUCATIONAL LEADERS IN GERONTOLOGY: INTRODUCING COMPETENCY-BASED GERONTOLOGY EDUCATION IN KAZAKHSTAN

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There are no courses in gerontology in Kazakhstan to train its medical students; however, this is about to change. Two Kazakh Scholars received 10-month internships at Virginia Commonwealth University. As part of their internship, they completed the 160-hour Faculty Development Program (FDP) by the Virginia Geriatric Education Center. The FDP is a case-themed, interprofessional curriculum grounded in evidence-based practices, with objective competencies reflecting the PHA; format is an in-person, monthly, interactive seminar series designed to increase knowledge and competency in interprofessional geriatrics and clinical care skills. To fulfill requirements of the FDP, participants complete a "curriculum project" inspired by FDP content. The Scholars designed a teaching intervention and evaluation plan to address the gap in gerontology education in Kazakhstan. Their project led to a 90-hour, two-credit course on the foundations of gerontology at Medical University that is about to be implemented. The Scholars incorporated the AGHE Gerontology Competencies for Undergraduate and Graduate Education as a framework for the curriculum. The primary objective is to introduce first-year medical students to the foundations of gerontology. Students will be paired with older adults to learn about the individual's experiences with health and the healthcare system. The curriculum reflects not only the traditional "bio-psycho-socio" template but also content and competencies on critical thinking, research, and problem solving. The overall goal is to establish an effective means of infusing geriatrics content into the medical school curriculum, while positively affecting mentors' and students' attitudes toward each other. Obstacles to implementation and successful processes are critically examined.

DEVELOPMENT OF A RAT CLINICAL FRAILTY INDEX

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There has been a recent focus on the development of pre-clinical models of frailty in mice. A mouse clinical frailty index (FI) was developed based on the concept that frailty can be quantified as the accumulation of deficits in health, as originally shown in humans. Rats are a commonly used model for aging studies, so the current study aimed to develop a FI that measures the accumulation of clinically-evident health-related deficits in rats. Male Fischer 344 rats were aged from 6 to 9 months (n=12), and from 13 to 21 months (n=41). A FI comprised of 27 health-related deficits was developed from a review of the literature and consultation with a veterinarian. Deficits were scored 0 if absent, 0.5 if mild or 1 if severe. A FI score was determined for each rat every 3–4 months, and for the older group mortality was assessed up to 21 months. Mean FI scores significantly increased at each time point for the older rats (13 months, 0.06 ± 0.00 ; 17 months, 0.13 ± 0.01 ; 21 months 0.21 ± 0.01 ; $p < 0.0001$). The rate of deficit accumulation, and the maximum FI score (0.40) were similar to those observed in previous mouse and human FI studies. A high FI score measured at both 17 months ($p < 0.0001$) and 21 months of age ($p = 0.007$) was also associated with decreased probability of survival as assessed with Kaplan-Meier curves. The rat clinical FI has

significant value for use in aging and interventional studies, and will contribute to translational research in this field.

MULTIMORBIDITY PATTERNS PROVIDE ADDED PROGNOSTIC INFORMATION BEYOND FRAILTY STATUS IN OLDER ADULTS

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Assessing frailty is useful in measuring heterogeneity of health status and predicting prognosis in older adults. However, individuals in a given frailty state have diverse multimorbidity patterns, some of which may portend poorer prognosis. This retrospective cohort study aimed to evaluate the impact of frailty and multimorbidity patterns on mortality in 7197 community-dwelling older adults in the National Health and Aging Trends Study 2011–2015. Individuals were assessed for the Fried frailty phenotype and 10 chronic conditions in 2011. Latent class analysis uncovered 5 multimorbidity patterns: minimal disease (n=1780), cardiovascular disease (CVD) (n=2087), non-CVD (n=1968), neuropsychiatric disease (n=641), and very sick (n=721). Robust individuals had minimal disease (41.4%), CVD (27.6%), or non-CVD (26.0%), whereas frail individuals had CVD (24.7%), non-CVD (21.9%), neuropsychiatric disease (22.7%), or very sick patterns (23.6%). During the 4-year period, the mortality risk was 6.6% for the robust (n=147/2213), 15.4% for the pre-frail (n=561/3647), and 37.7% for the frail (n=504/1337). Within each frailty state, the mortality varied substantially across the multimorbidity patterns, with minimal disease being the lowest and neuropsychiatric disease being the highest: 5.0–19.2% for the robust, 12.5–25.3% for the pre-frail, and 27.7–55.6% for the frail. Notably, compared with minimal disease, CVD was significantly associated with increased mortality only in robust and pre-frail individuals, not in frail individuals. Neuropsychiatric disease and very sick patterns were significantly associated with increased mortality only in pre-frail and frail individuals. These findings underscore the importance of considering clinically meaningful multimorbidity patterns in addition to frailty for better prognostication in older adults.

DESCRIPTIVE COMPARISONS BETWEEN PATIENTS WITH STROKE IN INPATIENT AND SKILLED NURSING REHABILITATION

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Comparison of stroke rehabilitation outcomes across post-acute care (PAC) settings has been questioned because of the different patient and facility characteristics (i.e., functional status or stroke comorbidities) across PAC settings. Therefore, we explored differences in patient discharged to inpatient (IRF) and skilled nursing (SNF) rehabilitation following an ischemic or hemorrhagic stroke. We conducted a secondary analysis of data from the Centers for Medicare and Medicaid Services (CMS). The study included those

who sustained an ischemic or hemorrhagic stroke who were discharged to inpatient or skilled nursing rehabilitation from 2013 to 2014. Descriptive analyses were performed to explore patient and hospital differences in discharges to IRF and SNF. The final sample included 122,084 patients across 3,677 acute hospitals with 3,649 hospitals discharging individuals with an ischemic stroke compared to only 1,832 hospitals discharging patients with a hemorrhagic events. Across the sample, 88.6% of patients had ischemic event with 54.6% of patient being discharged to IRF. Patients 85 years and older were more likely to discharge to SNF. Similarly, there were greater numbers of comorbid conditions among those discharged to SNF. Comparison of self-care and mobility across settings suggest that IRF patients have higher functional abilities at admission to rehabilitation. This study suggests considerable differences in acute hospital discharge practices for ischemic and hemorrhagic stroke patients who receive IRF and SNF rehabilitation. Furthermore, these differences highlight the need for careful consideration and matching of patient and facility characteristics when comparing outcomes of care for post-acute care rehabilitation.

PSYCHOTROPIC MEDICATIONS AND QUALITY OF LIFE IN RESIDENTIAL AGED CARE FACILITIES

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Recent clinical recommendations state that many psychotropic medications should be avoided wherever possible in people with cognitive impairment and dementia. Psychotropic medications have been associated with increased risk of falls, hospitalization, stroke and mortality in residents of aged care facilities. The objective of this study was to examine associations between psychotropic medications and quality of life in older adults living in residential care facilities. The population was from a cross-sectional study of 537 residents from 17 different residential aged care facilities in Australia, with a high prevalence of cognitive impairment and dementia. Overall, 70.8% (n=380) of the population had been prescribed/dispensed at least one psychotropic medication in the 100 days prior to recruitment. Participants residing in facilities which had adopted a person-centred, 'cottage model' of residential care had a lower prevalence of psychotropic medications (OR (95% CI): 0.26 (0.14, 0.52), p<0.001). An increased number of psychotropic medications were associated with poorer quality of life according to DEMQOL-Proxy-Utility scores (β (SE): -0.012 (0.006), p=0.03) and EQ-5D-5L scores (-0.026 (0.011), p=0.02) after adjustment for resident-level and facility-level characteristics. Analysis of the individual classes of psychotropic medications showed antipsychotics were associated with poorer DEMQOL-Proxy-Utility scores (-0.030 (0.013), p=0.03) and benzodiazepines were associated with poorer EQ-5D-5L scores (-0.062 (0.024), p=0.01). In conclusion, an increased number of psychotropic medications were associated with poorer quality of life. These medications have many adverse effects and the use of these medications should be re-examined when

investigating approaches to improve quality of life for older people in residential care.

POSTMENOPAUSAL SEXUAL ACTIVITY: OLDER MEN'S OPINIONS IN SOUTHWESTERN NIGERIA

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Postmenopausal sexual activity is considered a taboo in some Nigerian societies with existing information focused on the women, the men often neglected. This study assessed older men's perceptions of postmenopausal sexual activity.

A community based study was conducted among men who are 60 years and above in Southwestern Nigeria. Using a Focus Group discussion guide, opinions of community dwelling men on postmenopausal sexual activity and associated sociocultural beliefs were explored. Eight focus group discussions were conducted in all and data were analyzed thematically.

The mean age of the respondents was 64.0 ± 3.6 years. All the respondents were married and most of them had no formal education. The men listed the following socio-cultural beliefs associated with post-menopausal sexual activity: menopause makes a woman biologically manlike; sex after menopause is evil, causes swollen abdomen due to accumulated semen, makes one sick, indicates promiscuity and women are less sexually attractive after menopause. More than half of the respondents agreed with at least one of the socio-cultural beliefs. The majority were of the opinion that menopause marked cessation of sexual activity and many of the physical changes seen in old age including body weakness, urinary incontinence and loss of sight were ascribed to post-menopausal sexual activity. More than 70% of the discussants had stopped having sex and were of the opinion that post-menopausal sexual activity can cause "chronic abdominal pain for women", "semen contamination" and "weakness of manhood" for men (erectile dysfunction). "I would rather take another younger wife, than risk being impotent for life"

Sociocultural beliefs adversely affected postmenopausal sexual activity among these men, which has implications on the men seeking alternative sexual partners with the attendant problems of sexually transmitted infections /HIV. Educational interventions targeted at changing these erroneous beliefs should be developed and implemented.

YOUNG ADULTS' CONCERNS AND COPING STRATEGIES REGARDING INTERACTIONS WITH GRANDPARENTS WITH DEMENTIA

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Concerns and coping strategies related to face-to-face interactions between young adults and their grandparents/great-grandparents with dementia were explored through the lens of a solidarity-versus-conflict conceptual framework. Participants indicated concerns about their inability to maintain the relational connection, not knowing what to say or how to behave, their lack of perspective-taking skills and emotion-regulation strategies, interacting with an ever-changing other, as well as concerns about other co-participants in the interaction. Participants' coping strategies were classified along two interaction dimensions: solidarity

(e.g., desire to maintain and improve the interaction with the grandparent by seeking the other's company, loving the other, and maintaining and celebrating the other's humanity/personhood) and conflict (e.g., dealing with self-focused concerns and the lack of skills and knowledge by engaging in substitute avenues for communication and using emotion-regulation strategies to reduce negative affect). Reducing grandchildren's self-focused interaction concerns could lead to more meaningful interactions in which focus is switched from the grandchild's concerns about their own interaction competence to concerns about the grandparent's wellbeing.

PREVENTING READMISSIONS AND INCIDENT DELIRIUM IN ELDERLY (PRIDE) PROGRAM

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Low cost intervention hospital based care models can reduce length of stay and decrease readmission rates of elderly patients, while improving patient care quality. Programs like Hospitalized Elder Life Program (HELP) and Coleman Care Transition Intervention© (CTI) have independently demonstrated better patient outcomes. Collectively, programs that improve outcomes do better with a comprehensive approach in primary prevention of delirium and providing safe transition of care. PRIDE (Preventing Readmissions and Incident Delirium in Elderly), a Quality Improvement (QI) initiative derives its program themes from the Hospitalized Elder Life Program (HELP) and Coleman Care Transition Intervention© to prevent delirium and provide safe care transitions for elderly hospitalized patients. An electronic dashboard identifies elderly patients admitted at a large academic hospital at risk for delirium and readmissions. Two fold interventions are then provided. Delirium Prevention: Trained volunteers cognitively and functionally engage patients in structured activities adapted from HELP. Improve Care Transitions: A Patient Centered Health record (PRIDE Journal) empowers patients with self- management tools to raise awareness on functional independence and medication self-management on discharge. Preliminary data shows improved outcome with reduced LOS (5.8 days vs 7.7 days, N=45), reduced readmission rates (9% vs 42 %, N= 45). 94% of patients endorsed improved self-management skills. The program also demonstrates better staff satisfaction in patient care. PRIDE program is able to demonstrate better quality of care for a hospitalized elderly patient and improve care transitions.

ESTABLISHING BIOLOGICAL PLAUSIBILITY FOR COGNITIVE FRAILTY: SYSTEMATIC REVIEW

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On April 16th, 2013 the International Consensus Group (I.A.A.A./I.A.G.G) formally defined the novel phenotype cognitive frailty; a condition characterized by the co-occurrence of physical frailty and cognitive impairment. We hypothesize that there are biological factors to describe the interconnection between physical frailty and cognitive impairment. This systematic review focuses on identifying the shared measurable biological and genomic mechanisms for physical frailty and cognitive decline. Two independent reviewers assessed the eligibility of each report based on predefined inclusion criteria to ensure interrater reliability; a third reviewer resolved conflicting assessments. The review was conducted using PubMed, Embase, Scopus, Web of Science, LILACS, Gene Indexer, and GWAS Central. Findings resulted in 1232 abstracts for full review, 335 articles were included in the final review. Data extraction identified a correlation between 14 distinct inflammatory and protein markers with biomarker-related gene expression for cognitive frailty. Meaningful findings were identified in the relationship between key inflammatory (IL6, IL8, CRP, and Fibrinogen, TNF-alpha, and homocysteine) and clinical (gait, BMI, and anticholinergic medications) markers, and cognitive frailty. The abstract presents the first findings of the underlying biological characteristics for cognitive frailty providing evidence for converging pathophysiological pathways.

NATIVITY DIFFERENCES IN RECOVERY AND DETERIORATION IN LATE-LIFE DISABLEMENT

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The current older adult population in the United States is not only one of the historically largest older adult populations, but one of the most racially and ethnically diverse, in part due to the growing number of aging immigrants. Despite sharing a racial or ethnic category, the lived experiences of immigrants may diverge from their native born counterparts. Moreover, with the greater prevalence of disability, it is critical to understand how older populations move through the disablement process. Using longitudinal panel data from the NHATS (2011) this research focuses on nativity differences in recovery and deterioration in late-life disablement between US-born and immigrant older adults living in the US. This research uses hazard models to provide a more nuanced picture of immigrant and non-immigrant old adult disablement, using a multi-stage measure of mobility and self-care disablement from NHATS. Results indicate that nativity differences in both recovery and deterioration in late-life disablement is mediated by early- and mid-life socioeconomic contexts. Additional models suggest that life course timing of migration shapes late-life disablement among immigrant older adults in the US. Developing greater knowledge on this process has implications on costs and possibilities for earlier interventions and the delay of more severe disability in later life for both US-born and immigrant older adults in the US.

SERUM SIRTUINS AS NOVEL PROTEIN MARKERS FOR FRAILITY

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Frailty has emerged as a major health issue among older patients. The syndrome of frailty is a multi-organ dysfunction in sub-cellular level, affects older people and progresses irreversibly if not intervened at very early stage. Sirtuins (SIRT), a conserved family of NAD-dependent proteins, is one of the many mimics of calorie restriction which improves lifespan and health in experimental animals. In this cross sectional study, association of serum sirtuin concentration was assessed in frail and non-frail older subjects with an objective of examining it as a marker of frailty in old age. Serum SIRT1, SIRT2, SIRT3, SIRT4, SIRT5, SIRT6 and SIRT7 were estimated by real time label free Surface Plasmon Resonance (SPR) and Western Blot in 119 non-frail and 81 frail individuals, diagnosed by Fried's criteria. Serum SIRT level in Mean $\pm$ SD; SIRT1 (non-frail-4.67 $\pm$ 0.48ng/ μ L; frail-3.72 $\pm$ 0.48ng/ μ L), SIRT2 (non-frail-15.18 $\pm$ 2.94ng/ μ L; frail-14.19 $\pm$ 2.66ng/ μ L), SIRT3 (non-frail-7.72 $\pm$ 1.84ng/ μ L; frail-6.12 $\pm$ 0.97ng/ μ L), SIRT5 (non-frail-8.71 $\pm$ 3.48ng/ μ L; frail-7.25 $\pm$ 3.13ng/ μ L), SIRT6 (non-frail-9.82 $\pm$ 3.64ng/ μ L; frail-8.36 $\pm$ 3.33ng/ μ L) and SIRT7 (non-frail-19.26 $\pm$ 3ng/ μ L; frail-16.96 $\pm$ 3.33ng/ μ L) levels were significantly lower among frail patients compared to the non frail. However, SIRT4 was not significantly different between the groups. In multivariable regression analysis, lower SIRT1 and SIRT3 level were significantly associated with frailty after adjusting age, gender, diabetes mellitus, hypertension, cognitive status (MMSE) and number of co-morbidities. For detecting the optimum diagnostic cut-off value a ROC analysis was carried out. The area under curve for SIRT1 was 0.9037 (cut-off-4.29ng/ μ L; sensitivity-81.48%; specificity-79.83%) and SIRT3 was 0.7988 (cutoff-6.61ng/ μ L; sensitivity-70.37%; specificity-70.59%). The present study shows that lower circulating SIRT1 and SIRT3 levels can be distinctive marker of frailty.

THE ASSOCIATION BETWEEN FILIAL DISCREPANCY AND DEPRESSIVE SYMPTOMS: FINDINGS FROM THE PINE STUDY

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Background: The relationship between filial piety and depressive symptoms has been widely discussed, but limited research focused on the gap between filial expectations and filial receipt. This study aims to investigate the association between filial discrepancy and depressive symptoms. Methods: Data were derived from the Population Study of Chinese Elderly (PINE), a community-engaged, population-based epidemiological study of US Chinese older adults aged 60 and above in the Greater Chicago area. Depressive symptoms were measured by the Patient Health Questionnaire-9. Overall filial discrepancy was evaluated by filial receipt minus expectations. Levels of overall filial discrepancy divided older adults into four groups based on the medium value of filial expectations and receipt. Logistic regression analyses were performed. Results: Older adults with greater filial

receipt than expectations were more likely to have lower risk of depressive symptoms (OR, 0.95, (0.92–0.97)). The group with high expectations and low receipt has the highest risk of depressive symptoms among the four groups (OR, 1.51, (1.07–2.13)). Greater receipt than expectations in care (OR, 0.83, (0.76–0.92)), make happy (OR, 0.77, (0.69–0.86)), greet (OR, 0.88, (0.79–0.97)), obey (OR, 0.76, (0.68–0.86)) and financial support (OR, 0.80, (0.71–0.89)) was associated with lower risk of depressive symptoms. Conclusions: This study goes beyond previous research by examining the association between filial discrepancy domains and depressive symptoms. Cultural relevancy of health interventions is important in the context of Chinese communities. Health care professionals are suggested to be aware of the depressive symptoms of US Chinese older adults with high filial expectations and low receipt.

LONG-TERM EFFECTS OF PREDIABETES AND DIABETES ON COGNITIVE TRAJECTORIES IN A POPULATION-BASED COHORT

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Diabetes has been linked to dementia risk, however, the cognitive trajectories in older adults with diabetes remain unclear. We aimed to investigate the effect of prediabetes and diabetes on cognitive trajectories among cognitively intact older adults in a long-term follow-up study.

Within the Swedish Adoption/Twin Study of Aging, 793 cognitively intact older adults aged ≥ 50 were identified at baseline and followed for up to 23 years. Cognitive domains (verbal, spatial/fluid, memory, speed) were assessed at baseline and up to seven follow-ups. Prediabetes was defined according to blood glucose levels in diabetes-free participants. Diabetes was ascertained based on self-report, hypoglycemic medication use and blood glucose levels. Data were analyzed with linear mixed-effect models adjusting for potential confounders.

At baseline, 68 participants (8.6%) had prediabetes and 45 (5.7%) had diabetes. Compared to diabetes-free individuals, people with diabetes had lower performance in spatial/fluid abilities (β -2.63; 95% CI -5.36, 0.05; $p = 0.058$), and an accelerated linear decline over time in verbal abilities (β -0.15; 95% CI -0.29, -0.01; $p = 0.041$). Prediabetes was associated with an accelerated decline in processing speed (β -0.01; 95% CI -0.02, -0.004; $p = 0.041$), but with a better maintenance of memory (β 0.23; 95% CI 0.05, 0.42; $p = 0.013$) over the follow-up.

Prediabetes may accelerate processing speed decline, and diabetes is associated with the verbal ability decline, suggesting that diabetes and even prediabetes affect especially the cognitive domains of fluid intelligence at the early stages of cognitive impairment.

UNDERSTANDING THE DETERMINANTS OF FLUID INTAKE IN LONG-TERM CARE

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Dehydration is estimated to be present in almost half of long term care (LTC) residents, and many residents do not consume the recommended levels of daily fluid intake (3700mL and 2700mL in men and women respectively) (Institute of Medicine of the National Academies, 2004). This likely has negative consequences for health, well-being and quality of life. The present study aims to understand the factors contributing to fluid intake of LTC residents. Data were collected from 622 LTC residents (31.7% male) from 32 LTC homes in Canada, aged 62–107 years (86.8 ± 7.8). Total fluid intake was estimated over three non-consecutive days (meals and snacks), considering estimated volume of beverages and water content of liquidized food. Average daily fluid intake ranged from 311–2390mL (1103.9 ± 378.7). Rigorous methods were used to collect resident and unit-level variables that captured potential risk factors for low fluid intake such as dementia status, activities of daily living, eating challenges, and mealtime experiences. Hierarchical regression analysis using backward elimination revealed that fluid intake was negatively associated with increased age, cognitive impairment, eating challenges and increased dining room staffing. Factors that were positively associated with intake were: being male, requiring more physical assistance, and more positive interactions between staff and residents at meals ($R^2 = 0.41$; $F_{88,533} = 4.20$, $p < 0.0001$). These results indicate that total fluid intake of LTC residents is insufficient. Variables identified to predict intake could help inform strategies and targeted interventions to improve fluid intake for residents of LTC. Funded by the Canadian Institutes of Health Research.

UNPLANNED AND EXTENDED NAPPING AMONG OLDER ADULTS: FREQUENCY, DURATION, AND PREDICTORS

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Poor sleep is associated with negative health outcomes among older adults, yet little is known about napping in this population and research has not distinguished between planned and spontaneous naps, or duration. This study examines napping using a retrospective cohort of Medicare beneficiaries >65 years of age enrolled in year four of National Health and Aging Trends Study who reported regular napping ($n=1,016$). Regressions examined the relationships between sociodemographic and clinical characteristics and napping outcomes, specifically unplanned or extended (i.e., >60 minutes) naps. Survey weighting was used for all analyses.

Among Medicare beneficiaries who nap, 58.7% reported unplanned naps and 18.5% regularly take extended naps. Unplanned napping was associated with older age, non-white race, non-married status, poorer self-reported health, and shorter nighttime sleep duration. For example, individuals 75–84 years of age had 2.1 higher odds of unplanned

naps compared to those aged 65–74. Male sex, poorer self-reported health, and a greater number of chronic conditions were associated with higher odds of extended naps. Those with the worst self-reported health were 2.8 times more likely to take long naps than those reporting the best health. Pain and depression were not associated with either outcome.

We found that ~4.3 million older adults in the U.S. regularly nap without meaning to, and ~1.4 million individuals routinely took extended naps. Furthermore, different constellations of risk factors are associated with unplanned and extended napping. Research examining the impact of unplanned and extended napping is warranted to optimize sleep and other health outcomes.

MUTATIONS IN MITOCHONDRIAL ALH-6 RESULT IN EARLY REPRODUCTIVE SENESCENCE

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Reproduction is essential to perpetuate life. Animals must utilize strategies in order to allocate the necessary resources for the energy-costly process of reproducing. Here, we show that *C. elegans* with mutation in *alh-6*, a conserved mitochondrial proline catabolism gene known to cause mitochondrial defects show a diet-independent decline in fertility. These animals have altered expression of metabolism and male-reproduction genes and display several sperm-specific defects. We identify that PRDH-1 is essential to confer these phenotypes and identify key metabolites and molecules that influence this premature reproductive senescence. Altogether, our data reveal new insights in reproductive aging and describes how important proper mitochondrial function is for reproductive capacity.

DANCE-MOVEMENT THERAPY LEADS TO A LOWER CORTISOL AWAKENING RESPONSE—A SIGN OF STRESS REDUCTION?

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Aging is associated with numerous chronic conditions that can be worsened by stress.

There are already some interventions that are targeting stress but no research to date has looked at the effects of Dance/Movement Therapy (DMT) on chronic stress (measured by the cortisol awakening response – CAR). To investigate this, 40 healthy adults over the age of 60 ($M=67.5$, $SD=5.3$) were randomised into three groups: waiting list (WL; $n=14$), DMT ($n=12$), and Cardiovascular Training (CT; $n=14$). The CT consisted of high intensity activity on a recumbent bicycle, while the DMT was comprised of exercises including coordination, body awareness, and socialisation. The two training groups were supervised by licensed instructors and met three times a week for three months. Before and after the training program all participants provided saliva samples on three days at 0, 30 and 60-minutes after awakening, and had their fitness level evaluated.

A group x time interaction was found ($F(2,35)=5.256$, $p=.01$, $\eta^2_{\text{partial}}=.231$), with the DMT group showing lower salivary cortisol values post-training, while the other two groups showed no change from baseline in their cortisol response to awakening. Physical assessments (VO₂max, and 10-meter walk) showed the greatest improvement in the CT group, moderate or no improvement in DMT, and no improvement in the WL. None of the changes of cardiovascular improvement were related to cortisol, suggesting that the change in cortisol seen in the DMT group is unrelated to fitness improvement. The results are further discussed in terms of psychological mechanisms that could explain the change in cortisol.

HOSPITALIZATION COSTS OF OLDER ADULTS WITH CO-DIAGNOSES OF ALZHEIMER'S DISEASE AND TYPE 2 DIABETES

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Along with other dementias, Alzheimer's disease (AD) costs in the U.S. were estimated to exceed \$235 billion in 2016. To date, there is a paucity of literature examining the costs of acute hospitalizations of patients with AD, especially when type 2 diabetes (T2DM) is present. In this study, we address this gap by comparing the costs of hospitalizations for patients aged 65 years and older who had AD, T2DM, or both. The present analysis draws from the Healthcare Cost and Utilization Project's National Inpatient Sample (NIS) data from the Agency for Healthcare Research and Quality. NIS represents all-payer, encounter-level hospital care data and is weighted to yield national estimates of hospital inpatient stays. The mean hospital stay costs were \$9,808 for patients with AD, \$12,966 for patients with T2DM, and \$10,511 for patients with both conditions. Even after controlling for critical factors that influence hospital stay costs (e.g., payer, length of stay, severity of disease, patient demographics, number of comorbid conditions, and number of procedures), regression analysis consistently indicated that while patients with both AD and T2DM incurred higher costs than patients who were diagnosed solely with AD, their costs did not exceed those with T2DM alone. Results from the present study have health policy implications and can inform hospitalization planning and practices for patients with AD.

COMMUNITY PRACTITIONER PERSPECTIVES ON HEALTHY AGING: A FOCUS GROUP STUDY

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Perspectives of older adults only may not fully explain the phenomena of healthy aging. This project aimed to expand knowledge on healthy aging by exploring the perspectives of community-based professionals working directly with older adults. We purposively sampled community practitioners including nurses, social workers, and other health professionals ($n=12$), and conducted three in-depth focus group discussions of two hours each. Verbatim transcript data were analyzed using an inductive content analysis with consensual validation. Community practitioners suggested

various characteristics of healthy aging under person-specific, social, and spiritual components. Person-specific components included characteristics at the physiological, basic needs (nutrition, housing, medical), psycho-emotional and cognitive levels, whereas social components encompassed creating and contributing to the community. A spiritual component incorporated cultural aspects of elders. Practitioners viewed promotion of healthy aging as meeting the needs of older adults and making sure they have access to resources. They further emphasized, “resources is a broader term than just financial resources that includes personal resources, physical wellness, able to live independently and be socially connected.” Practitioners identified facilitators and barriers towards healthy aging in terms of care recipients and care providers. Two themes emerged about programs and activities: promoting fitness and promoting wellness. Although practitioners’ perspectives had some overlap with traditional research and medical views on healthy aging, the unique and holistic model derived provides a more refined foundation for supporting aging and addressing health disparities. Rapidly changing demographics and aging in the United States necessitate such culturally sensitive and empirically driven practices to promote healthy aging.

BLUNTED RESPONSE TO STRESS IN YOUNG IL-10TM/TM MICE: IMPLICATION FOR THE VULNERABILITY IN FRAILTY

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The hypothalamic pituitary adrenal axis (HPA axis) is a major neuroendocrine system for stress response and for regulating the immune system. Aged rats as well as older humans demonstrate progressive loss of control of the HPA axis, resulting in impaired diurnal rhythm and hypersecretion of glucocorticoids during times of stress. Higher levels and a blunted diurnal rhythm of cortisol have been observed in frail compared to more robust older adults. Understanding the factors underlying disturbed glucocorticoid secretion that precede age-related diseases and frailty are of considerable importance to prevent vulnerability and disability in late life. In order to study this system in vivo, we utilized a mouse model of chronic inflammation and as frailty and measured changes in plasma corticosterone and pro-inflammatory levels after acute cold stress. The plasma corticosterone level was determined 2 weeks before cold stimulation in 10 young (3 months), 10 old (21 months) C57BL/6J mice, and 10 young IL-10 tm/tm (3 months). 5 mice from each group were exposed to cold stress, the remainder served as controls and were not exposed to cold. The treatment groups were exposed to four degrees Celsius for 5 hours and the controls were kept in room temperature conditions at twenty five degrees Celsius. The results showed higher basal plasma corticosterone ($P<0.01$) and normal IL-6 and TNFR-1 levels in young IL-10tm/tm, compared to young and old C57BL/6J mice. However, there were unchanged corticosterone level and higher IL-6 and TNFR-1 levels ($P=0.04$, 0.02 , respectively) in

young IL-10tm/tm mice after acute cold stress compared to young wild type mice. Lower GR α mRNA expression in hippocampus was also observed in control and treated young IL-10tm/tm ($P<0.01$), compared the age-matched wild type mice. These findings provide initial evidence for the hypothesis that HPA axis dysfunction is through whole life of frail subjects and even earlier than changes in immune system.

EFFICACY OF SKIN MOISTURIZER WITH ADVANCED CERAMIDE AND FILAGGRIN TECHNOLOGY IN CHINESE ELDERLY

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Chronic itch is a common health problem in the elderly, frequently associated with skin dryness. However, it is often the case that little attention is paid to skin care until scratching due to itch damages skin and leads to inflammatory lesions that need medical treatments. A pilot study was conducted in China to test the efficacy in the elderly of an easy-to-do skin care regimen with moisturizer that was developed using advanced ceramide and filaggrin technology. A total of 60 volunteers (26 males and 34 females, 72.6 ± 8.7 years of age) with moderate dry skin and itch participated in the study and experienced a 2-week self-treatment with moisturizer and body wash. The change in skin dryness severity, itch severity, and quality of life (day- and night-time) was assessed 1 and 2 weeks after the initiation of treatment. As a result, all of skin dryness, itch, and quality of life rapidly improved at 1 week and further improved at 2 weeks with statistical significance compared to the baseline ($P<0.001$). The acceptability questionnaire completed by the participants at the end of the study showed their high satisfaction with the regimen. One case of contact dermatitis was reported and no other treatment-related adverse events occurred. In conclusion, this result provides evidence that the skin care regimen tested in this study is effective in the elderly, not only on skin dryness or itch but also on the quality of life, with a good tolerability and acceptability.

SESSION 615 (SYMPOSIUM)

THE EXPANDING ROLE OF U.S. EMERGENCY DEPARTMENTS IN THE CARE OF VULNERABLE OLDER ADULTS

Chair: A. Lo, *The University of Alabama at Birmingham, Birmingham, Alabama*

Discussant: K. Flood, *University of Alabama*

Adults 65 years and older account for 20 million emergency department (ED) visits annually, resulting in 20% of all ED visits and 36% of all hospitalizations despite representing only 13% of the U.S. population. The traditional U.S. ED model is ill-equipped to address the complex health care needs of older adults. The estimated 7,700 U.S. geriatricians are too few in numbers to absorb the care transitions of all older adults following their emergency care. Consequently, the responsibility of identifying individuals at higher risk for mobility impairment, functional decline, suicide risk and

elder abuse is often thrust upon emergency physicians. The nascent subspecialty of geriatric emergency medicine and recently developed care guidelines reflect the evolution of the ED's role in the U.S. This symposium discusses advances and challenges in current geriatric emergency care in terms of: (i) understanding how changes in function, mobility and social support increase utilization of emergency care; (ii) screening for suicide risk in older adults; (iii) identifying and assessing elder abuse, neglect and exploitation, and (iv) innovative ED-based short-stay units that provide comprehensive geriatric assessments at the time of ED visits. We offer insight into strategies of promoting care protocols despite the rigid metrics of U.S. fee-for-service emergency care or the absence of safety-net features found in socialized medical systems of other countries. Advances in geriatric emergency medicine in the U.S. are critical to addressing the unmet health care needs of older adults and signal an opportunity for collaborative, interdisciplinary, care initiatives involving all aging-related health professionals.

THE ROLE OF SOCIAL SUPPORT, FUNCTION, AND MOBILITY ON EMERGENCY CARE UTILIZATION BY U.S. OLDER ADULTS

A. Lo, R.E. Kennedy, C. Brown, *The University of Alabama at Birmingham, Birmingham, Alabama*

Population-based data on the impacts of social support, function and mobility on emergency department (ED) utilization among older adults are limited. We examined data on socio-demographics, social support, function (using Activities of Daily Living, ADL) and mobility (using life-space) from a population-based cohort of community-dwelling adults ≥ 65 years. ED utilization was determined via 6- and 12-month follow-up interviews. We used multivariable logistic regression models. In the 12 months after baseline, 145 (15.5%) of 936 persons utilized an ED. Social support was not associated with ED utilization. ADL impairment and reduced life-space were associated with higher ED utilization, but their effects were stronger in individuals with social support (ADL Odds Ratio=2.11, $p=0.038$; life-space OR=1.27, $p=0.004$) than those without social support (ADL OR=1.63, $p=0.042$; life=space OR=1.15, $p=0.011$). Older adults seeking care in the ED should be screened for impairments in function and mobility, even if they have strong social support.

SCREENING FOR SUICIDAL THOUGHTS AND BEHAVIORS AMONG OLDER PATIENTS VISITING THE EMERGENCY DEPARTMENT

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Depression, suicide ideation (SI) and suicide attempts (SA) are common among older adults, representing serious public health problems. Individuals with multiple comorbidities and frequent contact with hospital-based emergency departments (ED) may have elevated – but unrecognized – risk. To

inform future interventions, we describe the prevalence of self-harm/SI/SA among older ED patients, including differences by age, sex, and race/ethnicity. We reviewed consecutive patient charts (2011–2014) at 8 EDs in 7 states, all with protocols to screen every patient for suicide risk. Among 142,534 patient visits, 23% were by patients aged ≥ 60 years. Documented screening for self-harm/SI/SA declined with age, from 81% in younger age groups to 68% among those aged ≥ 85 years. This decline may be due to age biases or to patient-level factors precluding screening (e.g., altered mentation). Our findings support the need for more detailed examination of the best methods for identifying – and treating – suicide risk among older adults.

PROVIDER PERSPECTIVES ON A MULTI-DISCIPLINARY EMERGENCY DEPARTMENT INTERVENTION FOR ELDER ABUSE

T. Rosen¹, M. Stern¹, M.R. Mulcare¹, T.J. McCarthy¹, V. LoFaso¹, E.M. Bloemen², R. Breckman¹, M.S. Lachs¹, 1. *Weill Cornell Medical College, New York, New York*, 2. *University of Colorado School of Medicine, Aurora, Colorado*

An emergency department (ED) visit provides an opportunity to identify elder abuse, but providers rarely recognize or report. We have begun designing a multi-disciplinary ED-based consultation service to improve identification, medical and forensic assessment, and treatment for potential victims. We qualitatively explored provider perspectives to inform intervention development. We conducted 16 semi-structured focus groups at a large, urban hospital with providers, including social workers, emergency physicians, geriatricians, and nurses. Focus groups were transcribed, and data was analyzed to identify themes. Providers believed an ED-based consultation service would be frequently utilized and would increase identification, improve care, and help ensure safety. Participants identified challenges including determining capacity for potential victims requesting discharge. They emphasized the value of coordinating with in-patient and out-patient medical and service providers. Providers suggested geriatric nurse practitioners may have ideal clinical and personal care training to contribute and highlighted the importance of social workers in care coordination.

INCORPORATION OF MULTIDISCIPLINARY GERIATRIC CARE INTO AN EMERGENCY DEPARTMENT OBSERVATION UNIT

L.T. Southerland, L. Kunduru, T.R. Gure, J. Caterino, M. Moseley, *Emergency Medicine, The Ohio State University, Westerville, Ohio*

Multidisciplinary geriatric assessment is difficult in the Emergency Department (ED) due to time limitations, patient volume, and specialized staffing needs. One solution is ED Observation Units which provide extended patient evaluations for up to 24 hours. Our ED implemented multidisciplinary geriatrician assessment including geriatric consultation, physical therapy assessment, and case management care coordination, available to any observation unit patients. We conducted a retrospective chart review of randomly selected adult observation unit patients ≥ 65 years old ($n=111$). Few were observed purely for geriatric assessment (7.2%, $n=8$),

but 25% (n=28) accessed at least one of the multidisciplinary assessments. The admission rate was 24% with average length of stay 15.5 hours. The admission rate for patients placed specifically for geriatric assessment was 62% (n=5/8). Multidisciplinary geriatric assessment is frequently utilized and feasible in an ED observation unit, but a higher admission rate should be anticipated in patients observed for this purpose only.

SESSION 620 (SYMPOSIUM)

SYSTOLIC BLOOD PRESSURE INTERVENTION TRIAL: FINDINGS THAT IMPACT OLDER HYPERTENSIVE PATIENTS

Chair: M.A. Supiano, *University of Utah, Utah*

Co-Chair: J. Williamson, *Wake Forest University*

Results from the Systolic Blood Pressure Intervention Trial (SPRINT) which compared usual (< 140 mm Hg) with intensive (< 120 mm Hg) SBP targets (ClinicalTrials.gov, NCT01206062) demonstrated that a lower SBP target may be safely recommended for many older patients. SPRINT included 2636 community living subjects aged 75 and older (28% of the entire study population) who were assessed for frailty status including usual gait speed, cognitive function, orthostatic hypotension, and adverse events including injurious falls. In the group of older subjects randomized to the intensive arm there was a 34% reduction in the primary composite CVD outcome and a 33% reduction in all-cause mortality at 3.14 years of follow-up when the trial ended early (numbers needed to treat 27 and 41 respectively). These results did not differ for the most frail subgroup nor for those with impaired gait speed. While some adverse events were higher in the intensive group, there was no difference observed in serious adverse events including injurious falls. This symposium will provide additional SPRINT results of relevance to older hypertensive patients including: 1) predictors of adherence and retention; 2) results for the impact of intensive versus standard treatment goals on incident heart failure with and without reduced ejection fraction, 3) arterial stiffness as a predictor of SPRINT outcomes, and 4) results for the impact of intensive versus standard treatment goals on transitions in frailty status.

BASELINE PREDICTORS OF RETENTION AND ADHERENCE IN THE SYSTOLIC BLOOD PRESSURE INTERVENTION TRIAL

M. Vitolins, J. Williamson, *Wake Forest University, Winston-Salem, North Carolina*

The internal validity and statistical power of a clinical trial depends on participant retention and good protocol adherence. Retention and adherence rates may be lower in older trial participants. We will report data from the Systolic Pressure Intervention trial (SPRINT) which involved 9361 hypertensive persons (2636 age 75+) who were assigned to a systolic blood-pressure target of less than 120 mm Hg or a target of less than 140 mm Hg. Retention and adherence rates by study arm after a median of 2.36 years of follow-up will identify baseline predictors of retention and adherence in SPRINT stratified by age and frailty status. Close

examination of predictors of adherence and retention will lead to new strategies for blood pressure management by identifying risk factors for non-adherence and study discontinuation. These results will aid clinicians in identifying older adults at increased risk for difficulty with adherence to blood pressure lowering therapy.

IMPACT OF INTENSIVE BLOOD PRESSURE CONTROL ON INCIDENCE AND TYPE OF HEART FAILURE IN THE ELDERLY

B. Upadhyay², J. Williamson¹, D. Kitzman¹, 1. *Wake Forest University, Advance, North Carolina*, 2. *Wake Forest University, Winston-Salem, North Carolina*

Population based studies show that the majority of persons in the community, particularly in the older age range, who develop heart failure (HF), have a preserved ejection fraction (HFpEF). The prevalence of HFpEF is rising, with morbidity, mortality, and healthcare costs now equal to HF with reduced ejection fraction (HFrEF). Multiple lines of evidence suggest that hypertension (HTN) may be even more closely linked to the development of HFpEF than HFrEF. Among patients with hypertension, lower blood pressure (BP) treatment goals could potentially have a differential impact on the development of HFpEF vs HFrEF. Thus, treating to lower BP goals in SPRINT could produce divergent responses, due to differences in both ischemic heart disease burden and in LV hypertrophic remodeling. We will present results from SPRINT characterizing the impact of intensive versus standard SPB therapy on middle aged and older patients with hypertension who develop incident HFpEF vs HFrEF.

ARTERIAL STIFFNESS AS A PREDICTOR OF OUTCOMES IN THE SYSTOLIC BLOOD PRESSURE INTERVENTION TRIAL

M.A. Supiano, *University of Utah, Salt Lake City, Utah*

Arterial stiffness is a major determinant of the age-related increase in systolic blood pressure (SBP) and is an independent predictor of cardiovascular events. The Systolic Blood Pressure Intervention Trial (SPRINT) affords a unique opportunity to determine if the difference in peripheral SBP that developed between the intensive treatment group (target SBP < 120 mm Hg) and the usual care group (target SBP < 140 mm Hg) – an average delta of 14.8 mm Hg – will be accompanied by significant differences in measures of vascular stiffness (aortic pulse wave velocity, PWV) and central (aortic) BP. In a subset of 648 SPRINT participants, PWV and pulse wave analysis measures were completed prior to randomization and annually throughout three years of follow-up. Results will be presented pertaining to the hypothesis that measures of vascular stiffness at year 3 will be predictive of the main SPRINT outcomes independent of the achieved peripheral SBP.

TRANSITIONS IN FRAILTY STATUS IN THE SYSTOLIC BLOOD PRESSURE INTERVENTION TRIAL

N. Pajewski¹, J. Williamson¹, M.A. Supiano², 1. *Wake Forest School of Medicine, Winston-Salem, North Carolina*, 2. *University of Utah, Salt Lake City, Utah*

SPRINT results indicate that treating to a systolic blood pressure <120 mm Hg (intensive) confers benefits on

cardiovascular morbidity and mortality compared to a target of <140 mm Hg (standard). These benefits were apparent even among older (age 75 years or older) participants. While serious adverse events were not amplified overall in intensively treated participants, older patients may be more concerned about the impact of intensive treatment on frailty – an increased vulnerability to stressful events associated with aging – than with traditional adverse outcomes. Based on a model of deficit accumulation, we have previously developed a frailty index to characterize SPRINT participants at baseline incorporating information on self-ratings of health, depressive symptoms, lab measurements, cognitive and physical functioning, and comorbidity. To better inform future hypertension treatment strategies, we will present longitudinal results comparing the incidence and progression of frailty between the SPRINT treatment groups, and in the subgroup of older adults.

SESSION 625 (SYMPOSIUM)

SUPPORTING PROFESSIONALS TO DELIVER BETTER QUALITY END-OF-LIFE CARE IN DEMENTIA

Chair: J. van der Steen, *VU University Medical Centre, Amsterdam, Netherlands*

There is increasing policy focus on improving the quality end of life (EoL) care for older people and those living with non-cancer related long term illness. For people with dementia and their families the organisation and provision of care, towards and at the EOL, continues to be challenging with research revealing sub-optimal symptom control and a significant proportion dying in acute hospitals. Health care professionals can find EOLC in dementia difficult due to difficulties in prognostication and impaired communication and mental capacity in the dying person. The costs of dementia care, especially in the last year of life, are also considerable. With an ageing population potentially rapidly increasing such costs, it is crucial to explore more effective, integrated models of care and interventions which improve quality of care and facilitate preferred place of dying.

IMPROVING END-OF-LIFE CARE IN DEMENTIA: KEY AREAS FOR IMPROVEMENT

C. Bamford, M. Poole, R. Lee, E. McLellan, C. Exley, L. Robinson, *Institute of Health and Society & Newcastle University Institute for Ageing, Newcastle University, Newcastle, United Kingdom*

Relatively little is known about how good end of life care (EoLC) for people with dementia is supported or constrained in practice. As part of a five year research programme, we used qualitative methods to explore the delivery of EoLC from the perspectives of people with dementia, family carers, frontline staff and service managers. Integrative analysis highlighted seven key issues influencing the provision of EoLC spanning from early discussions to care after death.

These issues have informed the development of an evidence-based intervention comprising a Dementia Care Facilitator and newly developed resources to promote change. The resources include evidence-based scenarios illustrating common problems in EoLC, one of which will

be presented. Discussion points accompany the scenarios to engage staff and encourage the development of local strategies to improve practice. Together with other components of the intervention, the scenarios will be evaluated in a pilot trial in the UK.

DEVELOPMENT OF HEURISTICS TO GUIDE DECISION MAKING AT THE END OF LIFE FOR SOMEONE WITH DEMENTIA

N. Davies¹, K. Lamahewa¹, R. Mathew¹, J. Wilcock¹, J.T. Manthorpe², E.L. Sampson^{1,3}, S. Iliffe¹, 1. *University College London, London, United Kingdom*, 2. *King's College London, London, United Kingdom*, 3. *North Middlesex University Hospital, London, United Kingdom*

The end of life for someone with dementia can present a series of challenges for practitioners. Challenges may be eased with the development of heuristics (rules-of-thumb). For example, FAST is used in stroke: Facial-weakness, Arm-weakness, Slurred-speech, Time to call 911. Through a co-design process we developed a toolkit of heuristics to aid practitioners making difficult decisions when caring for someone with dementia at the end of life. The heuristic toolkit consisted of four areas which were considered difficult decisions at the end of life; eating/swallowing difficulties, agitation/restlessness, reviewing treatment/interventions, and providing routine care. Each heuristic consists of a logic tree of rules. For example, eating/swallowing difficulties have two rules; ensure eating/swallowing difficulties do not come as a surprise and reflection about 'comfort-feeding' only or time-trialled artificial feeding. Teams appreciated the simplicity of the heuristics, allowing their use in educating less experienced colleagues and as an aid to conversations with families.

IMPLEMENTING AN END-OF-LIFE CARE PROGRAMME FOR NURSING HOME RESIDENTS WITH DEMENTIA: ROLE OF CONTEXT

K.J. Moore, B. Candy, S. Davis, J. Harrington, N. Kupeli, V. Vickerstaff, L. Jones, E.L. Sampson, *University College London, London, United Kingdom*

Nursing homes are a common place of death for people with dementia, however, quality of end-of-life care could be improved. We developed the Compassion Intervention to promote interdisciplinary care for residents with advanced dementia. We implemented a naturalistic study with an Interdisciplinary Care Leader working across two nursing homes in the UK. Based on reflections of the Interdisciplinary Care Leader and 48 interviews with healthcare professionals and care workers involved with the two homes, we examined how the intervention worked in practice. Contextual differences were identified between the two sites, with Care Home 2 having lower involvement with external healthcare services and less developed training procedures. Core components were implemented in both care homes but multidisciplinary meetings were only established in Care Home 1. The Intervention prompted efforts to improve advance care plans, pain management and person-centred care. Further testing of the Intervention's effectiveness in improving end-of-life care is recommended.

EFFECTS OF AUDIT AND FEEDBACK ON THE QUALITY OF CARE AND COMFORT IN DYING WITH DEMENTIA (FOLLOW-UP)

J. van der Steen^{1,2}, J. Boogaard³, M. van Soest-Poortvliet⁴, J. Anema³, A. Francke^{3,5}, W. Achterberg¹, H. de Vet³, 1. *Leiden University Medical Center, Leiden, Netherlands*, 2. *Radboud University Medical Center, Nijmegen, Netherlands*, 3. *VU University Medical Center, Amsterdam, Netherlands*, 4. *Netherlands Institute of Mental Health and Addiction, Utrecht, Netherlands*, 5. *Netherlands Institute of Health Services Research, Utrecht, Netherlands*

The Feedback on End-of-Life care in dementia (FOLlow-up) project examined the effects of two audit and feedback strategies on quality (satisfaction) with care and comfort when dying with dementia in a 3-armed cluster randomized controlled trial. In 18 nursing homes, after death (January 2012-July 2014), a total of 668 families (response rate: 69%) rated the End-of-Life in Dementia (EOLD)-instruments. A generic audit and feedback strategy used group mean EOLD-scores and a patient-specific strategy used individual family reports of EOLD scores. Compared to no feedback, the generic strategy resulted in LOWER satisfaction in both adjusted and unadjusted analyses, while the patient-specific strategy increased comfort in unadjusted analyses only, due to a decrease in dying symptoms (one of four CAD subscales). We discuss possible explanations of disappointing effectiveness such as feedback with high mean baseline scores, and explanations based on an evaluation of the implementation processes. Trial number: NTR 3942.

SESSION 630 (PAPER)

FALL PREVENTION AND REDUCTION

THE STEPS TO AVOID FALLS IN THE ELDERLY (SAFE) STUDY

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A multi-center, two arm, parallel group, randomized controlled trial: study participants were screened, assessed for risk factors and randomized (control or intervention) based on the SPPB score at baseline. High-risk participants (SPPB less or equal 6) were given a home-based exercise program up to 12 sessions (3 times per week) that specifically targets and modifies impairments that interfere with engaging in exercise in a group setting. When the high-risk participants attained SPPB > 6, they transitioned to a community-based group exercise program and continued until the end of active intervention phase. Low-to-moderate risk patients (SPPB > 6) were directly enrolled into an evidence-based one-hour group exercise program, which was offered up to 24 sessions with free transportation (2 times a week). The primary outcome measure was the number of fallers at the end of the nine-month study period. All analyses performed were on an intention-to-treat basis.

Between December 2012 and July 2014, 354 patients who were at least 65 years old and visited the Emergency Department for falls or fall-related injuries were recruited (177 participants in each group). At the end of the nine-month follow-up period, 37.9% of the control group and 30.5% of the intervention group fell at least once. The intervention program significantly reduced the number of fallers adjusting for critical comorbidities (odds ratio 0.33 [0.15 – 0.74], $p=0.004$). We also observed that the intervention group had a lower proportion of individuals with injurious falls and significantly less reduction in physical performance by SPPB. No adverse events were reported during the study period.

The SAFE study showed that screening, risk modification and intensive, consistent and progressive physical therapy can effectively reduce the number of fallers and injurious falls.

This study is registered with the U.S. Clinical Trials Registry, number NCT01713543 and was funded by Ministry of Health Singapore under its Health Services Research Competitive Research Grant (Grant Number: HSRG10MAY002).

SOCIAL DANCING TO REDUCE FALLS IN OLDER ADULTS—A CLUSTER RANDOMISED CONTROLLED TRIAL

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Small-scale trials have indicated that diverse dance styles can improve balance and gait of older adults, two of the strongest risk factors for falls in older people, but none of these studies has examined the effect of dance on falls. A cluster randomized controlled trial was undertaken in 23 self-care retirement villages around Sydney, Australia, involving 530 seniors (mean age 78 years, 85% women) without cognitive impairment. Intervention villages (12 clusters) were offered twice weekly one-hour social dancing class (folk or ballroom dancing) over 12 months (80 hours). The participants in the control villages (11 clusters) were advised to continue with their regular activities. Data on falls obtained from 522 (98%) participants and 424 (80%) attended the 12-month reassessment, which was lower among folk dance participants (71%) than ballroom dancing (82%) or control participants (82%, $P=0.04$). During the period 444 falls were recorded; there was no significant difference in fall rates between the control group (0.80 per person-year) and the dance group (1.03 per person-year). Using negative binomial regression the adjusted IRR was 1.19 (95% CI: 0.83–1.71). In post hoc sub-group analysis, the rate of falls was higher among dance participants with a history of multiple falls (IRR=2.02, 95% CI: 1.15–3.54, $p=0.22$ for

interaction) and in the folkdance intervention (IRR=1.68, 95% CI:1.03 -2.73). Social dancing did not prevent falls or its associated risk factors among villages' residents. Modified dance programmes that contain "training elements" to better approximate structured exercise programs, targeted at low and high-risk participants, warrant investigation.

DOES DEPRESCRIBING FALL-ASSOCIATED DRUGS REDUCE FALLS AND ITS COMPLICATIONS?: A SYSTEMATIC REVIEW

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Falls are the leading cause of injury and injury-related hospitalizations for seniors in Canada with annual health-care costs exceeding \$2 billion. Despite limited evidence of effectiveness, the withdrawal (discontinuation or dose reduction) of "fall-risk increasing drugs" (FRIDs) is typically part of falls prevention strategies and hospital accreditation initiatives. The study objectives were to determine the preventative efficacy of FRID withdrawal on falls and fall-related complications. An electronic search was conducted in MEDLINE, EMBASE, CENTRAL and CINAHL. A grey literature search included trial registries and conference abstracts. All randomized controlled trials in adults age ≥ 65 evaluating FRID withdrawal compared to usual care on falls rate or incidence, fall-related injuries, fractures or hospitalizations and/or adverse effects related to the intervention were included. Two reviewers independently screened eligible studies, abstracted data and assessed risk of bias. The GRADE criteria were used to rate overall confidence in effect estimates for outcomes. Five trials involving 1309 participants met eligibility criteria for inclusion. A FRID withdrawal strategy did not significantly change the rate of falls (RaR 0.98, 95% CI 0.63 to 1.51), number of fallers (RR 1.06, 95% CI 0.84 to 1.34) or rate of fall-related injuries (RaR 0.89, 95% CI 0.57 to 1.39) over a 6 to 12 month follow-up period. There is insufficient evidence that a FRID withdrawal strategy is effective for preventing falls. Based on very low quality evidence, it is uncertain whether FRID withdrawal leads to any appreciable clinically important benefit. Data evaluating the potential harms of FRID withdrawal is lacking.

EXERCISE TO PREVENT FALLS IN OLDER ADULTS: AN UPDATED SYSTEMATIC REVIEW AND META-ANALYSIS

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Previous meta-analyses have found exercise as a single intervention prevents falls in older people. This updated systematic review with random effects meta-analysis and meta-regression aimed to test whether this effect is still present when new trials are added and explore trial characteristics associated with greater fall prevention effects. One hundred comparisons from 89 randomised trials with 19,869 participants were available for meta-analysis. Overall, exercise reduced the rate of falls in community dwelling older people by 21% (pooled rate ratio 0.79, 95% CI 0.73 to 0.85, $p < 0.001$, I^2 47%, 67 comparisons) with greater effects seen from exercise programs that challenged balance and involved more than three hours per week of exercise. Together these variables explained 76% of the between-trial heterogeneity and in combination led to a 39% reduction in falls (IRR 0.61, 95% CI 0.53 to 0.72, $p < 0.001$). Exercise also had a fall prevention effect in community-dwelling people with Parkinson's disease (pooled rate ratio 0.47, 95% CI 0.30 to 0.73, $p = 0.001$, I^2 65%, 6 comparisons) or cognitive impairment (pooled rate ratio 0.55, 95% CI 0.37 to 0.83, $p = 0.004$, I^2 21%, 3 comparisons) but not in residential care settings or among stroke survivors, people with severe visual impairment or people recently discharged from hospital. Exercise as a single intervention can prevent falls in community dwelling older people, promising results are seen in people with Parkinson's disease or cognitive impairment but its impact in other clinical groups and aged care facility residents requires further investigation.

FALLS AND THE SOCIAL ISOLATION OF OLDER ADULTS IN THE NATIONAL HEALTH AND AGING TRENDS STUDY

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Falls among community-dwelling older adults can be life threatening. While an association between social isolation and falls has been described, the nature of that relationship is not well documented and could be important for fall prevention interventions. Study objectives were to describe the incidence of falls, prevalence of social isolation, and extent to which social isolation predicts falls in older adults. Secondary analysis of longitudinal data from the National Health and Aging Trends Study, involving a nationally representative sample of Medicare beneficiaries, included four rounds of annual interviews in participants' homes (round one $n = 7,609$). Social isolation was operationalized for the current analysis as a multiple-indicator, domain-inclusive construct based upon the Social Network Index. Falling during the previous year was self-reported. Incidence of falls ranged from 22.4–26.2% across the four rounds. Social isolation prevalence ranged from 19.8–21.9%. The probability of falling increased with each increase in social isolation construct score. Even after adjusting for age, gender, and education, social isolation significantly predicted falling (OR=1.08; CI=1.02–1.14). Adding self-reported general health, depression, and worry about falling to the model weakened the relationship between social isolation and falls (OR=1.02; CI=0.96–1.08). Adding the Short Physical Performance Battery, assistive mobility device use, and

activities of daily living to the model weakened the relationship further ($OR=0.99$; $CI=0.94-1.04$). Social isolation as a predictor of falls is partially explained by the strong relationship between social isolation and physical performance. Fall-prevention interventions targeting social isolation could have an important impact on physical performance and future falls.

SESSION 635 (PAPER)

CANCER-RELATED MORBIDITY AND MORTALITY ISSUES

A CLINICAL SCORE TO PREDICT THE EARLY DEATH AT 100 DAYS IN ELDERLY METASTATIC CANCERS

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Background: Trying to predict the very early death after a CGA is difficult in elderly metastatic cancers. Last year, we presented a clinical score to predict this risk in 815 elderly cancer patients (Boulahssass et al 9511 ASCO 2015). The aim of this new study is the next step by developing a score to estimate the risk of early death at 100 days in metastatic cancers (MC) in order to have the collective wisdom not to overtreat this population. 100 days is nearly 3 months, if patients are going to die within 3 months, it's maybe necessary to provide them best supportive care alone.

Methods: This is a multicentric and prospective cohort study approved by an ethics committee. At the baseline, a standardized CGA was performed (MMSE, MNA, Grip strength, ADL, IADL, CIRSg, Charlson, lee, PS, Gait speed, QLQc30, G8, Balducci), type and localization of metastases were collected. During the follow up of 100 days, events, treatments made and targeted geriatric interventions were collected. A multivariate logistic regression permits to select risk factors. The internal validation was performed by a bootstrap with randomized samples. Score points were assigned to each risk factors by using the β coefficient. The accuracy of the score was assessed with the mean c-statistic and the calibration with the Hosmer-Lemeshow goodness of fit test.

Results: In the cohort 312 patients had a MC with a median age of 82y. The independent predictors of death at 100 days in MC were: Age > 85y ($OR\ 2,1\ p=0,03$), Metastatic localizations (ML): 2ML ($OR\ 2,4\ p=0,004$), >2 ML ($OR\ 6,3\ p=0,001$), MNA <17 ($OR\ 8,7\ p<0,0001$) or $\leq 23,5$ and ≥ 17 ($OR\ 5,4\ p=0,002$), Home confinement ($OR\ 1,8\ p=0,047$), ADL <5,5 ($OR\ 2,1\ p=0,017$), Cancers with global risk of early death at 100 days >30% ($OR\ 2,05\ p=0,016$)

We assigned in the score: 3 points for: MNA $\leq 23,5$, ML >2 and 1 point for home confinement, ADL <5,5, ML =2, age >85y and types of cancers at risk >30%

The risk of death at 100 days in MC was 4 % for 0 to 2 pts, 18% for 3 to 4 pts, 33% for 5 pts and 44% for 6 pts and 83% for > 6 pts.

Conclusion: In daily practice, this score should help to avoid unnecessary treatment for patients with a high risk of death, especially for those with a score > 6.

COGNITIVE FUNCTION AND HORMONAL THERAPY ADHERENCE IN A COHORT OF OLDER SURVIVORS: CALGB 369901

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Background: Adjuvant hormonal therapy is the standard of care for estrogen-receptor-positive (ER+) breast cancer survivors, but up to half of survivors do not adhere to recommended treatment (5 years+). Adherence may be more complicated in women older than 65 years (the majority of survivors) due to adverse effects of hormonal therapy, such as cognitive impairment. However, the relationship between cognitive function and hormonal therapy adherence is poorly understood. The objective of this study is to examine the relationship of cognitive function and hormonal therapy adherence over 5 years in older breast cancer survivors.

Methods: A cohort of cognitively intact ER+, non-metastatic breast cancer survivors (65 years and older) that initiated hormonal therapy were recruited from 78 sites between 2004–2011 (n=909). Follow-up data were collected at 6 months and annually for up to 7 years. Cognitive function was self-reported using EORTC-QLC30. Group-based trajectory modeling determined groups based on the highest probability of membership and logistic regression was used to test associations with discontinuation of hormonal therapy before at least 5 years of prescribed medication use.

Results: The mean cognitive score for survivors at baseline was 93.2 points (SD=12.3). Most breast cancer survivors were in early to middle stages of disease (i.e., stage 1=47.4%, stage 2a=31.4% and stage 2b-3=21.3%). Approximately 30% of women reported early discontinuation of hormonal therapy. Many women (42%) had high cognitive function that remained stable over time; more (49.1%) showed a phase shift (i.e., slight decline) in cognitive function with time. Only 9.2% of survivors showed a pattern of accelerated cognitive decline over time. Survivors with accelerated decline were more likely than those who maintained high function to discontinue hormonal therapy ($OR\ 1.49$; 95% $CI\ 0.88-2.55$, $p=0.14$), controlling for age, stage and prior use of chemotherapy. Additionally, survivors who exhibited a phase shift in cognitive function were significantly more likely than survivors who maintained high function to discontinue hormonal therapy ($OR\ 1.40$; 95% $CI\ 1.03-1.91$, $p=0.03$), also controlling for age, stage and prior use of chemotherapy.

Conclusions: Cognitive dysfunction is a relevant yet understudied side effect of hormonal therapy in older survivors and may affect the duration of medication adherence. Our preliminary results suggest that survivors with cognitive decline may play a role in early discontinuation of hormonal therapy in older survivors. This will be an important area for future research on temporality of these effects and has clinical implications for survivorship care.

THE NONAGENARIAN PATIENTS WITH CANCER IN THE UCOG PACA-EST COHORT

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Introduction: The number of nonagenarians people in the world is steadily growing. Decision making about those patients concerning cancer treatment is difficult due to the lack of recommendations. Comprehensive Geriatric Assessment (CGA) is a help for clinicians to take a decision concerning this treatment. UCOG PACA-Est Cohort is a large multicenter prospective cohort of geriatric patients with cancer. The aim of our study is to describe the population of patient age over 90 years old in the UCOG PACA-Est cohort. **Methods:** All patients included in the cohort have benefited from a standardized CGA before the treatment decision. The CGA included (not exhaustive): MMSE, ADL, IADL, gait speed, one-leg standing, Charlson comorbidity index (CCI). Characteristics of cancer, social and demographic data were also collected. During a 100-days follow up, the rate of death, and targeted CGA interventions were collected. **Results:** On the 860 patients of the cohort, there were 101 nonagenarians with a mean age of 92 years (SD 2y). There were 65% of women and 20% of the patients had a metastatic cancer. The nonagenarians were significantly ($p<0,001$) more dependent for ALD (OR = 2,5 [1,6-3,9]) and IADL (OR= 3,2 [1,9-5,5]) than the rest of the cohort. They were more cognitively impaired (MMSE < 24, OR=2,1[1,4-3,3], $p<0,001$). They had a slower walking speed (OR = 2 [1,3-3,1], $p=0,003$). One-leg standing was often less feasible (OR =5,4 [2,3-12,6], $p<0,001$), and patients were more frequently confined at home (OR= 3 [2-4,6], $p<0,001$). An increase in CCI was associated with the age > 90y (OR=4,3 [1,5-11,9], $p=0,005$). After the CGA, the initial cancer treatment plan was modified for 32% of nonagenarians, versus 20% for the rest of the cohort (OR=1,89 [1,2-3], $p=0,006$). The targeted geriatric interventions were not significantly different except for physiotherapy's and pain's care (OR= 1,5 [1-2,3], $p=0,046$ and OR=2,2 [1,1-4,3], $p=0,02$). The rate of death at 100-days follow up was more important for nonagenarians (OR= 1,8 [1,1-2,8], $p=0,013$). **Conclusion:** The study suggests a high vulnerability for nonagenarians patients with cancer. In spite of the altered cognitive status and the loss of autonomy, the targeted geriatric interventions differ only for physiotherapy's care and pain's care. The study shows the influence of the geriatrician in the decision making of the oncologist. It also confirms the importance of a CGA in very old people.

COMPARISON OF OLDER PEOPLE WITH CANCER ACCORDING TO THE FRIED OR THE G8 CRITERIA

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Background: Both the Fried criteria and the G8 have been proposed to screen for frailty in older patient with cancer. Frail older patients may benefit of a Comprehensive Geriatric Assessment (CGA). Our aim was to compare the characteristics of older patients with cancer according to the Fried or the G8 score.

Method: 70 years and older outpatient patients with solid tumors or hematologic tumors were included. The Fried's criteria, the G8 score, and a CGA including physical performances tests (Short Physical Performance Battery, SPPB) were performed.

Results: 286 patients (mean age 82.9 years ± 5.3), mainly with solid tumor (urologic, 28%, digestive, 20%, gynecological, 13%, at local stage, 83%) were included. 77.4 % of the cohort had G8 positive and 92.7% were classified frail or pre-frail with the Fried criteria (38 and 54.7% respectively). 69 patients with frailty or pre-frailty based on the Fried criteria (24% of the cohort) were not detected as frail by the G8. In this sub-group, CGA found poor physical performances (low SPPB, low gait speed). 70% and 60% had a gait speed below 1 and 0.8 m/s respectively) and 63% had a SPPB <9/12.

Conclusions: Prevalence of frailty was higher using the Fried criteria compared to the G8. Patients undetected by the G8 as frail but detected by the Fried criteria had low gait speed and low SPPB score. Poor physical performances are relevant predictors of adverse event in older patient with cancer suggesting that the Fried criteria are more appropriated to screen for frailty.

CASE-CONTROL STUDIES OF VAGINAL AND VULVAR CANCERS AND GYNECOLOGICAL SCREENING: A SEER-MEDICARE ANALYSIS

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This study was conducted to determine the association between Pap smear and pelvic examination screenings and the development of invasive vaginal and vulvar cancers in a Medicare population using a matched case-control design. Matched case-control data sets were constructed from the SEER-Medicare database that links the Surveillance Epidemiology and End Results (SEER) cancer registry data and Medicare enrollment and claims data of subjects who received care between the years 1991 and 1999 aged 65 years or older. The study identified vaginal (N=328) and vulvar (N=1,103) cancer cases. Controls were matched to vaginal (N=2,624) and vulvar (N=8,825) cancer cases representing up to eight matched controls for a single case. The association between screening tests (Pap smears and pelvic examinations) and invasive vaginal and vulvar cancers utilized a design matched on age and geographic location. The association between gynecologic screenings and the development of invasive disease was ascertained using conditional logistic regression analysis. The risk of regional and distant stages of invasive vaginal (OR 0.55, 95% CI 0.31–0.99) and vulvar (OR 0.70, 95% CI 0.42–1.00) cancers was reduced by Pap smear and pelvic examination screenings. This matched-case control design found evidence that Pap smear and pelvic examination screenings were beneficial for older women due to the decreased risk of regional and distant stages of invasive vaginal and vulvar cancers.

SESSION 640 (SYMPOSIUM)

MANAGEMENT ISSUES IN DELIRIUM

Chair: N. O'Regan, *Western University, London, Ontario, Canada*

Co-Chair: M. Dasgupta, *Western University, London, Ontario, Canada*

Delirium is extremely common, and leads to adverse outcomes. Delirium can be preventable, but is frequently missed. Much remains unknown about management of actively delirious individuals. In this symposium, we present the results of novel research from five centres, focusing on risk stratification, case identification and interventions for delirium. Our first abstract reports the prevalence of hypoactive delirium in older medical inpatients, the most underdetected and prognostically serious form. Our second abstract describes a brief two-step diagnostic approach which shows promise as a sensitive delirium identification method. Thirdly, we present a novel delirium risk stratification method for pre-operative cardiac surgery patients, using frailty assessment. Next, we report findings which indicate improvement in delirium symptoms with physical therapy. Finally we highlight the potential harm related to the oft-prescribed antibiotic treatment of asymptomatic bacteruria in delirious patients. This symposium will highlight new research, across a breadth of issues related to delirium.

FREQUENCY AND STABILITY OF MOTOR SUBTYPES IN OLDER MEDICAL INPATIENTS WITH DELIRIUM

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Hypoactive delirium is most commonly missed and yields the worst outcomes. Little is known about longitudinal course of motor subtypes, as most studies are cross-sectional in nature. We aimed to investigate the frequency and stability of motor subtypes in incident delirium in older medical inpatients. Medical inpatients of ≥ 70 years without prevalent delirium on admission underwent daily assessment for ≤ 7 days for incident delirium. Motor activity profile was established using the Delirium Motor Subtype Scale-4 (DMSS-4). Longitudinal subtypes were ascertained by examining the daily profiles of each delirious patient. In total, 1219 assessments were performed in 191 patients, 61 with incident delirium. Hypoactive subtype was most prevalent on any given delirium day ($n = 75/113$, 66.4%) and was the most common longitudinal subtype ($n = 38/61$, 62.3%). Hypoactive delirium is highly prevalent in older medical inpatients. Hence, delirium education programmes should focus on improving understanding and awareness of this subtle presentation amongst clinicians.

PILOT STUDY OF A DELIRIUM DETECTION PROTOCOL ADMINISTERED BY AIDES, PHYSICIANS, AND REGISTERED NURSES

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Delirium is prevalent, costly, and morbid, yet underdetected by clinicians. We tested feasibility and acceptability of a 2-step delirium identification protocol. Step 1, a screener, consists of "What is the day of the week?" and "Months of the year backwards." If either/both items are incorrect, step 2, a 3-minute diagnostic assessment (3D-CAM) follows. Trained researchers enrolled 23 older hospitalized adults and identified 22% to be delirious after a reference standard assessment. Thereafter, physicians, and nurses, completed the 2-step protocol, while certified nursing assistants (CNAs) completed the screener only, all on the same patients. The screener took a median of 36 seconds to administer, with sensitivities: nurses-100%, CNAs-100%, physicians-80%. The 2-step protocol achieved sensitivities: nurses- 100%, physicians-80%, and specificities: nurses-89%, physicians-78%. Barriers and facilitators to implementation were also collected. We conclude that our screener and 2-step protocol can be feasibly implemented by clinicians, and is a promising approach to improve delirium identification.

IMPACT OF FRAILTY ON THE OCCURRENCE OF DELIRIUM IN THE POSTOPERATIVE CARDIAC SURGERY PATIENT

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There is a lack of information on the interaction of frailty and the occurrence of delirium after cardiac surgery. Specifically, it is unclear if the addition of preoperative frailty screening to existing surgical perioperative risk models improves the prediction of postoperative delirium (PoD). In a prospective observational study, preoperative assessments of frailty (Modified Fried Criteria, the Short Physical Performance Battery and a 35-item Frailty Index) was performed in elective cardiac surgery patients. The primary outcome was PoD, assessed using the Confusion Assessment Method. Seventy-two (54.1%) of the 133 participants were deemed frail. After adjusting for the "traditional" preoperative risk score (EuroSCORE II), frail patients were at increased risk of PoD ([OR], 5.05, 95%CI, 1.58–16.13). The inclusion of a formal assessment of frailty significantly improved the discrimination of the EuroSCORE II in predicting PoD, pointing to opportunities for improved prevention and management.

INTERVENTIONS FOR ICU DELIRIUM—EFFECT OF PHYSICAL THERAPY ON ATTENTION IN CRITICALLY ILL PATIENTS

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Delirium, or acute change in cognition and decreased attention, is a common neuropsychiatric syndrome in up to 80% of critically ill adults. It is associated with negative outcomes including increased mortality and morbidity. Multimodal nonpharmacological interventions including physical therapy are associated with decreasing delirium incidence and severity. This study examined the impact of routine physical therapy on performance of attention tasks in CAM-ICU defined delirious and non-delirious ($n = 60$) critically ill patients. Patients in an intensive care unit were given an attention task, utilizing the Edinburgh Delirium Test Box, requiring the patient to count a series of flashing lights prior to, and up to 4 hours following clinically-prescribed physical therapy. Delirious patients had lower baseline performance and greater change in attention following physical therapy compared to non-delirious patients. The results are discussed in the larger context of early mobilization as an important non-pharmacologic prevention strategy for delirium.

TREATMENT OF ASYMPTOMATIC UTI IN OLDER DELIRIOUS MEDICAL INPATIENTS: A PROSPECTIVE COHORT STUDY

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Despite clinical practice guidelines, asymptomatic bacteriuria in older people is commonly treated because of a change in mental status. We sought to determine how often asymptomatic urinary tract infection (UTI) is treated in older delirious individuals, and whether treatment is associated with functional recovery. Consecutive older medical in-patients were screened for delirium, and followed in hospital. Of 343 delirious in-patients, 237 (69%) had poor functional recovery (death, new institutionalization or decreased function at 3 months). Ninety four (27%) were treated for asymptomatic UTI, which was associated with poor recovery compared to those who were not (RR 1.30, 95% CI: 1.14–1.48 overall; RR 1.34). *Clostridium difficile* infection was significantly more common in the treated group ($n = 7$, 7.5%) compared to the untreated group ($n = 8$, 3.2%), OR 2.45, 95% CI: 0.86–6.96. Treatment of asymptomatic UTI in older delirious medical in-patients was common, and potentially harmful. Further research is needed to validate these findings.

SESSION 645 (SYMPOSIUM)

INNOVATIONS IN PALLIATIVE CARE COMPETENCY IN NURSING PRACTICE: ELNEC, AACN, AND COMMUNITY PARTNERSHIPS

Chair: C.R. Shillam, *University of Portland, Portland, Oregon*

Co-Chair: P. Mazanec, *Case Western Reserve University, Cleveland*

For 20 years, the American Association of Colleges of Nursing (AACN) has endorsed a set of standardized end-of-life (EOL) nursing care competencies. Since then, the demand for nursing competency in palliative care has risen to the forefront. The End-of-Life Nursing Education Consortium (ELNEC), an education initiative to improve palliative and

EOL care, has emerged as an international leader in ensuring all nurses attain competency. Using a train-the-trainer model, ELNEC provides nursing faculty, CE providers, staff development educators, and specialty nurses with training in palliative care to teach essential information in education and practice. Today, emphasis on palliative care across the illness trajectory from time of diagnosis through EOL, and across the lifespan, is required in all practice settings. In 2016, an expert panel of nursing faculty and leaders in palliative care revised the AACN EOL competencies to establish comprehensive palliative care competencies. The resulting AACN Palliative CARES document serves as a foundation to online teaching modules embedded in ELNEC curriculum. This symposium provides an overview of the AACN/ELNEC work, and how these modules are being used in a variety of ways to improve palliative care across settings. Presentations of this symposium will describe:

1. The AACN/ELNEC process of developing and advancing a new set of nursing care competencies in palliative care;
2. Creating and disseminating online modules to increase access to educational offerings;
3. Implementing the modules in an academic setting; and
4. Collaborating with community partners to incorporate community-created online learning modules into the ELNEC curriculum.

DEVELOPING AND ADVANCING NURSING CARE COMPETENCIES IN PALLIATIVE AND END-OF-LIFE CARE

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In 2015, AACN and ELNEC convened a national panel of experts in nursing education, gerontology, and palliative care to revise the 1997 AACN *Peaceful Death* document and establish palliative and end-of-life nursing care competencies. The ELNEC train-the-trainer project to date has over 21,100 trainers training over 550,000 professionals in all 50 states and 88 countries. ELNEC has incorporated the newly-revised 17 palliative care competencies into 6 one-hour online modules available for implementation in nursing curriculum. To facilitate dissemination, the modules are available to all schools of nursing in four northwest states free of charge, and to all other schools across the country at a minimal cost, for one year. The use of these competencies, when embedded in the undergraduate curriculum, will empower future nurses to be leaders in advocating for access to quality palliative care and to compassionately promote and provide this essential care to older adults.

CREATING AND DISSEMINATING ONLINE MODULES TO ADVANCE COMPETENCIES IN PALLIATIVE AND END-OF-LIFE CARE

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After AACN endorsed the Palliative CARES document, outlining 17 key competencies for palliative and end-of-life nursing care, ELNEC developed 6 one-hour online modules: 1) Introduction to Palliative Nursing; 2) Communication in Serious Illness; 3) Pain Assessment and Management; 4) Symptom Assessment and Management; 5) Loss, Grief, and Bereavement; and 6) Care of the Imminently Dying Patient. Modules can be used for online, face to face, or blended formats. They include limited text, with student interaction required in case studies, short videos, and examination questions. Faculty in nursing programs and continuing education control administration of modules in a variety of ways to meet learning needs of students and practicing nurses. This innovative curriculum increases access to palliative care education in nursing schools, meets palliative care competencies outlined in the AACN CARES document, and strengthens the palliative care workforce nationwide, providing greater access to palliative care for patients with serious illness.

IMPLEMENTATION OF ONLINE EDUCATION TO ADVANCE COMPETENCIES IN PALLIATIVE AND END-OF-LIFE CARE

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All schools of nursing in four northwest pilot states were invited to participate in the implementation of the six AACN/ELNEC Palliative CARES competency one-hour online modules. AACN/ELNEC leaders provided face-to-face one-day workshops to faculty in each of the four states. The workshop outlined the background on the development of the Palliative CARES competencies, the materials and format for the online modules, and strategies for implementation of the modules into existing nursing curricula. Attendees then participated in a brainstorming discussion to generate additional innovations in supporting faculty and students in use of the modules in both online and face to face formats. Schools agreeing to participate in the pilot dissemination phase of the modules incorporate the six modules into existing nursing courses, evaluate the learning outcomes of students in those courses, and provide feedback to AACN/ELNEC regarding the facilitators and barriers to implementation.

INNOVATIVE COMMUNITY COLLABORATIONS TO ADVANCE CULTURALLY SENSITIVE PALLIATIVE AND END-OF-LIFE CARE

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Continuing education and lifelong learning are essential to providing high-quality, safe nursing care to older adults. During development of AACN/ELNEC Palliative CARES online modules, an academic-practice partnership between the University of Portland and Familias en Accion resulted in evidence-based, culturally-sensitive palliative care online resources for continuing education purposes for health-care providers. Collaboration between the university and

AACN/ELNEC revealed a fit between Familias resources and needs for culturally-sensitive materials in the Palliative CARES online modules. Expanding the original purpose of these high-quality, community-developed online modules, the modules are now embedded into undergraduate nursing education and ELNEC train-the-trainer core and geriatrics curriculum. This partnership provides greater return on investment for funders, and expands the reach of the individual projects, ultimately reaching more nurses. Use of these online modules can streamline efforts to ensure older adults have access to goal-directed, high-quality health care across the continuum of disease trajectory and across the lifespan.

SESSION 650 (SYMPOSIUM)

CO-HOST AGHE: BEING AN AGE-FRIENDLY INSTITUTION OF HIGHER EDUCATION—PERSPECTIVES FROM GLOBAL PARTNERS

Co-Chair: K. Farah, *Lasell College, Newton, Massachusetts*
J.M. Montepare, *Lasell College, Newton, Massachusetts*
Discussant: N.M. Silverstein, *University of Massachusetts Boston*

The aim of this symposium is to illustrate the role higher education can play in responding to the challenges and opportunities associated with shifting demographics and the aging of populations being witnessed locally and globally. In this symposium we will describe the Age-Friendly University (AFU) initiative launched by Irish Taoiseach Enda Kenny and Dublin City University President Brian MacCraith that resulted in the development of the 10 AFU Principles. Now endorsed by international partners in Ireland, UK, US, Canada, and the Association for Gerontology in Higher Education (AGHE), the AFU Principles provide a valuable guiding framework that colleges and universities can use for distinguishing and evaluating age-friendly programs and policies, as well as identifying institutional gaps and opportunities for growth. Global partners will describe how their institutions are using the AFU principles and AGHE president will discuss needed efforts moving forward.

IMAGINING AND REALISING AN AGE-FRIENDLY UNIVERSITY

C. O'Kelly, *Dublin City University, Dublin, Ireland*

The number of people in Ireland aged over 65 is expected to double from 11% to 22% over the next twenty years. This cohort of the population has diverse educational needs which are currently inadequately provided for within higher education and the pressure to meet these needs will increase. In 2008 DCU engaged in a process which resulted in launching Ten Principles of an Age Friendly University. Our vision is to lead a global initiative to embrace the opportunities of an aging population by providing a place for older adults to learn, and where DCU will lead a centre of excellence (research, innovation, teaching, advocacy, engagement) with older adults, harnessing and developing areas of expertise. Opportunities to engage in authentic dialogue with older people also raise awareness within the traditional student cohort to embrace the longevity dividend and inform their own ageing process contributes to the transformational goals of DCU.

TEACHING AND LEARNING ON AN AGE-FRIENDLY INTERGENERATIONAL CAMPUS

J.M. Montepare, K. Farah, *RoseMary B. Fuss Center for Research on Aging and Intergenerational Studies, Lasell College, Newton, Massachusetts*

Lasell College, in Newton, Massachusetts, USA, has the distinction of being the first “age-friendly” intergenerational campus in the state with its recent endorsement of the 10 Age-Friendly University Principles developed by Dublin City University and global partners. Like age-friendly communities, age-friendly universities aim to enable older adults to participate in activities that promote positive and healthy aging. Moreover, age-friendly universities aim to promote greater age-diversity and inclusion across disciplines and departments and a breaking down of age-segregation in the classroom. Age-friendly universities also seek to support aging research by including older adults in research initiatives and by developing research agendas that are informed by the diverse educational needs of an aging society. In this presentation we describe how Lasell College has been working to meet these aims in its intergenerational teaching and learning collaboration with Lasell Village, a university-based independent living community, situated on the Lasell campus.

ENGAGING AN ENTIRE UNIVERSITY IN AGE-FRIENDLY UNIVERSITY PRINCIPLES

M.M. Porter, *University of Manitoba, Winnipeg, Manitoba, Canada*

The Centre on Aging at the University of Manitoba, as a research centre, has a 30+ year history of conducting and disseminating research on aging, as well as training students in research and aging. In May of 2016 the University of Manitoba officially endorsed the Age-Friendly University Principles, becoming the first University in Canada to do so. While the University of Manitoba is already actively engaged in all ten principles, this initiative brings the impetus to take a more concerted approach to enhance all of its activities. The presentation will outline what approach the University of Manitoba has taken to enhance its age-friendliness, including its reach across campus and to the broader community, and who the key individuals and departments have been in these efforts.

SESSION 655 (SYMPOSIUM)

ROLE OF MICROBES IN THE DEVELOPMENT OF ALZHEIMER'S DISEASE: STATE OF THE ART

Chair: A.E. Barron, *Stanford University, Stanford, California*

R. Itzhaki, *University of Manchester & University of Oxford, Manchester, United Kingdom*

Discussant: J. Miklossy, *Prevention Alzheimer International Foundation, International Alzheimer Research Center, Martigny, Switzerland*

Alzheimer disease (AD) is one of the most devastating diseases and aging is one of the most important risk factors. For many years huge efforts have been made to better understand the etiopathogenesis of AD. Also, many treatment trials have been performed. At present, we do not what is the exact cause of AD nor how to treat it but we know

that neuroinflammation plays an important role, the latter occurring even some 20 years before the clinical appearance of the disease. For the last 25 years, infections have been suspected to play a role in the pathogenesis of AD, and recently, there has been much interesting progress on this aspect. This symposium, with prestigious speakers, would describe recent exciting advances in the field of AD. The main themes would be the general overview on the role of infections in the development of AD; the role of Spirochetes and Chlamidia pneumoniae in the development of AD; the role of amyloid beta (Ab) as an antimicrobial agents and the future for treatment and the interaction between other antimicrobial agents.

THE ROLE OF HERPES SIMPLEX VIRUS TYPE 1 (HSV1) IN ALZHEIMER'S DISEASE (AD)

R. Itzhaki, *University of Manchester and University of Oxford, Manchester, United Kingdom*

We discovered that HSV1 is present and active in a high proportion of elderly brains, and that in brain of carriers of the type 4 allele of the apolipoprotein E gene (APOE-e4), HSV1 confers a strong risk of AD. Significantly, we found also that APOE-e4 is a risk for cold sores. Subsequently, we showed that HSV1 infection of human neural cells in culture causes a striking increase in beta amyloid (Abeta) and AD-like-tau levels, and that Abeta deposits form in brains of HSV1-infected mice. Further, in AD brains, HSV1 DNA is located specifically within amyloid plaques. Antiviral agents reduce greatly Aβ and P-tau levels in HSV1-infected cells, suggesting that antiviral treatment might reduce the progression of AD. Epidemiological, genetic, immunological and virological studies by other groups support the causal link, HSV1-AD, as well as the proposal to treat AD with antiviral agents.

ALZHEIMER'S DISEASE, SPIROCHETES—A CAUSAL RELATIONSHIP

J. Miklossy, *Prevention Alzheimer International Foundation, International Alzheimer Research Center, Martigny-Combe, Switzerland*

Various spirochetes, in an analogous way to *Treponema pallidum*, are involved in the pathogenesis of several chronic disorders including Alzheimer's disease (AD). *Borrelia burgdorferi*, the causative agent of Lyme disease and various periodontal pathogen Treponemes (*T. denticola*, *T. pectinovorum*, *T. amylovorum*, *T. maltophilum*, *T. medium*, *T. socranskii*) persist in the brain and cause dementia and beta amyloid deposition. Spirochetes are able to reproduce *in vitro* and *in vivo* all the pathological and biological hallmarks defining AD. A strong statistically significant association between spirochetes and Alzheimer's disease fulfills Hill's criteria and confirm a causal relationship. Validation of these observations by historic and recent reports further confirm that senile plaques are made up by spirochetes and correspond to biofilms. That host pathogen interactions in chronic spirochetal infection are identical to those occurring in AD indicates that escaping host immune reactions, spirochetes sustain chronic infection and cause dementia and amyloid deposition and that Alzheimer's dementia might be prevented.

THINKING OUTSIDE THE BOX IN ALZHEIMER'S DISEASE: COULD INFECTION BE THE ANSWER

B. Balin, C. Hammond, C. Little, S. Hingley, D. Appelt,
*Department of Bio-Medical Sciences, Philadelphia College
of Osteopathic Medicine, Philadelphia, Pennsylvania*

New concepts of infectious disease are evolving especially with the development of progressive chronic diseases that originally were not thought to be infectious. Infection is well-known to be associated with numerous neurological diseases. What has remained unclear, however, has been the role of infection in the development of chronic neurodegenerative diseases. In this regard, numerous studies over the past 25 years have investigated an association between various infectious agents and Alzheimer's disease (AD), the most prevalent condition accounting for dementia in the elderly. Of the pathogens being considered, Herpes Simplex Virus 1 (HSV-1), *Borrelia* species, and *Chlamydia pneumoniae* have garnered significant attention. Work from other laboratories on systemic infections has also led to further interest in the role that infection may play in the neurodegenerative process in older populations. Data from all of these investigations have led to a renewed interest in investigating the role(s) of pathogens in the etiology of sporadic late-onset AD.

AMYLOID BETA PEPTIDES AS ANTIMICROBIAL PEPTIDES: RELEVANCE FOR ALZHEIMER'S DISEASE?

B. Karine, G. Dupuis, E.H. Frost, T. Fülöp, *Medicine,
Universite De Sherbrooke, Sherbrooke, Quebec, Canada*

Amyloid β (A β) peptides generated by the amyloidogenic pathway of amyloid precursor protein (APP) processing contribute significantly to neurological degeneration characteristic of Alzheimer's disease (AD). Their precise role, whether it be direct or the indirect target of an inflammatory response, has been a subject of considerable debate. Data published in the last 6 years by three different groups have added a new twist by revealing that A β peptides could act as antimicrobial peptides (AMP). These observations are of significance with respect to the notion that pathogens may be important contributors to the development of AD, particularly in the case of Herpes simplex virus (HSV) infection which often resides in the same cerebral sites where AD arises. Our recent data support the interpretation that A β peptides behave as AMP, with an emphasis on studies concerning HSV-1 and a putative molecular mechanism that suggests that interactions between A β peptides and the HSV-1 lead to impairment of HSV-1 infectivity by preventing the virus from fusing with the plasma membrane.

EVIDENCE THAT THE HUMAN LL-37 MAY BE A BINDING PARTNER OF A β AND INHIBITOR OF FIBRIL ASSEMBLY

M. Chiari², E. De Lorenzi³, R. Colombo³, M. Cretich², L. Sola², P. Gagni², A.E. Barron¹, 1. *Stanford University, Department of Bioengineering, Stanford, California, 2. National Research Council of Italy, Institute of Chemistry of Molecular Recognition, Milan, Italy, 3. University of Pavia, Department of Drug Sciences, Pavia, Italy*

We are investigating the molecular biophysics of the early-stage etiology of sporadic Alzheimer's Disease (AD). What might cause initial accumulation of A β peptide-rich fibrils and plaques in the AD brain? What is A β 's physiological

function? We focus on A β 's interactions with the human cathelicidin peptide, LL-37, an antibacterial and antiviral innate immune system effector and modulator ubiquitous in tissues, expressed by myriad cell types, yet unique in the proteome. We present experimental evidence and discuss a hypothesis that LL-37 is a binding partner of A β 1–42 can inhibit the formation of AD fibrils and plaques. We demonstrate binding between LL-37 and A β 1–42 by capillary electrophoresis, ELISA, Transmission Electron Microscopy (TEM), and circular dichroism (CD) spectroscopy. TEM shows that LL-37 inhibits the fibrillization of A β 1–42, especially the formation of long, straight fibrils characteristic of AD, while CD spectroscopy reveals that LL-37 binding prevents A β 1–42 from adopting β -type secondary structure.

SESSION 660 (SYMPOSIUM)

PERCEPTIONS, EXPECTATIONS, AND ATTITUDES ABOUT AGING: IMPLICATIONS AND OUTLOOK

Chair: J.E. Smith, *University of Michigan, Ann Arbor, Michigan*

Discussant: D.B. Whitman, AARP

Chronological age per se explains little: It does however carry information about social expectations, normative life events, biological processes, and individual beliefs and behavior. Negative stereotypes and attitudes about aging are prevalent but, as contemporary cohorts are living longer and healthier lives, the ways that people think about aging warrant a closer look. Speakers in this session consider sources and effects of attitudes and expectations about aging, and discuss implications of such self-related beliefs for the well-being of older adults. Hess and O'Brien use data from the Aging as Future Project to take a cross-cultural look at associations between subjective perceptions of one's own aging and beliefs about aging in different domains of everyday functioning. Giasson and Smith use data from the Health and Retirement Study to explore links between attitudes about one's own aging and time spent watching television. They examine associations with emotional well-being and discuss implications for daily lifestyle interventions. Andrews and colleagues report findings from the Baltimore Experience Corp Trial, a community-based volunteer intervention designed to promote generativity and wisdom. They examine the role of expectations regarding aging as a mediator of intervention-related improvements in cognitive function. Finally, Chopik and Kim present data from multiple longitudinal studies that collectively measure changes in expectations about the future from age 7 to 97. They discuss the shape and implications of lifespan trajectories in beliefs about the future. Whitman concludes with an integrative discussion of current efforts to reshape beliefs about aging at the level of individuals and society.

THE IMPACT OF BELIEFS ABOUT AGING ON PERCEPTIONS OF ONESELF ACROSS CULTURES AND BEHAVIORAL DOMAINS

T.M. Hess, *North Carolina State University, Raleigh, North Carolina*

Views regarding old age are important determinants of important physical and psychological outcomes, although

the causal underpinnings of these relationships are poorly understood. With an eye toward identifying potential underlying mechanisms, we used data from the Aging as Future project—which included 1891 adults ages 25 – 99 from China, Germany, and the United States—to examine relationships between subjective perceptions of one's own aging and beliefs about aging in eight different domains of everyday functioning. Although some variation occurred across cultures and domains, more positive perceptions of one's own aging process (e.g., younger subjective age, positive perceptions of self in old age) were generally associated with more positive perceptions of the aging process (e.g., greater control beliefs, lower beliefs in the age-determinancy of change). We discuss these findings in relation to current theories regarding subjective influences on the aging process.

AGING ATTITUDES AND TELEVISION WATCHING: IMPLICATIONS FOR WELL-BEING

H.L. Giasson¹, J.E. Smith^{1,2}, 1. *University of Michigan, Ann Arbor, Michigan*, 2. *Institute for Social Research, Ann Arbor, Michigan*

Television can be an exciting escape, or a self-handicapping behavior adversely linked to health and well-being. We examine associations between individuals' television watching and their attitudes toward their own aging using data from the Health and Retirement Study (N=5542). Analyses revealed that positive aging attitudes like "as I get older, things are better than I expected" were associated with fewer hours spent watching television, whereas negative attitudes like "the older I get, the more useless I feel" were associated with a greater number of hours spent watching television. Additionally, positive aging attitudes were associated with higher positive affect while watching TV. Negative aging attitudes were associated with lower positive affect and higher negative affect while watching TV. All analyses controlled for gender, race, age, education, work status, depressive symptoms, functional limitations, day of week, and trait positive and negative affect. We discuss possible cognitive, affective, and behavioral mechanisms.

EXPECTATIONS OF AGING AS A MEDIATOR OF COGNITIVE BENEFITS IN THE BALTIMORE EXPERIENCE CORPS TRIAL

R. Andrews^{1,2}, T.E. Seeman³, E. Tan⁴, G. Rebok^{1,2}, J. Menkin³, J.M. Parisi^{1,2}, T.L. Gruenewald⁵, M.C. Carlson^{1,2}, 1. *Johns Hopkins University, Baltimore, Maryland*, 2. *Center on Aging and Health, Baltimore, Maryland*, 3. *University of California Los Angeles, Los Angeles, California*, 4. *AARP, Baltimore, Maryland*, 5. *University of Southern California, Los Angeles, California*

Background: Having low age-expectations is a risk factor for worse cognitive and physical functions in older adults. Here, we asked whether a community-based volunteer program, designed to promote generativity and wisdom, improved cognition by increasing positive perceptions of aging.

Objective: In the Baltimore Experience Corps Trial (BECT), we examined whether changes in age-expectations mediated the effect of BECT participation on cognitive function over 2 years, and whether the mediation differed by sex and age.

Methods: Expectations Regarding Aging (ERA-12), Stroop interference, and RAVLT were collected at baseline and at two annual follow-ups. Mean age of the sample was 68.0 years, 85% were female and 92% were African American. We used mediation analysis to assess the mediating role of intervention-related changes in ERA on cognitive outcomes, controlling for key characteristics.

Conclusions: These results from a large-scale trial will inform whether community-based volunteering may impact cognitive function, in part, by improving age-expectations.

AGE-RELATED CHANGES IN EXPECTATIONS ABOUT THE FUTURE: IMPLICATIONS FOR HEALTH AND WELL-BEING

W. Chopik¹, E. Kim², 1. *Michigan State University, East Lansing, Michigan*, 2. *Harvard University, Boston, Massachusetts*

As individuals get older, they revise their thoughts and expectations about the future. Several theories in gerontology and developmental psychology make predictions about the ways in which perceptions about the future might change. However, little empirical data exists on changes in expectations about the future, particularly over large stretches of an individual's life. The current study presents data from multiple longitudinal studies (the Institute for Human Development Studies, the National Survey of Midlife Development in the United States, and the Health and Retirement Study) that collectively measure changes in expectations about the future from age 7 to age 97. Results demonstrate increasingly positive evaluations about the future from early life until older adulthood, followed by more negative evaluations among the oldest old. Follow-up analyses examine correlations between future evaluations and changes in physical health. Implications for lifespan development and perceptions of aging during the second half of life are discussed.

SESSION 665 (SYMPOSIUM)

THE IMPORTANCE OF CONTROL BELIEFS FOR SUCCESSFUL AND HEALTHY AGING

Chair: J. Drewelies, *Humboldt University Berlin, Berlin, Germany*

Co-Chair: D. Gerstorf, *Humboldt-Universität zu Berlin*

Discussant: H. Wahl, *Heidelberg University, Heidelberg, Germany*

Research has long acknowledged the dynamic nature of control beliefs across the lifespan and its important role in facilitating successful and healthy aging. This symposium brings together four papers that highlight how control beliefs do shape and are shaped by individual development in different contexts and phases of adult development. *Koffer* and colleagues examine how associations among daily stress processes and negative affect are related to both between- and within-person control beliefs across the adult lifespan. *Robinson and Lachman* examine if perceived control mediates the relationship between conscientiousness and daily physical activity. *Drewelies* and colleagues examine how internal and external control beliefs relate to a broad range of physical and cognitive functions of everyday using data from the Berlin Aging Study II. *Turiano* and colleagues investigate

how levels and changes in control beliefs predicted mortality risk using data from the MIDUS study. The discussion by Wahl integrates the four papers, highlights their theoretical and methodological contributions, and considers challenges and opportunities for inquiries on control beliefs.

DAILY CONTROL MODERATES STRESS REACTIVITY AND BECOMES INCREASINGLY IMPORTANT WITH AGE

R. Koffler¹, J. Drewelies², D. Gerstorf², D. Almeida¹, N. Ram^{1,3}, 1. *Pennsylvania State University, University Park, Pennsylvania*, 2. *Humboldt-Universität zu Berlin, Berlin, Germany*, 3. *German Institute for Economic Research (DIW), Berlin, Germany*

This study examines how associations among daily stress processes and negative affect are related to both between- and within-person control beliefs across the adult lifespan. Analyses included participants from the Intraindividual Study of Affect Health and Interpersonal Behavior, with $N=150$ adults aged 18–89 assessed over $T=63$ days. Multilevel models indicated that both lower levels of general control beliefs and days with lower daily control beliefs are associated with greater stressor reactivity. The association between stressor reactivity and daily control beliefs is particularly strong for those who experience generally higher levels of stressor exposure. Older adults appear to be more vulnerable to the association between daily control beliefs and stressor reactivity. We will discuss the theoretical importance of including multi-time-scale risk and resilience factors when examining the links between stress and well-being.

CONSCIENTIOUSNESS AND DAILY PHYSICAL ACTIVITY: PERCEIVED CONTROL AS A MEDIATOR

S. Robinson, M.E. Lachman, *Brandeis University, Waltham, Massachusetts*

Both conscientiousness and perceived control are positively related to health-promoting behaviors such as physical activity. The goal of the current study was to examine if perceived control mediated the relationship between conscientiousness and daily physical activity. For seven days, 145 adults, ages 22 to 94, recorded physical activity and sedentary time with an Actigraph GT3X+, and rated their perceived control over physical activity. Controlling for age, sex, and education, multilevel models revealed that on days with higher perceived control there were greater Kcals, METs, and time-spent in moderate to vigorous physical activity, and less sedentary time. Conscientiousness was related to greater daily perceived control over activity and negatively related to sedentary time; daily control beliefs mediated this relationship. The findings extend our understanding of the mechanisms linking conscientiousness, perceived control, and physical activity, and suggest that control beliefs and personality should both be considered when developing physical activity interventions.

EXTERNAL, NOT INTERNAL CONTROL RELATES TO PHYSICAL FITNESS AND COGNITIVE PERFORMANCE IN OLDER ADULTS

J. Drewelies¹, S. Duezel², I. Demuth³, E. Steinhagen-Thiessen³, U. Lindenberger^{2,4}, J. Heckhausen⁵, D. Gerstorf¹, 1. *Psychology, Humboldt University Berlin, Berlin, Berlin*,

Germany, 2. *Max Planck Institute for Human Development, Berlin, Berlin, Germany*, 3. *Charité – Universitätsmedizin Berlin, Berlin, Berlin, Germany*, 4. *Max Planck University College London Centre for Computational Psychiatry and Ageing Research, London, United Kingdom*, 5. *University of California, Irvine, California*

Lifespan research has shown that control beliefs are associated with key outcomes of successful aging. However, little is known about whether such associations exist when the focus is on performance-based indicators of everyday physical and cognitive functioning and investigate age differences in the direction and size of such associations. We analyzed data from 1,090 older adults ($M_{age}=70.11$ years; $SD=3.9$; range 61–88; 51% women) who participated in the Berlin Aging Study-II using structural equation modeling. Results revealed that external control was related to physical health (lower grip strength) and cognitive performance-based indicators (poorer working memory) examined. Findings highlight the differential role of internal and external control beliefs for successful aging.

CONTROL BELIEFS AND LONGEVITY: ANALYSIS OF LEVEL AND CHANGE

N.A. Turiano, N.M. Silva, P.S. Mehta, S. Spears, *West Virginia University, Morgantown, West Virginia*

Control beliefs, representing an individual's perceived ability to meet the challenges of life, are associated with a host of positive developmental and health outcomes. However, less is known about how changes in control beliefs are related to health. Utilizing 20-year mortality data from a national sample of over 6,000 adults from the MIDUS study, we tested whether baseline levels of control beliefs, and 10-year change in control predicted mortality risk using Cox proportional hazards modeling. Net of age, sex, education, race, and marital status, results indicated that baseline control ($HR = 0.89$; $CI = 0.84 - 0.94$) as well as 10-year control change ($HR = 0.85$; $CI = 0.77 - 0.94$) predicted mortality risk. Individuals endorsing stronger control beliefs, as well as those who increased in control over the 10-year follow-up had substantially reduced hazards of dying. Findings underscore the dynamic shifts in psychological functioning are important for health and longevity.

SESSION 670 (SYMPOSIUM)

UNDERSTANDING LATER CAREERS: A COMPARATIVE ASSESSMENT

Chair: S. Vickerstaff, *University of Kent, Canterbury, Kent, United Kingdom*

Discussant: B. Beach, *International Longevity Centre - UK, London, United Kingdom*

In much research on older workers the emphasis has been on transitions to retirement and questions of what encourages people to stay in work. This symposium reorients the focus slightly to look at later careers or late life employment experiences. In the popular imagination later working life is now much more varied than it was in the past with opportunities to work flexibly, come in and out of paid employment or enjoy an 'encore career'. The contributions to this

symposium, which brings together a range of international research projects, have looked critically at these issues from different perspectives and with different methodological approaches.

Papers in the symposium cover later careers in the UK, the US and Switzerland. As a starting point a paper explores the way in which policies which impinge on later careers may have unintended consequences. Following this a project taking a life course perspective explores how certain accumulated disadvantages or advantages can limit the options that some older workers have. Two further papers utilise sequence analysis of longitudinal data sets to provide a detailed picture of the steps people are taking in their later working careers amplifying both the range of differences between people and the degree to which individuals are experiencing complex work endings. Finally combining longitudinal quantitative data with rich case study based qualitative data provides an opportunity to look in depth at the constraints on later life work changes and why people may find it difficult to change direction or downshift.

THE CONSEQUENCES OF ABOLISHING UK MANDATORY RETIREMENT AGES

D. Lain, *University of Brighton, Brighton, United Kingdom*

In 2011 mandatory retirement ages were abolished in the UK, constraining employers in their ability to retire off employees at fixed ages. Historically, UK employees have had few employment rights beyond age 65 and line managers often decided which workers could continue working (Vickerstaff, 2006). Thus far, there has been little research on the implementation and impact of this reform at an organisational level. This paper therefore presents findings from case study research in which workers, managers, trade unions and HR professionals were interviewed in four organisations. The findings show that the impact of these changes depended upon the organisational context. Furthermore, the reforms had a number of unintended consequences. This included one organisation ending a gradual retirement scheme, on the assumption that such schemes would now be legally indefensible. Policy-makers therefore need much greater awareness of the implementation of policies such as this at an organisational level.

THE IMPACT OF LIFE-COURSE PSYCHOLOGICAL HEALTH ON LABOUR FORCE PARTICIPATION AND EXIT IN LATER LIFE

C. Clark¹, M. Smuk¹, D. Lain², S. Stansfeld¹, M. van der Horst³, S. Vickerstaff³, 1. *Queen Mary University of London, London, United Kingdom*, 2. *University of Brighton, Brighton, United Kingdom*, 3. *University of Kent, Canterbury, United Kingdom*

Adulthood psychological ill-health has implications for receipt of disability pension but less is known about the impact on other types of labour force participation and exit, or about the role of childhood psychological ill-health. This study examined associations between labour force participation at 55 years and lifecourse psychological health using the 1958 British birth cohort data. Labour force participation was self-reported at 55 years. Psychological ill-health was reported at 7, 11, 16, 23, 33, 42 and 50 years. Childhood and adulthood psychological ill-health were both associated with

work place exit at 55y in terms of unemployment, permanent sickness and being a homemaker. The associations observed between childhood psychological health and labour force exit at 55y were largely independent of adulthood psychological ill-health and other adulthood factors. There were no gender differences. Childhood psychological ill-health may distally influence labour force participation and exit, having implications for the extending working lives agenda.

RETIREMENT SEQUENCES OF OLDER AMERICANS: MODERATELY DE-STANDARDIZED AND HIGHLY STRATIFIED ACROSS GENDER, CLASS, AND RACE

I. Madero-Cabib^{1,4}, E. Calvo^{3,4}, U.M. Staudinger³, 1. *Universidad de Chile, Santiago, Chile*, 3. *Columbia University, New York, New York*, 4. *Universidad Diego Portales, Santiago, Chile*

This study analyzes the de-standardization in older Americans' later-life careers. The focus is on the complexity in type, order, and timing of retirement sequences, as well as on their gender, class, and race stratification. Using sequence analysis on panel data including 7,881 individuals from the Health and Retirement Study (HRS), this study identifies six types of retirement sequences—early, complete, partial, late, ambiguous, and compact—that cannot be adequately summarized under the conventional model, where individuals completely retire from a full-time job. Stratified analyses suggest that retirement sequences for women, individuals with lower education, and Blacks are more heterogeneous and precarious than for men, highly educated individuals, and Whites, respectively. Additional results provide only partial support for reversible retirement sequences and changes in labor-force status happening at different ages. Overall, these findings suggest that retirement sequences in the United States are fairly de-standardized and strongly shaped by social stratification factors, but to some extent also irreversible and age-graded.

THE LIFE COURSE DETERMINANTS OF VULNERABILITY IN LATE CAREERS

I. Madero-Cabib^{1,2}, 1. *Universidad Diego Portales, Santiago, Chile*, 2. *Universidad de Chile, Santiago, Chile*

Late career is often seen as a more vulnerable life-stage in the labour market, in which workers may experience a deterioration in job quality. Using a life course perspective and longitudinal data, this article analyses the vulnerability associated with late career by focusing on four occupational dimensions: working-time, career continuity, retirement timing and income change. The research is carried out using data from Switzerland, a country where the age profile of the labour force is an increasing issue. The paper also adopts a cumulative disadvantage perspective to examine the impact of previous work and family life experiences on work life vulnerability at older age. Our data come from the Survey of Health, Ageing and Retirement in Europe (SHARELIFE). The paper uses cluster analysis, sequence analysis and ordered logistic regression. Results show that women with previous family responsibilities resulting in long-term unemployment or caring, often with health complications, are more likely to be vulnerable to deterioration in job quality in late career. This suggests that experiences in the last period of the working life may be just as gendered as earlier periods.

EXTENDING WORKING LIVES IN THE UK: WHY DON'T WE SEE MORE VARIATION?

M. van der Horst, S. Shepherd, S. Vickerstaff, *Social Policy, Sociology and Social Research, University of Kent, Canterbury, Kent, United Kingdom*

In a recent paper we showed that there is less variation in later life careers than one would expect based on the popularity of terms like 'phased retirement', 'bridge jobs', and 'un-retirement'. These concepts seemed more topical than typical, at least in the UK. In this paper we assess why this is the case by going more in depth quantitatively and investigating five qualitative case studies; Transport, Hospitality, Local Government, Manufacturing, and Mining. We will place special attention on what individuals say they want in later working life as well as investigate actual and perceived barriers. By combining strengths of quantitative and qualitative research we are in a unique position of being able to provide policy advice based on general patterns as well as a deeper understanding of why we see these patterns. We also provide employers with insight on what could extend older workers' labour force attachment.

SESSION 675 (SYMPOSIUM)

DISCRIMINATION AND HEALTH ACROSS THE LIFE COURSE

Chair: R.J. Thorpe, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

Co-Chair: C. Hill, *NIH/NIA/OD/ODD/SPP*

Discussant: T. Lewis, *Emory University, Atlanta, Georgia*

There is a paucity of research that seeks to understand why race disparities in health across the life course remain elusive. One such explanation that has been garnering attention is discrimination. This symposium contains papers seeking to address the impact of discrimination on health or health disparities across the life course. First, Hargrove investigates the extent to which multiple dimensions of discrimination account for skin color disparities in hypertension among 976 African Americans adults in the Coronary Artery Risk Development in Young Adults Study. This author reports significant intragroup heterogeneity in the discrimination-health link. Second, Cobb and Thorpe examine the relationship between the frequency of everyday discrimination and pulse pressure among 7,181 Black, Latino, and White older adults who participated in the 2006/2008 Health and Retirement Study. These authors report that the frequency of perceived everyday discrimination may differentially affect pulse pressure of older Whites and Blacks. Third, Thomas examines the relationship between social class discrimination (SCD) and mental health among 627 Black adults in the Nashville Stress and Health Study. This author demonstrates that SCD impacts mental health across the life course. Finally, Byrd examines racial disparities in cognitive ability among 991 older black and white adults in waves 4 and 5 of the Americans' Changing Lives Study. There was no impact of discrimination on race disparities in cognitive ability over time. These presentations collectively bolster our knowledge of how discrimination impacts health and health disparities across the life course.

SKIN COLOR, DISCRIMINATION, AND HYPERTENSION AMONG AFRICAN AMERICAN ADULTS

T. Hargrove¹, E. Leslie², 1. *Sociology, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*, 2. *Vanderbilt University, Nashville, Tennessee*

Skin color is a significant source of stratification that shapes health among African Americans. While prior research provides evidence that discrimination experiences vary by skin color, the ways that discrimination influences the skin color-health relationship remain unclear. This study investigates the extent to which multiple dimensions of discrimination, including experience, frequency, and degree of stressfulness, account for skin color disparities in hypertension among African Americans adults age 43 to 55. Analyses of three types of discrimination (racial, gender, social class) in the Coronary Artery Risk Development in Young Adults Study (N=976) indicate that the health consequences of the experience of each type of discrimination, and the stressfulness of racial discrimination, vary by skin color in ways that disadvantage those of darker skin. This study demonstrates that there is significant intragroup heterogeneity in the discrimination-health link. Future research should unpack the differential health consequences of discrimination among multiply disadvantaged groups.

EVERYDAY DISCRIMINATION AND BLOOD PRESSURE IN OLDER WHITES, BLACKS, AND LATINOS

R.J. Cobb¹, R.J. Thorpe², 1. *University of Southern California, Los Angeles, California*, 2. *John Hopkins University, Baltimore, Maryland*

Despite ongoing interest in the link between everyday discrimination and cardiovascular health throughout the lifecourse, few studies have examined links between the frequency of everyday discrimination and pulse pressure among older adults. Data from the 2006/2008 Health and Retirement Study was used to examine whether pulse pressure varies by exposure to day to day discrimination. Multivariate linear regression models were conducted to test associations between frequency of perceived everyday discrimination and pulse pressure among Whites, Blacks, and Latinos. In models adjusted for age, sex, education, health behaviors, and blood pressure medication, recounting frequent everyday discrimination relative to individuals who reported no exposure to everyday discrimination had the highest pulse pressure scores. These results indicate that the frequency of perceived everyday discrimination may differentially affect pulse pressure of older Whites and Blacks. Future research is needed to determine whether this association persists over time.

SOCIAL CLASS DISCRIMINATION AND THE MENTAL HEALTH OF BLACK ADULTS

C.S. Thomas, *University of California, Los Angeles, Los Angeles, California*

Self-reported discrimination is a stressor linked to mental health among Blacks. Although past studies emphasize racial discrimination, mistreatment on the basis of other statuses (e.g. social class) may also influence health. This study examines the relationship between social class discrimination

(SCD) and mental health. Data are from 627 Black adults ages 18 to 69 in the Nashville Stress and Health Study. Outcomes assessed include depressive symptoms (CES-D) and psychological distress (0=low, 1=high). Two types of SCD are examined: major and day-to-day SCD (0=none, 1=SCD, 2=other discrimination). Logistic regression analyses indicate experiences of major (CES-D: OR=3.80, CI: 1.77–8.16; Distress: OR=3.01, CI: 1.02–9.26) and day-to-day (Distress: OR=3.14, CI: 1.02–9.76) SCD are associated with poor mental health, but these effects diminish in later life. Findings demonstrate the impact of SCD on Blacks' mental health across the life course. Future research is needed to understand the protective effect of age in this relationship.

DOES DISCRIMINATION PLAY A ROLE IN RACIAL DISPARITIES IN COGNITIVE ABILITY AMONG OLDER U.S. ADULTS?

D. Byrd, *Community Health Sciences, UCLA Fielding School of Public Health, Los Angeles, California*

Race and stress exposure are associated with cognitive ability among older adults. This study examines racial disparities in cognitive ability among aging black and white adults enrolled in waves 4 and 5 of the Americans' Changing Lives Study (N =991). Cognitive ability was assessed at both waves such that changes in cognitive impairment symptoms were examined longitudinally, controlling for cognitive status and risk factors that were measured at wave 4. Results show whereas there was no main effect of stressful life events or discrimination on cognitive ability, there was a significant race effect, $\beta = -.195$, $p = .013$. Inconsistent with predictions, there was no significant interaction between race and discrimination. Thus race, rather than social stressors, appears to influence cognitive ability among aging adults. In particular, blacks experience greater rates of cognitive impairment over time compared to whites. This finding highlights the importance of addressing racial disparities in cognition.

SESSION 680 (SYMPOSIUM)

INDIVIDUAL AGENCY IN WORK AND CAREER: ADAPTATION DURING ADULthood AND OLD AGE

Chair: J. Heckhausen, *University of California-Irvine, California*

The increasingly globalized world economy has rendered careers and life-course trajectories of employment less predictable and more responsive to individuals' efforts. Individuals increasingly are expected to shape their job characteristics and to respond to challenges associated with aging-related constraints in work demands and job conditions. Presentations in this symposium address the way in which individuals play an active role in shaping their work activities and conditions, as well as how they respond to challenging conditions in their work life. Heckhausen and Shane present findings from MIDUS I, II, and III (age range: 20 to 93 years) on age trajectories of work-related engagement as a function of age and occupational characteristics. Zacher examines active job crafting in a sample of workers (age-range: 18 to 76 years) showing age-differential trends and effects of increasing structural and social resources as well as

challenging and hindering demands. Vogelsang, Olson, and Shultz investigate the social and personal influences on late life career change and their effects on emotional well being of older workers, showing a pervasive positive effect of investing extra financial resources as well as some benefits of family support and agency. Scheibe conducted daily surveys with workers from diverse backgrounds and discovered that older workers are better able to manage negative emotions associated with negative work events.

ACTIVE INVESTMENT INTO WORK ACROSS ADULthood: AGE-GRADED AND OCCUPATIONAL INFLUENCES

J. Heckhausen¹, J. Shane², 1. *University of California-Irvine, Irvine, California*, 2. *City University of New York, Brooklyn, NYC, New York City, New York*

How does the amount of thought and effort that individuals devote to work change across adulthood? Which individual and workplace characteristics modify this age trajectory? We examine these questions using the Midlife in the United States National Study of Health and Well Being (MIDUS I, II, and III) that spans 20 years with individuals ranging in age from 20 to 93 years. Participants reported a general decline in work-related engagement starting in midlife and dropping off progressively rapidly as they entered into and passed the typical age of retirement. However, individuals reported enhanced work-related engagement when working in a managerial or professional job, their workplace granted them greater autonomy, and they felt valued and respected. The positive association of greater autonomy with work-engagement was most pronounced through midlife, whereas during older age feelings of being valued and respected at work were associated with greater work engagement.

JOB CRAFTING ACROSS ADULthood: IMPLICATIONS FOR FUTURE TIME PERSPECTIVE AND RETIREMENT INTENTIONS

H. Zacher, *University of Leipzig, Leipzig, Germany*

Job crafting involves workers actively changing the demands and resources of their job to increase the fit between their personal needs and the work environment. This study examines relationships between worker age and four dimensions of job crafting: increasing structural resources, increasing social resources, increasing challenging job demands, and decreasing hindering job demands. Moreover, interactive effects of age and job crafting dimensions on workers' occupational future time perspective and retirement intentions are investigated. Data came from 1,779 workers between 18 and 76 years. Results showed that age was positively related to increasing structural resources and negatively related to increasing social resources and decreasing hindering demands. Increasing structural resources was more beneficial among younger adults with regard to occupational future time perspective, whereas older workers benefited more from increasing challenging demands in terms of occupational future time perspective and lower retirement intentions. Implications for future research and practical interventions are discussed.

LATER LIFE CAREER CHANGES AND POSITIVE EMOTIONAL OUTCOMES: THE ROLES OF AGENCY AND SOCIAL RESOURCES

E. Vogelsang¹, K.S. Shultz¹, D. Olson², 1. *California State University-San Bernardino, San Bernardino, California*, 2. *University of La Verne, La Verne, California*

More individuals are attempting career changes in later life as an increasing number of older adults face precarious retirement prospects. Although many of these older job seekers eventually find new livelihoods, little is known about their emotional well-being subsequent to these changes. Using respondents from the 2014 *New Careers for Older Workers Study* who successfully navigated a career change after age 45 (n=337), we evaluate the contributions of demographic characteristics, agency, and resources when estimating three measures of career-oriented emotional well-being. We found that having financial resources during the career transition was associated with all three optimistic emotional outcomes; while family support and intentionality were also associated with more positive emotions. Conversely, prior job prestige and additional job training had no relationships with career-oriented well-being. These results suggest that later life career change, despite its challenges, often results in positive emotional outlooks—for those with the resources to support it.

SESSION 685 (SYMPOSIUM)

IMPROVING DEMENTIA CARE AND OUTCOMES ACROSS SETTINGS OF CARE

Chair: S. Zimmerman, *University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*

Discussant: L.P. Gwyther, *Duke University, Durham, North Carolina*

The number of people with dementia residing in communities, assisted living, nursing homes, and other aged care homes across the globe is certain to increase. Despite great strides that have been made achieving better care and outcomes for people with dementia, gaps still exist – some of which are universal, and others of which are especially pressing in relation to specific settings of care. This symposium, sponsored by the Social Research, Policy, and Practice Section of the Gerontological Society of America, includes four evidence-based presentations of new programs and data to improve care and outcomes for persons with dementia; the work was conducted in the U.S. and Australia, and is broadly applicable. The first session describes an efficacious program to help family caregivers attend to medical signs and symptoms of their relative with dementia; the second addresses care in assisted living residences, focusing on potentially inappropriate antipsychotic use and other strategies to address behavioral symptoms of dementia; the third examines quality of life in relation to behavioral and psychological symptoms of dementia in nursing homes; and the fourth presents a goals of care intervention fostering focused communication and care planning in relation to individualized goals to prolong life, support function, or improve comfort in nursing homes. The discussant, Lisa Gwyther, is past president of the Gerontological Society of America and an international expert on dementia caregiving; she will discuss the global relevance of the findings for caregivers and care settings and how to improve dementia care moving into the future.

HELPING FAMILY CAREGIVERS ATTEND TO MEDICAL SIGNS AND SYMPTOMS OF RELATIVES WITH DEMENTIA

P.D. Sloane¹, S. Zimmerman¹, A.S. Beeber¹, L.P. Gwyther², B. Matchar², C. Lathren¹, K. Ward¹, 1. *University of North Carolina, Chapel Hill, North Carolina*, 2. *Duke University, Durham, North Carolina*

Few resources provide guidance to family caregivers when an individual with dementia has health-related symptoms and may need medical care. This session will present and discuss the design and outcomes of web-based resources and a book, both entitled *Alzheimer's Medical Advisor*, developed under a grant from the U.S. National Institutes of Health. To field test these resources, 193 caregivers (142 web version, 51 paper version) were enrolled and followed to learn incident health conditions, use of and attitudes regarding the resource, and change in caregivers outcomes (confidence, burden, anxiety, depression). Over six months, nearly 90% of participating caregivers reported having to address new or worsening organ-specific, nonspecific, and behavioral symptoms; pre-post data indicated significant ($p < .001$) improvement in caregiver confidence knowing about, deciding about, taking care of, and enacting behaviors, as well as reduction ($p < 0.05$) in caregiver role strain.

TREATING BEHAVIORAL SYMPTOMS OF DEMENTIA IN ASSISTED LIVING

S. Zimmerman¹, P.D. Sloane¹, S. Miller¹, D. Reed¹, J. Preisser¹, J.T. Hanlon², 1. *University of North Carolina, Chapel Hill, North Carolina*, 2. *University of Pittsburgh, Pittsburgh, Pennsylvania*

Assisted living residences (ALRs) have become a notable site of care for persons with dementia in the U.S., as have similar settings across the globe. Concern has been raised, however, that ALR staff are not trained to address behavioral symptoms of dementia, and that antipsychotic medications are being used inappropriately to manage symptoms. This session will present data on non-pharmacologic and pharmacologic practices in the U.S., drawing on national estimates, data from 280 ALRs across seven states, and from 90 ALRs in one state. Illustrative statistics are that nationally, more than one-third of residents display behavioral symptoms, almost 60% of who are treated with a medication; that antipsychotic medications are more often prescribed in ALRs that have memory care units ($p < .05$); and that staff largely have the capacity to implement practices such as therapeutic touch or environmental modification, but rarely do so. Implications of findings across countries will be discussed.

UNPACKING THE INFLUENCE OF DEMENTIA-RELATED SYMPTOMS ON QUALITY OF LIFE OF NURSING HOME RESIDENTS

E.R. Beattie¹, E. Fielding¹, W. He¹, W. Moyle², 1. *Queensland University of Technology, Brisbane, Victoria, Australia*, 2. *Griffith University, Brisbane, Queensland, Australia*

The presence and severity of behavioral and psychological symptoms of dementia (BPSD) influence the everyday comfort of nursing home residents. Within a larger, nationally representative study of Australian nursing homes (n=53) conducted by the Aus-QoL group, this presentation examines the relationship between BPSD and quality of

life (QoL). Depression (Geriatric Depression Scale), agitation (Cohen-Mansfield Agitation Inventory) and wandering (revised Algae Wandering Scale) were rated by staff and used as indicators of a latent "BPSD" variable in relation to QoL (Quality of Life-Alzheimer's Disease scale), with demographic and health characteristics as exogenous variables. The relationship between BPSD and staff-rated QoL was strong and negative ($n=216$, $\beta=-.71$). For resident-rated QoL, the relationship was significant but weaker ($n=150$, $\beta=-.16$). Notable among the correlates was the significant negative relationship of resident nutrition to all three BPSD indicators. These results support the need for early individual attention to ameliorate the impact of BPSD on QoL.

PROMOTING GOALS OF CARE TO IMPROVE DECISION MAKING IN NURSING HOMES

L. Hanson¹, S. Zimmerman¹, M. Song², F. Lin¹, C. Rosemond¹, T. Carey¹, S. Mitchell³, 1. *University of North Carolina, Chapel Hill, North Carolina*, 2. *Emory University, Atlanta, Georgia*, 3. *Harvard University, Boston, Massachusetts*

In the U.S., two-thirds of people with dementia die in nursing homes, meaning family members are positioned to inform care from admission through the end of life. Unfortunately, communication between family, staff, and medical providers about issues such as life-sustaining treatments is limited, often resulting in unwanted, aggressive treatments. This study of a Goals of Care decision aid aimed to facilitate goals-based communication and care planning related to prolonging life, supporting function, or improving comfort. It included viewing a decision aid and participating in a care plan meeting, and was tested in a cluster randomized trial with 302 family decision-makers in 22 nursing homes. Results found high fidelity (> 90% received the entire intervention), and family reported better quality of overall ($p<.05$) and end-of-life communication ($p<.02$); there was more palliative care content in treatment plans ($p<.02$), and significantly fewer hospital transfers. This intervention can easily be replicated in other countries.

SESSION 690 (SYMPOSIUM)

EFFECTS FROM LABOR MARKET PARTICIPATION ON FRAILTY AND SOCIAL EXCLUSION IN LATER LIFE?

Chair: N. De Witte, *Vrije Universiteit Brussel, Brussels, Belgium*

Numerous studies have shown that labor market participation affects living conditions during work life in many facets (e.g. financial and social). However, less is known how previous labor market participation affects life in retirement. In this symposium we discuss the effects of labor market participation on two later life conditions: social exclusion and frailty. To explore the underlying processes this symposium embraces a multi-method, multi-disciplinary and multi-national approach.

Sofie Van Regenmortel starts with a qualitative study. By analyzing life story interviews in Belgium, she explores the influence of labor market participation on old-age social exclusion. Second, Michael Van der Elst presents a Belgian

quantitative cross-sectional study in which he examines the relationship between the timing of labor market exit and frailty and its different dimensions. Third, Martin Wetzel presents a study using German longitudinal data in which he investigates changes in perceived social exclusion at retirement depending on the last labor market status. Patricia Navarrete demonstrates the association of labor based employee benefits and frailty among Mexican older adults.

Since the symposium embraces different methods and an international approach, Nico De Witte will discuss the different findings and summarizes the different effects of former labor market participation on later life outcomes.

LABOR MARKET PARTICIPATION ACROSS THE LIFE COURSE: IS THERE A DOMINO EFFECT?

S. Van Regenmortel, A. Smetcoren, B. Fret, D. Lambotte, S. Dury, L. De Donder, *Vrije Universiteit Brussel, Brussels, Belgium*

Despite an increasing focus on the effects of the life course on inequalities in health and wellbeing, a life course approach has found little attention in social exclusion research. One major aspect of the life course, labor market participation, is often not included when examining old-age social exclusion. The current study examines qualitatively how labor market participation across the life course relates to dimensions of old-age social exclusion (e.g. material resources and participation). This study analyzes life story interviews from 44 Belgian older adults (60+). The interviews are based on McAdams' life story scheme (2008). Results demonstrate that in older adult's life stories, labor market is frequently mentioned and strongly associated with financial and material resources. Throughout the life course, labor market inclusion strongly influences dynamics in and out of exclusion. The study highlights the evidence for a domino effect from labor market participation on old-age social exclusion.

THE RELATION BETWEEN EARLY RETIREMENT AND THE ONSET OF FRAILTY IN BELGIAN OLDER ADULTS

M. Van der Elst¹, B. Schoenmakers¹, D. Verté², L. De Donder², N. De Witte^{2,3}, J. De Lepeleire¹, and D-SCOPE Consortium, 1. *University of Leuven, Leuven, Belgium*, 2. *Free University Brussels, Brussels, Belgium*, 3. *University College Ghent, Ghent, Belgium*

Studies have shown that on average 11% of the older adults are frail. People with lower incomes are more likely to be frail. Research shows that early retirement leads to lower retirement income, but could also cause loss of social contacts, as the work environment is a source for social contact. The current study examines the relationship of retirement age and frailty in the later life and takes various dimensions (physical, social, psychological and environmental) of frailty into account. A cross-sectional method is used. The data are retrieved from the "Belgian Ageing Studies", a large-scale survey ($N=30\,984$) of community dwelling older people aged 60 and older. Frailty is operationalized by the Comprehensive Frailty Assessment Instrument (CFAI). Results are showing that retirement affects various dimensions of frailty differently. The discussion highlights the long-term effect of early retirement.

IN OR OUT OF SOCIETY? RETIREMENT AFFECTS PERCEIVED SOCIAL EXCLUSION IN GERMANY

M. Wetzel¹, K. Mahne², 1. *University of Cologne, Cologne, Germany*, 2. *German Centre of Gerontology, Berlin, Germany*

Previous studies have shown that perceived social exclusion (PSE) depends crucially on individual access to resources but also on the possessed social status. Employment status predicts both resources and status and thus unemployed show serious social disadvantages. We expect that the transition into retirement is associated with a loss in resources and status (increasing PSE) for those previously working while those previously not working profit due to a change in social status (decreasing PSE). Using longitudinal data from Germany, we estimated FE-panel regression models for 627 retirees. Those previously working report lower levels of PSE than those not working. Contrary to our expectations, retirement did not affect PSE for those previously working. However, for those not working previously, retirement decreased PSE. We hence assume that for those previously working retirement depicts a transition just from one valued status to another. For those not working, retirement indicates a reduction of stigmatization.

EMPLOYEE BENEFITS AND FRAILITY IN MEXICAN COMMUNITY-DWELLING OLDER ADULTS

A. Navarrete-Reyes¹, J. Avila-Funes^{1,2}, 1. *Instituto Nacional de Ciencias Médicas y Nutrición "Salvador Zubirán", Mexico City, Mexico*, 2. *Université Victor Segalen Bordeaux 2, Bordeaux, France*

Frailty has been associated with increased risk for adverse health-related outcomes. Several factors, including some financial and labor issues, have been linked to the development of such a phenotype.

This cross-sectional study of 927 community-dwelling older adults living in Mexico City aimed to identify the association between employee benefits (EB) and frailty status. Eight EB were reported while frailty was identified according to the phenotype proposed by Fried et al.

Frailty's prevalence was 14.1%. Participants reported the following EB: bonuses (12.3%), profit sharing (23.6%), pension (44.9%), health insurance (50.6%), food stamps (15.7%), housing credit (11.6%), life insurance (13.2%) and Christmas bonus (54.8%). Multinomial logistic regression analyses showed that EB were statistically associated with frailty (OR 0.85; 95% CI 0.74–0.98; $P = 0.027$).

The found associations and the underlying differences are important for preventing frailty in the elderly. Further research with longitudinal data is needed to examine the underlying mechanisms.

SESSION 695 (SYMPOSIUM)

MEDICARE AND MEDICAID INTEGRATION: RESULTS OF CALIFORNIA'S DUAL FINANCIAL ALIGNMENT DEMONSTRATION

Co-Chair: C.L. Graham, *University of California, Berkeley, Berkeley, California*

B. Hollister, *University of California, San Francisco, San Francisco, California*

Discussant: L. O'Shea, *NHS England, London, United Kingdom*

Over 9.6 million seniors and adults with disabilities in the United States (US) are dually eligible for Medicaid and Medicare. These beneficiaries (called "duals") have, on average the most complex care needs and account for a disproportionate share of spending in both programs. The Patient Protection and Affordable Care Act gave the Centers for Medicare and Medicaid Services (CMS) the authority to develop and test new models for integrating care for duals. California's dual alignment demonstration (the largest of the 12 state demonstrations) passively enrolled over 120,000 [ML1] dually eligible beneficiaries into Cal MediConnect (CMC) health plans, where Medicare and Medicaid services (including long-term services and supports -LTSS) were coordinated through a capitated managed care model. Enrollees received additional care coordination, transportation services, and expanded vision and dental benefits. Beneficiaries could opt out of the program and keep fee for service Medicare.

Using a participatory evaluation approach, researchers worked with diverse stakeholders including the state Medicaid agency, CMC health plans, disability advocates, provider groups and consumers to design an evaluation of the program. The evaluation sought to document health plan innovation and health system response to the demonstration, as well as beneficiaries' experiences with care. In this symposium, researchers will present results outlining the unique innovations and collaborations that resulted from the implementation of the program. Additionally, results of a representative telephone survey of 2,139 beneficiaries examining the demonstration's impact on access to care, continuity of care, and managed LTSS will be presented.

HEALTH PLAN INNOVATION IN CALIFORNIA'S DUAL ALIGNMENT DEMONSTRATION

B. Hollister², C.L. Graham¹, 1. *School of Public Health, University of California, Berkeley, Berkeley, California*, 2. *University of California, San Francisco, San Francisco, California*

The implementation of California's dual alignment demonstration resulted in a significant shift in practice for many stakeholders including: Managed Care Organizations (MCOs), providers, nursing homes, long term services and supports (LTSS) providers, and community based organizations that serve dually eligible beneficiaries. Evaluators conducted 36 key informant interviews with various stakeholders to document health system response and innovations resulting from program implementation. Findings reported will include: (1) health plan innovation and development of care coordination programs; (2) program impact on collaboration and coordination across agencies, (3) challenges, lessons learned, and recommendations for replication. Anecdotes and case studies are used to tell the story of, and lesson learned from, Cal MediConnect from various perspectives.

THE IMPACT OF CARE COORDINATION IN MEDICARE-MEDICAID INTEGRATION PROGRAMS

C.L. Graham¹, P. Liu², 1. *School of Public Health, University of California, Berkeley, Berkeley, California*, 2. *University of California, San Francisco, San Francisco, California*

This paper presents results of a cross-sectional telephone survey of 2,139 adult, dually eligible beneficiaries, including: 744 enrolled in CMC, 659 eligible beneficiaries who opted out, and 736 from non-demonstration counties in California. Results suggest that CMC care coordination is working well: those using care coordination were more likely to be satisfied with benefits and scored higher on measures of access to care than non-users. Of those who experienced disruptions in care after the transition, care coordination users were more likely to report those disruptions resolved than non-users. However, the only characteristic that predicted use of care coordination was use of behavioral health. Those in poor health and those with functional limitations, both characteristics that predict more disruptions in care, were not more likely to receive care coordination. Presenter will discuss the importance of risk stratification to ensure that it is being administered to those with the most complex care needs.

MANAGED LONG-TERM SERVICES AND SUPPORTS IN CALIFORNIA'S DUALS DEMONSTRATION

C.L. Graham^{1,2}, S. Kaye², 1. *School of Public Health, University of California, Berkeley, Berkeley, California*, 2. *University of California, San Francisco, San Francisco, California*

Beginning in 2014, California's duals demonstration enrolled over 120,000 dually eligible seniors and people with disabilities into managed care organization (MCO). 44% of these rely on LTSS, now coordinated by the MCO. Fourteen focus groups and a representative survey (N=1,306) with beneficiaries in the demonstration revealed that most beneficiaries are unaware that their LTSS is coordinated by the plan. LTSS users' satisfaction with the plan is lower than non-LTSS users. And their use of LTSS does not differ from a control group of LTSS users from non-demonstration counties. About half still have unmet need for personal assistance, and over a third have unmet needs for medical equipment and supplies. Less than half had been contacted by a care coordinator and only a third remembered getting an individualized care plan from the MCO. Challenges to fully integrating LTSS into MCOs for duals in California will be discussed by authors.

SESSION 700 (SYMPOSIUM)

A CROSS-CULTURAL COMPARISON OF APPROACHES TO ELDER MISTREATMENT RESEARCH AND INTERVENTIONS

Chair: R. Snyder, *The John A. Hartford Foundation, New York, New York*

Discussant: T. Fulmer, *The John A Hartford Foundation, New York*

Elder Mistreatment and Abuse is a growing concern as populations are ageing around the world. Leaders in both research and practice have contributed to a body of literature that provides evidence-based models for assessment and intervention. This symposium brings together world leaders who are the executives of the International Longevity Centers in their countries. Each will discuss the

approaches both in research and practice in their respective countries that represent of Argentina, Canada, Japan and the United Kingdom. The president of the International Network for the Prevention of Elder Abuse will open the symposium with an overview of the organization's mission in preventing elder abuse and raising public awareness. The president of the major foundation the focuses on improving care for older people in the United States, who is also a prominent researcher and practitioner in elder mistreatment, will serve as the discussant to summarize the overall impact of the current research and best practices provided by each of the presenters and to provide a review of how a philanthropic foundation can catalyze programs for elder mistreatment interventions. The panelists will engage in a robust discussion on best practices across cultures and will provide useful information on developing cultural competencies in addressing elder mistreatment in multi-cultural societies. This session will highlight the importance of understanding cultural sensitivity in designing research and developing programs in addressing elder abuse and mistreatment. This is a joint symposium of The John Hartford A. Foundation and the International Longevity Centre Global Alliance.

GLOBAL OVERVIEW OF ELDER ABUSE AND THE INTERNATIONAL ORGANIZATION THAT SEEKS TO PREVENT IT

S. Somers, *The International Network for the Prevention of Elder Abuse, New York, New York*

The International Network for the Prevention of Elder Abuse is a significant organization that raises the awareness of abusive and neglectful situations that cause harm to older people across the globe. This presentation will highlight the importance for country leaders to share best practices in research and practice that will not only help raise awareness throughout societies but will also work collaboratively in designing programs that will be evidence-based and culturally sensitive.

SOUTH AMERICA'S EXEMPLAR NATIONAL CAMPAIGN ON ELDERS' CRIME PREVENTION IN ARGENTINA

L. Daichman, *International Longevity Center-Argentina, Buenos Aires, Argentina*

A leading geriatrician and expert in elder abuse and former president of INPEA has spearheaded a public-private partnership to prevent crimes against older people. Together with other relevant NGOs, Dr. Daichman helped to develop a National Campaign on the Prevention of Elder Abuse and Respect for the Rights of Older Persons. This session will provide practical information on the feasibility of such partnerships as well as the preliminary results of the campaign's effectiveness in reducing criminal activities against Argentina's older citizens.

ADDRESSING ELDER ABUSE IN JAPAN, THE OLDEST COUNTRY IN ASIA

M. Osako, N. Tsukada, *International Longevity Center – Japan, Tokyo, Japan*

Despite the common perception that Japan with its traditional emphasis on filial piety would not need laws protecting older persons against abuse, in 2005 the country enacted The Law for Preventing the Abuse of Older People and Providing Assistance to Caregivers. The law addresses abusive and neglectful acts committed by caregivers in domestic and institutional settings. This paper will discuss trends in elder abuse in Japan since 2006 using annual surveys conducted by the Ministry of Health, Labour and Welfare. It will also explore possible reasons for certain key findings (such as the marked increase in violence in institutional settings) as well as promising features created by the law (e.g., establishment of municipal shelters for victims). The paper suggests (a) increasing counseling opportunities for abusers and (b) reducing caregivers' stress and workload as possible measures to reduce elderly abuse.

IN EUROPE THE UNITED KINGDOM'S UNIQUE CAPABILITY OF INFLUENCING POLICIES RELATED TO ELDER ABUSE

S. Greengross, *International Longevity Centre- United Kingdom, London, United Kingdom*

Baroness Greengross will speak of the United Kingdom's capability of influencing policies related to elder abuse. The key issues in the UK include financial abuse and, as the general incidence of dementia increases, how the impact on cognition and decision-making capability is adversely affecting the associated risk factors for abuse. In terms of improving legislative protection she will highlight the campaign to introduce a new aggravated offence of elder abuse designed to help remedy the failure of the current criminal justice system to adequately prosecute perpetrators of abuse. Baroness Greengross will also address the particular issues faced by minority communities. Additionally, she will discuss the dilemma that often abuse of older people goes unreported and sometimes can be 'passive', either because someone lacks the skills or external support necessary to adequately care for another person, or simply through unintentional neglect.

SESSION 705 (SYMPOSIUM)

GAINING A LONGITUDINAL UNDERSTANDING OF CULTURE CHANGE PRACTICE ADOPTION IN U.S. NURSING HOMES

Chair: S.C. Miller, *Brown University, Providence, Rhode Island*

Discussant: C.E. Bishop, *Brandeis University, Weston, Massachusetts*

Nursing home (NH) culture change strives to improve NH quality through deep systematic change. However, while studies suggest its implementation is associated with improved quality outcomes, empirical evidence of its value is inconclusive due to methodological challenges. To overcome many of these challenges, we designed a panel study using our nationally representative Time 1 (2009/10) survey data from U.S. NHs and newly collected Time 2 survey data from NHs that responded at Time 1. The Time 1 survey focused on the critical domains of *Environmental*

Practices (i.e., homelike environment), *Resident Care Practices* (i.e., resident-centered/directed care), and *Workplace Practices* (i.e., staff empowerment). The Time 2 survey was expanded to include additional items to enhance measurement of these three domains as well as to measure the additional domains of *NH Leadership* (i.e., modeling and enabling of culture change) and *Family and Community* (i.e., inclusion/involvement). In early 2016, the Time 2 survey was administered to 2,152 nursing home administrators (NHA). While follow-up is continuing, 834 (39%) NHAs have responded. In this symposium we present findings on the: 1) study's framework and survey design, including the cognitive-based interviewing performed to identify the NH leader to target at Time 2; 2) change in practice between 2009/10 and 2016; 3) practice in 2016 for the five measured domains; and 4) associations between domain scores and outcomes of interest. Study findings indicate significant improvement in domain scores between Times 1 and 2. Planned research will examine whether these improvements are associated with improvements in quality outcomes.

NURSING HOME CULTURE CHANGE: STUDY FRAMEWORK AND SURVEY INSTRUMENT DESIGN

S.C. Miller¹, D. Tyler², R. Shield¹, M. Lepore², R. Dahal¹, M. Clark³, 1. *Brown University, Providence, Rhode Island*, 2. *Research Triangle Institute (RTI), Washington, District of Columbia*, 3. *University of Massachusetts Medical School, Shrewsbury, Massachusetts*

While this study uses the commonly used term "culture change," it is the processes and structures promoting person-centered care (and their hypothesized outcomes) that we study. This measurement is guided by the Holistic Approach to Transformational Change (HATCh) model that depicts six interrelated domains needed for NHs to make care more individualized. The Time 2 survey measures five domains, with the sixth domain (Government and Regulations) derived from existing data sources. All time 1 survey items were included in the Time 2 survey. Additional "candidate" items came primarily from existing survey instruments, and are supported through validity testing. Items were refined through extensive cognitive-based testing and through guidance from an expert advisory committee representing provider and culture change organizations. We used an ecological conceptual framework to hypothesize the relationships among domains and how domain processes and structures are influenced by the context in which they are performed.

USING COGNITIVE TESTING TO IMPROVE A CULTURE CHANGE SURVEY

D. Tyler^{2,1}, C. Berridge^{3,1}, R. Shield¹, S.C. Miller¹, 1. *Brown University, Providence, Rhode Island*, 2. *RTI International, Waltham, Massachusetts*, 3. *University of Washington, Seattle, Washington*

The purpose of this study was to cognitively test questions for our nursing home (NH) culture change survey and determine which NH leader to target. Cognitive-based testing systematically tests survey questions to determine respondents' understanding of questions and

reveal thought processes involved in providing an answer to help increase validity and improve response rates. We conducted in-person interviews with 30 NH administrators (NHAs) and directors of nursing (DONs) in 15 NHs. Responses by NHAs and DONs were compared within facilities and across all facilities. Results showed that where the NHA and DON from the same facility provided different answers to the questions, the DON often provided a higher, more favorable response. Because data showed DONs tended to rate their facilities higher than did NHAs across survey domains, and given NHA responses appeared valid (based on interviews), we determined the survey should be administered to NHAs.

U.S. NURSING HOME CULTURE CHANGE: THEN AND NOW

J.C. Lima¹, M. Clark², M.L. Schwartz¹, C. Berridge¹, D. Tyler³, R. Shield¹, M. Lepore⁴, S.C. Miller¹, 1. *Brown University, Providence, Rhode Island*, 2. *University of Massachusetts Medical School, Shrewsbury, Massachusetts*, 3. *Research Triangle Institute, Waltham, Massachusetts*, 4. *Research Triangle Institute, Washington, District of Columbia*

We examined culture change practices within the same U.S. nursing homes (NHs) in 2009/10 and 2016. The proportion of NHs engaged in at least some culture change practices remained steady (87.2% vs. 87.7%). We calculated changes in scores across three domains using items measured at both time points (homelike physical environment, staff empowerment, and resident-centered/directed care). Cronbach alphas ranged from 0.40 to 0.65. For NHs with domain scores at both time points, more than half scored as high or higher at Time 2 on staff empowerment and resident care (58% and 70%, respectively) while only 37% scored as high or higher on physical environment (p values $<.01$). We recalculated domain scores at Time 2 using the expanded set of survey items. Scores correlated well with the original versions and Cronbach alphas improved (range 0.63 to 0.78). Compared to T1 measures, on average NHs improved across all three domains.

FAMILY AND COMMUNITY AND LEADERSHIP CULTURE CHANGE PRACTICES IN U.S. NURSING HOMES

M.L. Schwartz¹, C. Berridge³, J.C. Lima¹, D. Tyler², R. Shield¹, M. Lepore², S.C. Miller¹, 1. *Brown University, Providence, Rhode Island*, 2. *RTI International, Waltham, Massachusetts*, 3. *University of Washington, Seattle, Washington*

We used data from 834 U.S. nursing homes (NH) to understand culture change practice for the two domains added to our 2016 survey: family and community, and leadership. Domain scores reflect the average performance on nine and ten questions respectively, scored from 0 (rare) to 3 (almost always). Mean domain scores were 1.6 ($sd = 0.46$) for family and community and 1.40 ($sd=0.32$) for leadership. No differences in performance were observed by nursing home characteristics for either domain. Performance on both domains was correlated ($p<0.05$) with all other survey domains. We also assessed the relationship between leadership practices (by score quartiles) and the outcome of nursing

assistant retention above 50% (at 12 months), using multivariate logistic regression. After adjusting for NH characteristics, compared to NHs in the lowest quartile of leadership domain performance, NHs in the highest quartile had 2.04 (95% CI: 1.18–3.53) greater odds of experiencing retention above 50%.

STAFFING EMPOWERMENT PRACTICES IN NURSING HOMES WITH UNIONIZED NURSING ASSISTANTS

C. Berridge¹, M.L. Schwartz¹, D. Tyler², R. Shield¹, S.C. Miller¹, 1. *Brown University, Providence, Rhode Island*, 2. *Research Triangle Institute, Waltham, Massachusetts*

A key component of culture change is staffing empowerment supported by nursing home management. On the labor side, collective bargaining is one strategy to improve labor conditions; however, it is unknown if unionized facilities implement staff empowerment practices associated with culture change. In this paper, we examine changes in nursing assistant unionization in U.S. facilities, compare staff empowerment practices for unionized and non-unionized facilities, and model the relationship between empowerment practices, leadership practices, and union status. Using a 14-item composite measure to score facilities' empowerment practices, we find that unionized and non-unionized facilities do not differ significantly. Staff are more often cross-trained in unionized facilities and less likely to work with the same residents or receive rewards for extra training/education. After adjustment, we find that empowerment practices do not differ as a factor of union status ($b=.035$; 95% CI: $-.022, .092$), but are linearly associated with higher leadership scores.

SESSION 710 (SYMPOSIUM)

USING TECHNOLOGIES TO IMPROVE HEALTHCARE AND QUALITY OF LIFE IN THE VULNERABLE ELDERLY

Chair: G. Leonard, *Universite de Sherbrooke/ Research Center on Aging, Sherbrooke, Quebec, Canada*

Discussant: P. Boissy, *Universite de Sherbrooke/ Research Center on Aging, Sherbrooke, Quebec, Canada*

N. Lapierre, *University of Montreal, Montreal, Quebec, Canada*

Aging is often associated to higher risk for many negative health related events. For example, it is well known that falls increase significantly with age and their consequences are often dramatic. Similarly, the changes observed in seniors, be them associated with normal aging or pathological processes, often generate important mobility impairments that can greatly affect quality of life. Finally, behavioral and psychological symptoms of dementia (BPSD) and chronic pain are serious health problems in aging populations that can negatively affect the wellbeing of patients and the work environment of the healthcare team. Early detection of falls and limitations in community mobility, as well as identification and management of BPSD and chronic pain in elderly individuals who have difficulty communicating because of dementia remain a challenge for healthcare providers. The current symposium will address these important issues and

will provide concrete examples on how technologies such as intelligent videomonitoring, mobile applications on smartphones and wearables sensors can be leveraged to provide outcome measures that can be used to identify elderly individuals who fall in their environment, have mobility limitations, exhibit disturbing BPSD or who suffer from chronic pain. More than simply detecting falls, mobility limitations, BPSD and pain, the proposed technologies offer healthcare professionals the possibility of assessing the underlying/contributing factors related to these negative health related events, in order to propose an approach of care that has a beneficial impact for the patient and can improve his quality of life.

BEHAVIORAL SYMPTOMS AND FALLS IN LONG-TERM CARE FACILITIES: PERCEPTIONS OF GERONTECHNOLOGY

A. Bourbonnais^{1,2}, J. Rousseau^{1,2}, J. Meunier¹, M. Gagnon³, M. Lalonde^{1,2}, N. Lapierre^{1,2}, D. Trudeau⁴, 1. *Université de Montréal, Montreal, Quebec, Canada*, 2. *Research Centre of the Institut Universitaire de Gériatrie de Montréal, Montreal, Quebec, Canada*, 3. *Université Laval, Quebec, Quebec, Canada*, 4. *Centre Intégré des Services de Santé et Services Sociaux du Centre-Sud-de-l'Île-de-Montréal, Montreal, Quebec, Canada*

Two of the most frequent problems in long-term care facilities (LTC) are behavioral symptoms and falls of older people living with Alzheimer's disease or associated disorders. Intelligent videomonitoring and mobile application are potential gerontechnologies to help manage these problems. However, evidence about the needs for technologies in LTC is scarce. The goal of this study was to explore the perceptions and needs of managers, formal and family caregivers in LTC regarding these technologies, as well as the conditions and ethical challenges that could influence their use. Individual interviews and a content analysis were conducted. Results show the relevance of these technologies in LTC and the characteristics that make them useful. Based on these results, technologies could be developed to improve the quality of clinical practice in LTC.

OLDER WOMEN'S PERCEPTION REGARDING A VIDEOMONITORING SYSTEM AT HOME

N. Lapierre^{1,2}, J. Meunier¹, J. Filiatrault^{1,2}, A. St-Arnaud³, M. Paquin^{1,2}, C. Duclos^{1,4}, C. Dumoulin^{1,2}, J. Rousseau^{1,2}, 1. *University of Montreal, Montreal, Quebec, Canada*, 2. *Centre de Recherche de l'Institut Universitaire de Gériatrie de Montréal, Montréal, Quebec, Canada*, 3. *CLSC Lucille-Teasdale, Montréal, Quebec, Canada*, 4. *Centre de Recherche Interdisciplinaire en Réadaptation, Institut de Réadaptation Gingras-Lindsay- de-Montréal, Montréal, Quebec, Canada*

Although ambient technologies are promising to Aging-in-place, few were studied at home. In a project aiming at monitoring night walks of older women at risk of falls, a videomonitoring system (VS) was implemented at home. The study aimed to explore their perception about the VS. Using a multiple case study design, the study included six women with the following characteristics: 1) ≥ 65 years old, 2) living alone, 3) ≥ 1 fall within the year, 4) waking up

nightly for going to the toilet. Their walks were recorded seven nights, on movement detection, for a time-window of their choice. Participants' perception was explored using pre- and post-videomonitoring-installation interviews. Data were qualitatively analysed. Participants, who feared to feel intruded, got used to the system and trusted it to protect privacy (eg. blurred images). Some technology features (eg. movement detection) eased their experience. Results support the use of ambient technologies at home.

QUANTIFICATION OF FREE-LIVING MOBILITY IN COMMUNITY LIVING OLDER ADULTS USING WEARABLE SENSORS

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With the advent of miniaturized body worn sensing technology it is now possible to collect and store data on different aspects of mobility under free-living conditions for long period of time. 88 older adults living in the community in Montreal (Canada) wore for 12 days a data logging platform incorporating a GPS receiver with an 3D accelerometer. location, activity, travel and Geospatial distribution of mobility were extracted and compared across participants using ICF measures body structures and function (cognitive status, depressive symptoms, body composition, pain), personal (age, gender, education, revenue) and environmental (social participation, living situation, walking access to shop and services, access to a car). Results suggest that the proposed mobility outcomes are sensitive to the different domain of the ICF with environmental variables contributing significantly to variation in mobility of community dwelling older adults. On-going studies are looking at how aging and disease affect these mobility outcomes.

USING WEARABLE SENSORS TO IDENTIFY ELDERLY INDIVIDUALS WHO SUFFER FROM PAIN

G. Leonard¹, S. Laroche¹, É. Lagueux², P. Boissy¹, 1. *Rehabilitation, Université de Sherbrooke/ Research Center on Aging, Sherbrooke, Quebec, Canada*, 2. *Centre de recherche du CHUS, Sherbrooke, Quebec, Canada*

Chronic pain is a significant health problem in the elderly. The management of chronic pain in this population often remains a vexing challenge, notably for individuals who have difficulty communicating because of dementia. The aims of this study was to document, in these patients: (1) the feasibility of using a wearable platform incorporating multiple sensors (electrodermal activity blood volume pulse, acceleration, heart rate, and temperature) during everyday life activities to measure the activity of the autonomic nervous system; and (2) the utility of using such measures to identify patients who suffer from pain. Preliminary results indicate that wearable technologies are well tolerated by patients and provide useful information for the management of chronic pain. Clinical applications, as well as potential barriers and pitfalls will be discussed.

SESSION 715 (SYMPOSIUM)

CHRONIC DISEASE MANAGEMENT THROUGH A MASCULINITY LENS

Co-Chair: S. Solimeo, *Department of Veterans Affairs, Center for Comprehensive Access & Delivery Research and Evaluation (CADRE) Iowa City VA HCS, Iowa City, Iowa*

E.H. Thompson, *College of the Holy Cross, Broadview Heights, Ohio*

Discussant: T.M. Calasanti, *Virginia Tech, Blacksburg, Virginia*

Charmaz's 1994 seminal discussion of the identity dilemmas among chronically ill men underscored the importance of masculinity to how men manage and live with a chronic illness. Recognizing the diversity of masculinities across nations and communities, this symposium brings together scholars from different parts of the world to discuss how age and gender intersect to affect older men's chronic illness experiences. Gibson assesses the disruptions Parkinson's Disease brings to British men's expectations of a masculine, aging embodiment. Pietila and Ojala discuss Finnish older men's alliance on their aging bodies to help dilute how prostate cancer undermines body integrity and the men's sense of self as men. Drawing on a small sample of middle aged and older US men diagnosed with breast cancer, Thompson discusses the ways men with breast cancer confront the identity challenges of living with 'feminine' disease and its gendered treatment protocol. Solimeo and her colleagues draw on a large sample of older adults undergoing bone density testing for osteoporosis to assess the efficacy of how men manage their illness compared to women vets. Cumming and his colleagues review the bearing of geriatric syndromes and frailty on the independence among old Australian men as men. Calasanti's discussion will affirm the importance of not only how age and gender intersect to affect chronic disease experiences but also how masculinities differentially affect chronic disease management. People attending the symposium will better understand the value of using a gendered lens when studying disease management.

"I EXPECTED TO BE SLOW, BUT NOT THIS SLOW": PARKINSON'S DISEASE AND EMBODIMENT IN MEN'S AGEING

G. Gibson, *University of Stirling, Stirling, Scotland, United Kingdom*

Fifteen years since Thompson's (2007) call for the study of men's ageing, theorisation of masculinity and its embodiment as men age remain in their infancy. Despite offering opportunities to explore both men's bodily states and hegemonic notions of masculinity as men age, chronic illnesses have only rarely been studied using a lens of men's ageing. Using data from 30 narrative interviews with 15 men living with Parkinson's Disease, a progressive neurological disorder affecting movement and mobility, this presentation explores the disruptions chronic illness brings to a masculine, ageing embodiment. Drawing on Watson's (2000) male body schema, PD disrupts visceral, pragmatic and experiential dimensions of embodiment. In turn these also intersect with men's expectations of bodily ageing and the differing social concerns within men's lives as they age. Learning outcomes include promoting greater empirical engagement with

how gender and ageing intersect within men's experience of chronic illness.

WHEN BEING AN OLD MAN BECOMES AN ADVANTAGE: PROSTATE CANCER SURVIVORS' PERCEPTIONS OF MASCULINITY

I. Pietilä, H. Ojala, *University of Tampere, Tampere, Finland*

Both old age and prostate cancer have been thought to threaten men's masculine identities. Our qualitative analysis of interviews with 40 Finnish men with prostate cancer (50–70 years) shows that younger interviewees indeed expressed fears of losing their masculinity due to sexual dysfunctions caused by radical cancer treatments. However, the older interviewees often referred to their age as a factor, which made it easier for them to cope with such effects. Reaching a higher age set the interviewees free from masculine norms revolving around sexual prowess. They attached such norms to younger men's lives and underlined economic balance and stability in their families as bedrocks of an older man's good life. Old age thus became a positive resource for the men in coping with chronic illness and maintaining a masculine identity. The study highlights how cultural images of masculinity and ageing are intertwined in men's interpretations of chronic illness.

MEN WITH BREAST CANCER: MARGINALIZING OR THREATENING TO BEING A MAN?

E.H. Thompson, 1. *Sociology & Anthropology, College of the Holy Cross, Broadview Heights, Ohio*, 2. *Case Western Reserve University, Cleveland, Ohio*

This research explores how men experience being a breast cancer patient in the US, and how their experiences are sanctioned by the nation's rendering of breast cancer as a woman's disease. Based on the sociological tradition of investigating the 'marginal man' who is destined to live in two, not merely different but antagonistic cultures, men's encounters with breast cancer's pink ribbon culture and hegemonic masculinity are ideal for better understanding how gender does affect men's chronic illness experience. Interviews with 17 men with breast cancer revealed that they are seen first by themselves as much as others in terms of their gender rather than their illness. Being diagnosed with and needing to be treated for breast cancer was unmistakably challenging. Distinct themes were deeply rooted throughout the men's narratives and conspicuous within nearly every interview: (1) *surviving personal marginalization*, (2) *embodiment of (their breast) cancer*, and (3) *gendered agency*.

GENDER AND OSTEOPOROSIS SELF-EFFICACY AMONG OLDER ADULTS PRESENTING FOR BONE DENSITY TESTING

S. Solimeo^{1,2}, T. Nguyen³, S. Edmonds^{2,4,5}, Y. Lou⁹, D.W. Roblin^{6,7}, K.G. Saag⁸, P. Cram^{10,11}, F.D. Wolinsky^{2,4,12}, 1. *Department of Veterans Affairs, Center for Comprehensive Access & Delivery Research and Evaluation (CADRE), Iowa City VA Health Care System, Iowa City, Iowa*, 2. *Division of General Internal Medicine, Department of Internal Medicine, University of Iowa Carver College of Medicine, Iowa City, Iowa*, 3. *Department of Epidemiology, University of Iowa College of Public Health, Iowa City, Iowa*, 4. *University of Iowa College of Nursing, Iowa City, Iowa*, 5. *Department of Veterans Affairs, Iowa City VA HCS, Iowa City, Iowa*, 6. *Kaiser Permanente, Atlanta*,

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Georgia, 7. Department of Health Management and Policy School of Public Health, Georgia State University, Atlanta, Georgia, 8. Division of Clinical Immunology and Rheumatology, Department of Medicine, University of Alabama at Birmingham, Birmingham, Georgia, 9. Department of Biostatistics, University of Iowa College of Public Health, Iowa City, Iowa, 10. Department of Medicine, University of Toronto, Toronto, Ontario, Canada, 11. Division of General Internal Medicine, Mt. Sinai/UHN Hospitals, Toronto, Ontario, Canada, 12. Department of Health Management and Policy, University of Iowa College of Public Health, Iowa City, Iowa

A number of studies have shown gender differences in osteoporosis care such that men have lower rates of diagnosis, treatment, and poorer outcomes than women. In our analysis, we evaluated gender differences in self-reported confidence in one's ability to engage in bone health behaviors (i.e. consuming adequate dietary calcium and engaging in exercise), as measured by the Osteoporosis Self-Efficacy Scale (OSES). OSES was measured in 7,749 older adults presenting for bone densitometry at three U.S. medical centers. Overall, the calcium and exercise sub-scale scores are generally high and do not significantly differ by gender. OSES, however, has poor measurement model fit both overall and within gender groups, although the gender differences in the measurement model are minor, reflecting factorial invariance across genders. Given their generally high OSES sub-scale scores, greater attention to men's barriers to preventive care as an underlying factor in their poorer outcomes may be warranted.

EPIDEMIOLOGY OF FRAILTY AND GERIATRIC SYNDROMES IN OLDER AUSTRALIAN MEN

R. Cumming, N. Noguchi, V. Naganathan, F. Blyth, University of Sydney, Sydney, New South Wales, Australia

The geriatric syndromes (cognitive impairment, falls, incontinence and poor mobility) and frailty are major causes of loss of independence among older people. The aim of this paper is to describe the prevalence and incidence of these conditions among men participating in the Concord Health and Ageing in Men Project (CHAMP), an epidemiological cohort (panel) study of a representative sample of 1705 community-dwelling Australian men aged 70 years and over. At baseline, only 21% of men had one or more of the geriatric syndromes and only 10% were frail (based on Cardiovascular Health Study criteria). After five years, 59% of men were still alive and had not developed any of the geriatric syndromes. The geriatric syndromes and frailty only became common after age 85 years. These data support the concept of the "old old" (those aged 85 years and over) as a distinct group requiring specialised health and aged care services.

SESSION 720 (SYMPOSIUM)

GSA SRPP SECTION: DEFINITION, BUSINESS CASE, AND IMPLEMENTATION OF PERSON-CENTERED CARE

Chair: A. Coulourides Kogan, Keck School of Medicine of USC, Claremont, California

Co-Chair: L. Mosqueda, Keck School of Medicine of USC

Discussant: B. Chernof, The SCAN Foundation, Long Beach, California

Person-Centered Care (PCC) is considered the "gold standard" of health care and has recently been highlighted in policy and practice. Previously, PCC has been limited by a lack of single definition and confusing language (i.e. patient-centered care, person-directed care, etc.) resulting in inconsistent operationalization in health and social service settings serving older adults. Through a recent collaboration between the American Geriatrics Society and a research team at the University of Southern California and the Keck School of Medicine of USC, a single, expert-informed definition of PCC and eight essential elements has been developed for older adults with chronic conditions and functional impairment. This session will present the consensus definition, essential elements, and research that lead to developing these pieces: large systematic literature review, qualitative study of how PCC is operationalized in a sample of outpatient health care and social services organizations serving older adults, and expert-panel conference. The next phase of this project was to develop the business case for PCC upon the foundation set by establishing the definition and common language for PCC. This work will be presented along with an interactive return on investment (ROI) calculator that we developed to help organizations estimate their financial risks and benefits of implementing PCC. Finally, the clinical perspective of implementing PCC in a primary care geriatrician's practice will be presented. Discussing the challenges and benefits to providing PCC for older adults is important to shed light on the ideal vs. realistic provision of person-centered health care and social service support.

DEFINING PERSON-CENTERED CARE FOR OLDER ADULTS WITH CHRONIC CONDITIONS AND FUNCTIONAL IMPAIRMENT

A. Coulourides Kogan¹, K.H. Wilber², L. Mosqueda¹, 1. Family Medicine and Geriatrics, Keck School of Medicine of USC, Claremont, California, 2. University of Southern California, Leonard Davis School of Gerontology, Los Angeles, California

A single definition of person-centered care (PCC) is needed to provide clarity and a consistent point of reference for providing care, social services, conducting research, and developing policy for older adults with chronic conditions and functional impairment. Therefore, the purpose of this study was to develop the clinical case for PCC—rooted in research—resulting in a single, agreed-upon definition and essential elements for PCC. This presentation will discuss the quantitative (large, systematic literature review) and qualitative (study of outpatient health care and social service organizations serving older adults) research methods used to inform a single definition of PCC and essential elements, as well as the interdisciplinary expert-panel process that developed the final version of these items. The final definition and eight essential elements of PCC will be presented and discussed, highlighting a newly established foundation for future research, policy, and business analyses.

PERSON-CENTERED CARE: THE BUSINESS CASE

V. Tabbush, UCLA Anderson School of Management, Los Angeles, California

Evidence shows that person-centered care (PCC) can improve care and quality of life for patients; often resulting in fewer hospitalizations and ER visits, shorter hospital stays, and other service use reductions leading to lower expenditures. PCC is a recent health care priority (e.g. WHO, IOM, and ACA), and given payment reforms for providing care to older adults, creating a business case for PCC is imperative to inform policy and highlight incentives beyond patient-level outcomes for organizations to implement PCC. Therefore, the project was conceived to develop a business case for PCC and an interactive return-on-investment (ROI) calculator. These two products can equip and encourage organizations considering adopting or expanding PCC with the requisite tools, data, and motivation to systematically assess the business case in their own circumstances. They highlight the factors that affect the strength of the case, and shares encouraging evidence suggesting that PCC can be financially beneficial.

OPERATIONALIZING PERSON-CENTERED CARE IN PRIMARY CARE: A GERIATRICIAN'S PERSPECTIVE

L. Mosqueda, *Keck School of Medicine of USC, Alhambra, California*

Person-centered care (PCC) is a holistic approach to health care and social service provision that incorporates the person's values, preferences, and beliefs and holds them (and those close to them) at the center of all decision-making. This type of care represents an important departure from traditional health care that has been characterized as paternalistic, siloed, and marked by poor or a lack of communication between providers and care sites. With the newly established definition of PCC and essential elements, health care providers now have a clear point of reference from which to provide individualized PCC to their patients. However, systematic, environmental, and patient/family-level barriers and facilitators remain that may help or hinder the provision of PCC. The purpose of this presentation is to highlight the ideal vs. realistic practice of implementing PCC into a primary care setting serving older adults. Multiple case studies will be presented to support discussion.

SESSION 725 (SYMPOSIUM)

STANDARDISATION OF HEALTH OUTCOME MEASURES AND VALUE-BASED HEALTHCARE

Chair: J. Banerjee, *University Hospitals of Leicester NHS Trust, Leicester, United Kingdom*

The International Consortium for Health Outcomes Measurement (ICHOM) was founded in 2012 with the aim to propose consensus-based measurement tools and documentation for different conditions and populations. Variation in outcomes of healthcare is a global challenge and to date there are no comprehensive globally relevant outcome measures for older persons. Measuring and reporting meaningful outcomes matter because they are more likely to identify what is deficient in a care pathway across organisational boundaries and lead to better collaborative care provision. It also provides opportunities for different localities or organisations to compare variations in outcome and learn from each other. There is paucity of standardized clinical outcomes data beyond basic mortality and morbidity measures.

There is also a paucity of balancing measures with a systemic inability to measure unanticipated harm. The deficiency in outcome measurements that matter most to patients represents a global barrier to driving health care improvement and means providers have little information on which to judge the effectiveness of interventions. Where available, outcomes are not standardized and therefore hard to compare leading to a slow pace of change and inability to learn from others. More commonly there has been more emphasis placed on process measures with the assumption that changing processes improves outcomes for persons accessing healthcare.

ICHOM's Working Groups (WG) follow a structured consensus-driven modified Delphi technique to recommend a core battery of measures that reflect multiple outcomes that matter to patients. This international standard of health outcomes assessment has the potential to improve clinical decision-making, to enable better commissioning and service integration, to facilitate the exchange of scientific knowledge, and overall to enhance the care of patients internationally across different conditions. ICHOM has to date developed 19 standard sets and by 2017 at least 50% of the global disease burden (as defined by the WHO) will have been covered. A number of national registries and organisations across the world are already utilising ICHOM standard sets as their outcome measures.

DEFINING A STANDARD SET OF PATIENT-CENTERED OUTCOMES FOR PATIENTS WITH DEMENTIA

E. Reynish^{1,2}, A. Burns¹, C. Roberts¹, 1. *ICHOM Dementia Working Group, London, United Kingdom*, 2. *Stirling University, Stirling, United Kingdom*

Materials and methods: ICHOM convened an international, multi-disciplinary working group of patient representatives, psychiatrists, carer, social worker, specialist nurses, methodologists, psychologists, and registry experts to review existing data and practices. Using a modified Delphi method, the group developed a consensus Standard Set of outcomes that were felt to matter most to patients, along with case-mix variables for risk adjustment, that we recommend collecting for all dementia patients.

Results: The recommended Standard Set covers all types and stages of dementia. The outcomes include all-cause survival, cognition, neuropsychiatric behaviour, patient-reported domains of health-related quality of life and carer health-related quality of life. Baseline demographic, clinical, and condition information are included to improve interpretation of comparisons.

Conclusion: We defined a Standard Set of outcomes for people with dementia. The Set provides a universal rubric for outcome comparisons, with the ultimate goal of improving the value of care.

DEFINING A STANDARD SET OF PATIENT-CENTERED OUTCOMES FOR OLDER PERSONS

A. Akpan^{2,1}, J. Banerjee^{3,1}, C. Roberts¹, 1. *ICHOM Older Person Working Group, London, United Kingdom*, 2. *Aintree University Hospitals NHS Foundation Trust, Aintree, United Kingdom*, 3. *University Hospitals of Leicester NHS Trust, Leicester, United Kingdom*

Materials and methods: ICHOM convened an international, multi-disciplinary working group of patient representatives, geriatricians, acute physicians, carers, community specialists, specialist nurses, methodologists, psychologists, and registry experts to review existing data and practices. Using a modified Delphi method, the group developed a consensus Standard Set of outcomes that were felt to matter most to older persons, along with case-mix variables for risk adjustment, that we recommend collecting for older persons.

Results: The recommended Standard Set is aimed at covering on average, the last 10 years of life calculated by life expectancy at age 60. The outcomes include all-cause survival, falls, polypharmacy, patient-reported domains of health-related quality of life and carer burden. Baseline demographic, clinical, and comorbidity information are included to improve interpretation of comparisons.

Conclusion: We defined a Standard Set of outcomes for older persons. The Set provides a universal rubric for outcome comparisons, with the ultimate goal of improving the value of care.

THE IMPLEMENTATION OF ICHOM STANDARD SET OF OUTCOMES

J. Banerjee, A. Akpan, E. Reynish, C. Roberts, *ICHOM, London, United Kingdom*

The ICHOM Dementia Standard Set of outcomes is being piloted across a variety of provider settings and health economies, within 'Implementation Communities' in England and Scotland, supported by ICHOM. Dementia is a high priority issue for NHS England and the UK Government and current data metrics for dementia care tend to capture processes and costs, and do not measure whether they achieve the outcomes that matter most to those with dementia.

The Dementia Implementation Community will enable providers to capture the ICHOM Dementia Standard Set in a manner that is scalable nationally, and will ultimately include every patient with dementia who enters each participating health economy. The systematic measurement of Standard Sets of outcomes will enable global outcome comparisons, leading to improvements in the quality of care and the outcomes. The broader scope will aim to take the lessons learnt and extend this towards outcomes measurement for more patients internationally.

SESSION 730 (SYMPOSIUM)

IAGG INTERNATIONAL COUNCIL OF THE GERONTOLOGY STUDENT ORGANIZATION: COLLABORATIVE NETWORKS FOR EMERGING SCHOLARS: LOCAL, REGIONAL, AND INTERNATIONAL PERSPECTIVES

Chair: K.S. Hall, *Veterans Affairs/Duke University Medical Centers, Durham, North Carolina*

Co-Chair: C. Meyer, *Royal District Nursing Service Institute, St Kilda, Victoria, Australia*

There is growing interest in aging research internationally, yet many students and emerging scholars are uncertain of the process of establishing, building, and maintaining local, regional, and international connections. To address this need, the IAGG Council of Student Organizations (IAGG-CSO)

offers a symposium of several presentations and a structured discussion bringing a multidisciplinary and multicultural perspective to the topic of engaging in gerontological networks. Emerging scholars are pursuing, more than ever, professional networking opportunities spanning local, regional, and international borders. As access to quality information and communication technology increases across the globe, the field of Gerontology is approaching a new frontier, with emerging scholars looking to establish collaborative research networks unrestricted by geographical boundaries. This symposium explores the "why" and "how" of engaging locally and internationally. This symposium includes paper presentations reflecting an international perspective (IAGG-CSO Executive Committee members who are emerging scholars from Australia, Canada, and the United States); a regional perspective on the challenges of networking across vast distances where there may be few student organizations; and the local perspective by the Emerging Scholars Professional Organization of the United States, on the establishment and momentum of a successful student organization. To conclude the session, the audience will be engaged in an interactive discussion of how to foster engagement at a local, regional and international level.

THE MISSION OF IAGG-CSO TO FACILITATE NETWORKS AMONG STUDENT ORGANIZATIONS

C. Meyer, 1. *Royal District Nursing Service Institute, St. Kilda, Victoria, Australia*, 2. *Centre for Health Communication and Participation, La Trobe University, Bundoora, Victoria, Australia*

The IAGG-CSO is a standing committee of the IAGG, represented currently by three executive members from Australia, Canada and the United States. The IAGG-CSO works to support its members (student and emerging scholar sections within IAGG member sections, international gerontology/geriatric student and emerging scholar networks, and individuals working to create student sections) and foster participation and networking opportunities across the globe, particularly focused on the Regional and World Congresses. The IAGG-CSO is well placed to facilitate networking through regular newsletter contributions, commencement of a webinar series, development of a social media group (LinkedIn), and a vibrant student and emerging scholar program at the Regional and World Congresses. The symposium audience will be used to garner ideas regarding capacity building and local and international engagement for members, together with understanding how the IAGG-CSO can better meet the needs of members moving forward into the next 4 year cycle of IAGG secretariat.

MAKING MENTORING MEANINGFUL

S. Freeman, *University of Northern British Columbia, Prince George, British Columbia, Canada*

Mentorship plays an important role to support students and emerging scholars as they progress through their careers. Yet, it can be difficult to forge successful relationships as a mentee receiving guidance and support from established senior persons in one's field and as a mentor to other students and emerging scholars. This symposium will provide practical advice on how to start and sustain effective and mutually beneficial mentor and mentee relationships. We will

share examples of successes and failures experienced by mentors and mentees and share tips and strategies to support development and sustainability of positive relationships. We will address the role of mentorship in a virtual world and opportunities for international collaboration and networking. We will also share how the IAGG CSO is working to support students and emerging scholars to build these relationships through our experiences leading national organizations (Canadian Association on Gerontology and Australian Association of Gerontology).

THE CHALLENGES OF FORMING MEANINGFUL COLLABORATIVE NETWORKS ACROSS VAST DISTANCES

K.S. Hall¹, K. James², 1. *Medicine-Geriatrics, Veterans Affairs/Duke University Medical Centers, Durham, 2. University of Stellenbosch, Cape Town, South Africa*

The global community of students and early career scholars span many continents, often over vast geographic distances. Locating and connecting students and early career scholars is challenging and relies on excellent and consistent communication via various forms of media and technological advances. The speakers for this presentation will share their own insights and ideas, citing specific challenges and opportunities by region. This session will be structured to facilitate active discussion among the audience on the possibilities for forming and maintaining meaningful collaborative networks into the future.

THE ROLE OF INDIVIDUAL COUNTRY STUDENT SECTIONS AND THE IMPORTANCE OF NETWORKING

J. Hughes, *University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*

Student sections within national gerontology and geriatrics societies offer a wealth of professional development and programmatic supports to students and emerging scholars in the region. However, the IAGG-CSO recognizes that many students are training in the absence of such networks, in regions that do not have active student sections. This session is meant to provide important resources for individual scholars who are interested in establishing a regional student section as well as tips for leveraging the resources of existing regional student sections. We will discuss the importance of establishing a regional student section and practical tools for initiating this process, using the GSA's Emerging Scholar and Professional Organization as a model. Best practices for expanding personal and professional networks and how to leverage student organizations to streamline and strengthen this process will also be discussed. Strategies for thriving and surviving the frenetic IAGG World Congress environment will be presented.

SESSION 735 (SYMPOSIUM)

EXPLAINING THE PHYSICAL AND PSYCHOLOGICAL IMPACTS OF HUMAN-ANIMAL INTERACTION ON OLDER ADULTS

Chair: N.R. Gee, *SUNY, Fredonia, Fredonia, New York*
Discussant: N. Sachs-Ericsson, *Florida State University, Tallahassee, Florida*

Physical activity (PA) is a well-recognized indicator and determinant of health while sedentary behaviour (sitting or reclining) has been identified as an independent risk factor for poor health. Evidence indicates that while overall PA level decreases with age, older adults are also normally the most sedentary section of the population.

Dog ownership, and in particular dog walking as a feature of ownership, has been shown to be positively related to overall PA levels in a range of age groups (Christian, Westgarth, *et. al.*, 2013). Most of this evidence has been drawn from studies which used self-report PA measures.

The first presentation in this symposium reports the results from a study using an objective measure of PA in older adult Dog Owners (DOs) and Non-Dog Owners (NDOs). The presentation discusses the impact of physical activity on indicators of health and sets the stage for the following presentation.

The second presentation in this symposium discusses a biopsychosocial model, frequently used by researchers to explain the effects of Human-Animal Interaction (HAI), and presents results from the Pet Assisted Living (PAL) intervention on community dwelling older adults in the context of the model.

The biopsychosocial model provides a framework for understanding how multiple contributors can be related to chronic disease outcomes in older adults. Research in HAI has demonstrated that companion animals may directly influence physiological arousal by decreasing blood pressure and heart rate, reducing depression or anxiety and increasing social support. Each of which can affect the other realms within the biopsychosocial model and ultimately support health.

THE PET ASSISTED LIVING (PAL) INTERVENTION FOR ASSISTED LIVING RESIDENTS WITH COGNITIVE IMPAIRMENT

E. Friedmann², B. Galik², N.R. Gee^{1,3}, 1. *Psychology, SUNY, Fredonia, Fredonia, New York, 2. University of Maryland, Baltimore, Maryland, 3. WALTHAM, Waltham on the Wolds, United Kingdom*

Residents of 7 small assisted living facilities were randomized by facility to either reminiscing or Pet Assisted Living (PAL) intervention included a number of specific activities during each session designed to encourage maintenance of function in cognitively impaired residents' (N=19) health/function. Residents' participation in behaviors such as looking at, touching, brushing, talking to, walking with, and giving treats to the dog were noted for each of the 23–28 sessions/participant. Physical activity (PA) and depression were assessed monthly.

Physical activity increased and depressive symptoms decreased more with PAL than reminiscing intervention. Participation in looking at ($r=.550$), brushing ($r=.555$), and walking ($r=.492$) the dog predicted increases in PA and walking the dog predicted decreases in depression ($r=.521$) over the 12 week intervention (all $p's < .05$). Participants varied in their participation in each type of dog-related activity. Evidence supports that the PAL program helps preserve/enhance function of AL residents with cognitive impairment.

OLDER ADULT DOG OWNERS ARE MORE PHYSICALLY ACTIVE THAN THEIR NON-DOG-OWNING COUNTERPARTS

N.R. Gee^{1,2}, P. Dall³, S. Ellis⁴, B. Ellis⁵, M. Granat⁵, D. Mills⁴, 1. *Psychology, SUNY, Fredonia, Fredonia, New York*, 2. *WALTHAM, Waltham on the Wolds, United Kingdom*, 3. *Glasgow Caledonia University, Glasgow, United Kingdom*, 4. *University of Lincoln, Lincoln, United Kingdom*, 5. *University of Salford, Salford, United Kingdom*

The study examined the influence of dog ownership on physical activity (PA) in community dwelling older adults using a longitudinal design and an objective measure of PA (activPAL monitor).

Eighty six participants (aged 65–81 years) were matched on gender, age, and socio-economic status into dog owner (DO) and non-dog owner (NDO) pairs. Each participant wore a waterproofed activPAL activity monitor continuously for a week, three times over a year.

The results revealed that DOs walked significantly longer at a moderate cadence (31vs.11min/day) and took more steps (9,700 vs.7,200 steps/day) than NDOs. DOs also sat for significantly less time overall (9.4 vs. 10.1 hours/day) than NDOs.

This study provides the first objective data demonstrating that older DOs walk more than NDOs and indicates that this walking was undertaken at a moderate cadence. On average DOs met recommended public health guidelines (30min/day of moderate PA), but NDOs did not.

SESSION 740 (PAPER)

AGE-FRIENDLY INITIATIVES

USING EVIDENCE TO TRANSLATE NATIONAL POLICY INTO LOCAL ACTION

S. Shannon, *Department of Health, Dublin, Ireland*

The challenge of turning national policy into actions, implemented at a local level, is one faced by policy-makers world-wide. Ireland's national policy for promoting Positive Ageing explicitly acknowledges the role that the Age Friendly Cities and Counties (AFCC) programme plays in improving the lives of older people. Through a collaborative study jointly funded by national and local governments, the Healthy and Positive Ageing Initiative uses links established with the WHO's Age Friendly Cities Programme to translate knowledge into action.

Data from a random sample survey of people 55 and older in 20 AFCC programme areas during 2015/2016 (n=10,000) was disseminated to local AFCC alliances. Reflecting the priorities of the National Positive Ageing Strategy and the AFCC program, the survey covered areas such as deprivation and neighbourhood social capital, preferences for housing adaptation and local area walkability. Results link the social and built environment to the health and wellbeing of older people and identify barriers to participation and essential health and social services.

As the AFCC program expanded to 10 new local authority areas, results are used to develop a common understanding of age friendly priorities, to optimise and sustain political and social commitment and to identify areas for action in

new AFCC programs. The efficacy of the dissemination practices is explored through a qualitative study using thematic content analysis of the locally produced strategies and semi-structured interviews with the key stakeholders responsible for the implementation of strategies.

RECOGNIZING AGE-FRIENDLY BUSINESSES THROUGH CONSUMER AND COMMUNITY ENGAGEMENT

D.B. Bradley¹, J. Wassel², 1. *Center for Gerontology, Western Kentucky University, Bowling Green, Kentucky*, 2. *University of North Carolina Greensboro, Greensboro, North Carolina*

The World Health Organization (WHO) has established international guidelines for age-friendly communities that include the encouragement of active aging by optimizing opportunities for health, participation, and security in order to enhance people's quality of life as they age. According to the WHO, an age-friendly city adapts its structures and services to be accessible to, and inclusive of, older people with varying needs and capacities. As part of Bowling Green, Kentucky's participation in the WHO Age Friendly Cities and Communities Initiative, a baseline assessment identified addressing the role businesses play in promoting the longevity economy and economic inclusion for area elders. In this paper we review the rationale for age-friendly businesses and propose a detailed framework for incorporating elder consumer and community views. In collaboration with the Over Fifty Citizens Academy, a regularly meeting workgroup of elders committed to building an age friendly community in Bowling Green, we created a framework for recognizing age-friendly businesses. These community members developed an age friendly business values array which area businesses agreed to work towards. This Age-Friendly Bowling Green Business Checklist recognizes a business environment encompassing diversity, promoting optimal health, negating ageism/attitudes toward older adults, and valuing ongoing employee training on serving old adults. We conclude the paper by discussing challenges of project implementation and the role of consumer participation in the evaluation and monitoring of age-friendly certified practices in local businesses.

AGE-FRIENDLY COMMUNITY STRATEGIES: A RESEARCH-BASED APPROACH ADOPTED IN GUANGZHOU, CHINA

D.W. Lai², Q. Zhang³, J. Hewson⁴, C.A. Walsh⁴, H.L. Tong¹, 1. *MacEwan University, Edmonton, Alberta, Canada*, 2. *Hong Kong Polytechnic University, Hong Kong, China*, 3. *Guangdong Institute of Public Administration, Guangzhou, Guangdong, China*, 4. *University of Calgary, Calgary, Alberta, Canada*

Making communities more "age-friendly" has been an ongoing trend since the WHO launched its global Age-Friendly Cities project. However, research on how to assess and implement age-friendly communities in China is scarce even though China has the largest number of older adults in the world. The international research collaboration between the Faculty of Social Work, University of Calgary in Canada and Guangdong Institute of Public Administration in China aims to develop an age-friendly community strategy for Guangzhou, China using a multi-method, community-based

approach. We developed a quantitative baseline survey instrument using the WHO age-friendly framework, which was modified to be locally and culturally relevant. Trained interviewers administered the survey to adults 50 years of age and older in four distinct communities in Guangzhou ($N = 400$). Descriptive analysis was completed across items in 8 domains and comparisons were made across the four communities. Secondly, we used a series of 12 focus groups to share the preliminary findings with key stakeholders representing policy developers, service sectors and older adults in order to develop locally-relevant recommendations. This presentation will describe the findings related to the assessment of age-friendliness in Guangzhou, contribute to an increased understanding the cultural relevance of age-friendly communities, and identify strategies of developing age-friendly communities that are locally and culturally relevant.

A NEIGHBOURHOODS AND DEMENTIA STUDY: WHAT IS IMPORTANT TO PEOPLE WITH DEMENTIA VERSUS TRIAL OUTCOMES

S. Reilly¹, C. Opdebeeck¹, H. Morbey¹, F. Ahmed¹, P. Williamson³, I. Leroi⁴, J. Keady², 1. *Division of Health Research, Lancaster University, Lancaster, Lancashire, United Kingdom*, 2. *School of Nursing, Midwifery and Social Work, University of Manchester, Manchester, United Kingdom*, 3. *Institute of Translational Medicine, University of Liverpool, Liverpool, United Kingdom*, 4. *Institute of Brain Behaviour and Mental Health, University of Manchester, Manchester, United Kingdom*

Many systematic reviews of effectiveness of non-pharmacological interventions for people with dementia have highlighted the variability in the outcomes assessed. This prevents comparisons of effectiveness across studies. This study, embedded in the Neighbourhoods and Dementia programme <http://www.neighbourhoodsanddementia.org/work-programme-summary/>, seeks to create a core outcome set for use within intervention studies aimed at people living with dementia. The 4-phase study design includes: qualitative interviews/focus groups and literature review; Delphi survey; systematic review; and stated preference survey. This presentation focuses on Phase 1, comparing outcomes identified through the qualitative work with those measured in previous and ongoing intervention trials. Thirty-five interviews and four focus groups were conducted with people with dementia, care partners, health/social care professionals, policy makers, service commissioners and research leaders. Outcome measures were also extracted from 129 international intervention trials. The qualitative data were analysed using a thematic framework to identify outcomes considered important to people with dementia. There were key differences in the emphasis of the outcomes in the literature compared to the qualitative data, indicating that many trials may not be measuring what is important to people with dementia. For example, activities were assessed in terms of frequency within previous studies; however, the meaningfulness of activities rather than the frequency were highlighted as important in the interviews. This core outcome set will help to ensure that the outcomes measured in evaluations of interventions are those that are considered the most

important to people living with dementia and will aid comparability and consistency in future studies.

SESSION 745 (SYMPOSIUM)

KEYNOTE: PALLIATIVE CARE IN THE MAINSTREAM—STEPPING UP TO THE PLATE: THE CASE FOR INTEGRATED GERIATRIC AND PALLIATIVE CARE STRATEGIES

Chair: D.E. Meier, *Icahn School of Medicine at Mount Sinai, New York, New York*

Discussant: L. Deliens, *VUB and Ghent University, Ghent, Belgium*

I. Higginson, *Kings College, London, United Kingdom*

This session will present the case for integrating geriatric and palliative care to deliver optimal care, improve quality and reduce costs. The speakers will outline palliative care issues common in elderly patients and integrative approaches that focus on quality of life, support for functional independence, and the patient's values and experiences. They will also identify the needs of policy makers, payers and health system leadership.

PALLIATIVE CARE IN THE MAINSTREAM: THE CASE FOR INTEGRATED GERIATRIC AND PALLIATIVE CARE STRATEGIES

D.E. Meier, *Geriatrics and Palliative Medicine, Icahn School of Medicine at Mount Sinai, New York, New York*

This session will present the case for integrating geriatric and palliative care to deliver optimal care, improve quality and reduce costs. The speakers will outline palliative care issues common in elderly patients and integrative approaches that focus on quality of life for both patient and family caregivers, support for functional independence, and the patient's values and experiences. The data on the needs and numbers of older persons with multiple chronic conditions and functional impairment as well as the outcomes of community-based integrative palliative care models on this group will be discussed.

PALLIATIVE CARE FOR ELDERLY (PACE) PEOPLE IN LONG-TERM CARE FACILITIES IN EUROPE

L. Deliens², D.E. Meier¹, 1. *Geriatrics and Palliative Medicine, Icahn School of Medicine at Mount Sinai, New York, New York*, 2. *VUB and Ghent University, Ghent, Belgium*

The main strategic scientific aims of comparing the Effectiveness of Palliative Care for Elderly (PACE) People in Long-Term Care Facilities in Europe are trifold. The PACE consortium consists of 8 research institutes, spanning 6 European countries, and 4 European organizations responsible for impact and dissemination. PACE has mapped palliative care systems in care or nursing homes in Europe; performed a large-scale representative study to examine quality of dying and palliative care in care or nursing homes in six European countries, including Poland, Finland, Netherlands, Italy, UK and Belgium; and is studying the impact of an innovative trial 'PACE Steps to Success' which aims to improve the quality of palliative care.

PALLIATIVE CARE NEEDS AMONG PERSONS WITH NON-CANCER CHRONIC ILLNESSES AND THEIR CARERS

I. Higginson², D.E. Meier¹, 1. *Geriatrics and Palliative Medicine, Icahn School of Medicine at Mount Sinai, New York, New York*, 2. *Kings College, London, United Kingdom*

Palliative care has traditionally been limited to persons predictably approaching death, especially those with cancer. The needs of the larger population of older persons with non cancer chronic illnesses and functional impairment in whom prognosis is unpredictable will be reviewed with special attention to caregiver role, symptom burden, and the mismatch of existing service delivery to the needs of this population.

SESSION 750 (SYMPOSIUM)

KEYNOTE: BEYOND RHETORIC—TAKING GLOBAL ACTION ON AGEING

Chair: N.C. Keating, *Global Social Initiative on Ageing, Seoul, Korea (the Republic of)*

Co-Chair: J. Beard, *World Health Organization*

Population ageing is now part of our global consciousness. Yet actions to address issues that arise from these demographic shifts have lagged behind. Among the many challenges/impediments to creating global action are: diverse patterns of ageing across countries and regions; different family, community and policy contexts that influence ageing experiences; and considerable inequities both between and within countries. The purpose of this session is to create an agenda and advocate for global action to improve quality of life of older populations.

The session has 3 main elements:

Contextualizing the agenda for global action.

Norah KEATING, will introduce the session, setting parameters around thinking and hence acting differently in response to population ageing.

John BEARD will provide an overview of global patterns of ageing, emphasizing how a global response requires understanding how these patterns are expressed in very different contexts around the world.

Delineating challenges from two developing countries.

Two prominent social gerontologists, Peng DU (China) and Isabella ABODERIN (Kenya), will each describe the 3 biggest challenges in population ageing in their country. Each will discuss which contexts (policy, community, family) should be the main focus for addressing these challenges; why this is the case; and what would be ideal outcomes.

3. *Establishing principles for action.* A substantial portion of the session will be a moderated discussion. The goal is to lead to strategies for action across countries- with local solutions for global issues. Session moderator is Norah KEATING.

CONTEXTUALIZING THE AGENDA FOR GLOBAL ACTION

N.C. Keating^{1,2,3}, J. Beard⁴, 1. *Swansea University, Swansea, United Kingdom*, 2. *North West University, Potchefstroom, South Africa*, 3. *University of Alberta, Edmonton,*

Alberta, Canada, 4. *World Health Organization, Geneva, Switzerland*

Population ageing has created an urgent need for societies to think strategically about what constitutes a good old age for its citizen--and to formulate actions toward achieving this goal. We present a template for global action that requires challenging cultural norms of old age as an inevitable period of decline; and fostering supportive environments to enable wellbeing. Keating sets parameters around thinking and acting differently: focusing on physical, social and policy environments and on the importance of creating congruence between resources of older persons and these environments. Beard presents global patterns of ageing, emphasizing that global responses require understanding how these patterns are expressed across world regions. He speaks to strategic objectives adopted by WHO and its country constituents to embrace a commitment to action on healthy ageing and to develop age-friendly environments to address the multiple and intersectoral influences that affect quality of life in older age.

CHALLENGES IN POPULATION AGING AND POLICY PRIORITIES IN CHINA

P. Du, *Institute of Gerontology, Renmin University of China, Beijing, Beijing, China*

China has 220 million older persons aged 60 and over, expected to increase to about 490 million by 2050. Despite the new population policy encouraging couples to have two children, the proportion of the older persons will double from 16.1% in 2015 to 34% by 2050. Thus the 3 biggest challenges in population ageing in China are: creating a universal social security system that narrows the gap between urban and rural areas; developing the social care system, including LTC insurance and services, to meet rising needs of care needs; and promoting intergenerational solidarity. The main focus for policy is the integration of efforts and resources; for community is the establishment of multi-functional service centers in age-friendly environments; for families is enhancing caring capacity. The ideal outcomes would balance family and social care, improve life quality of older persons and strengthen intergenerational solidarity.

IDENTIFYING PRIORITIES FOR ACTION ON AGEING IN SUB-SAHARAN AFRICA: LENSES AND LINES OF INQUIRY

I. Aboderin, 1. *African Population and Health Research Center, Nairobi, Kenya*, 2. *Centre for Research on Ageing, University of Southampton, Southampton, United Kingdom*

A point of departure for delineating the major challenges in population ageing in sub-Saharan African (SSA) countries such as Kenya, is to appreciate the recent expansion in of the national, regional and global policy and legal architecture that commits African countries to action on older populations. The comprehensive and multilayered nature of the responses required brings to the fore what may be viewed as a most urgent challenge of ageing for Africa: meaningful prioritisation. What action is most needed where? - within contexts of severe resource constraints and multiple other pressing agendas? This presentation delineates two principal lenses and lines of inquiry that SSA countries might pursue to pinpoint answers to this question, and highlights the two

chief associated challenges for research and debate on ageing in the region.

SESSION 755 (SYMPOSIUM)

KEYNOTE: HOW EARLY CAN WE DETECT COGNITIVE DISORDERS

Chair: R. Petersen, *Mayo Clinic, Rochester, Minnesota*

Cognitive changes in aging evolve gradually over the lifespan. Most individuals will experience very gradual changes in speed of processing, cognitive flexibility and recent memory. However, an increasing number of persons will develop cognitive impairment due to underlying degenerative diseases. We are learning about the development of subtle clinical and biomarker features of persons as they age. This symposium will focus on typical cognitive changes of aging and compare them to the early cognitive features of incipient diseases. Similarly, an emphasis has been placed on the role of subjective concern of persons as they age and the implication of these measures for the prediction of cognitive decline. Patient-reported outcomes are becoming an increasingly important aspect of characterizing cognitive aging. Finally, we are learning about the evolution of various imaging and fluid biomarkers of incipient diseases trying to detect patterns that will predict a subsequent cognitive decline. Profiles of the accumulation of amyloid, tau and vascular changes will be discussed in the setting of cognitive and subjective decline. The ultimate goal of this work is to detect patterns of impairment that may allow one to intervene with disease-modifying therapies when they become available.

BIOMARKERS OF AGING AND ALZHEIMER'S DISEASE

R. Petersen, *Mayo Clinic, Rochester, Minnesota*

Most individuals experience a cognitive decline as they age. Some of the cognitive decline is due to known pathologic entities occurring in the brain leading to degenerative diseases of aging, but others are less well explained. The Mayo Clinic Study of Aging (MCSA) is a population-based study of cognitive aging in the community. Approximately 3,000 participants are followed actively on an annual basis with extensive clinical and biomarker characterization. Biomarkers include imaging and biofluid serial markers. Our work has demonstrated that amyloid accumulates in the brain across the age spectrum. Tau distribution begins early in life and tends to spread outside the medial temporal lobe as amyloid accumulation increases. Vascular disease is a common feature of aging and contributes to the overall pathological burden. The combination of these markers lends to cognitive changes with aging, and the implication of these biomarkers for neurodegenerative diseases will be discussed.

THE ROLE OF SUBJECTIVE COGNITIVE CONCERN IN AGING

F. Jessen, *University of Cologne, Cologne, Germany*

Aging is associated with decline in cognitive performance. The majority of aging people experience this decline subjectively. In a subgroup this subjective experience of decline indicates the first manifestation of Alzheimer's disease (AD)

at a stage where the objective performance is still unimpaired. In the framework of very early detection of AD, subjective cognitive decline without objective impairment (SCD) has become a condition of great interest. Increasing data suggest that individuals with SCD, who have biomarker evidence of AD are at increased risk of progression to mild cognitive impairment (MCI) and dementia. Those with evidence of amyloid deposition and SCD are at greater risk of cognitive decline than those with amyloid deposition, but without SCD. Current research aims at identifying features of SCD, which are particularly associated with AD pathology. The presentation will give an overview on the developing topic of SCD in relation to AD.

SEPARATING THE EARLIEST PHASE OF ALZHEIMER'S DISEASE FROM AGE-RELATED COGNITIVE DECLINE

M. Albert, *Johns Hopkins University, Baltimore, Maryland*

Cognitive changes with age occur in the absence of disease. Several neurobiological mechanisms appear to underlie these age-related changes in cognition in optimally healthy individuals. There is, however, considerable recent evidence that a subset of individuals whose cognitive performance falls within the normal range have evidence of Alzheimer's disease (AD) pathology in their brain. This has led to the current emphasis on initiating treatment trials for AD as early as possible in the disease course. The challenge for the field is to identify those changes which are associated with cognitive aging versus those that are a harbinger of progressive cognitive decline related to disease. This presentation will give an overview of these issues, and provide data from ongoing research aimed at separating age-related cognitive decline from the earliest phases of AD.

SESSION 760 (SYMPOSIUM)

KEYNOTE: GENES, ENVIRONMENT, AND BEHAVIORS THAT PREDICT HEALTHY LONGEVITY

Chair: L. Ferrucci, *National Institute on Aging, Baltimore, Maryland*

Co-Chair: D. Kuh, *MRC Unit for Lifelong Health and Ageing at UCL*

S. Olshansky, *University of Illinois at Chicago, Chicago, Illinois*

Over the last few years research on factors that affect longevity and healthspan has made substantial progress. A picture is emerging where the match between the genetic background and the environmental challenges produces an array of possible responses that are meant to be adaptive but in some cases result in the emergence of diseases and accelerated aging. In this symposium, three speakers address factors that affect healthy longevity from complementary perspectives.

Luigi Ferrucci uses the paradigm of geroscience to propose that the biology of aging is at the root of both chronic disease and aging phenotypes. Different genetic, environmental and behavioral backgrounds promote specific physiological impairments that in young age are compensated but in old age are causative of and heterogeneous phenotypes.

Diana Kuh argues that a life course perspective will improve our understanding of human responses to environmental challenges with long-term impact on health span and longevity. Understanding how humans adapt to the environment during development affect how well they age and how long they live.

S Jay Olshansky discusses scientific theories about maximum life span. In the 20th century, life expectancy forecasters consistently underestimated duration of life because they assumed a biological limit to life. On the contrary more recent assumptions propose life expectancies exceeding 100 to 150 years.

BIOLOGICAL MECHANISMS UNDERLYING THE AGING PHENOTYPES

L. Ferrucci, *National Institute on Aging, Baltimore, Maryland*

Mechanisms of aging phenotypes such as the decline in muscle mass and strength are unknown. In the Baltimore Longitudinal Study of Aging (BLSA), adiposity was the strongest correlate of low muscle quality both cross-sectionally and longitudinally. Fat in muscle may cause problems to: 1) mitochondria oxidative phosphorylation; 2) energetic metabolism; 3) muscle fibers structural integrity. Mitochondrial muscle bioenergetics assessed by phosphorus MRS was associated with walking performance and such association was mediated by impaired strength. Participants with impaired mitochondria energetics had experienced larger weight gain over previous 20 years. Low muscle quality was associated with higher levels of circulating leucine, isoleucine, tryptophan, serotonin, and methionine. In MRI and EM analysis, the architecture of muscle fibers were distorted with fractures in the continuity of serial sarcomeres in older individuals. Increasing adiposity may lead to impaired mitochondrial function, reduced protein homeostasis, with negative consequence on muscle structure and function.

HUMAN RESPONSES TO ENVIRONMENTAL CHALLENGES: A LIFE COURSE APPROACH

D. Kuh, *MRC Unit for Lifelong Health and Ageing at UCL, London, United Kingdom*

The MRC National Survey of Health and Development (NSHD), the oldest of the British birth cohort studies, was 70 years old in 2016. Since the 1970s, the NSHD has provided evidence that environmental challenges early in life, and human responses to those challenges during development and growth, have long-term effects on adult health, aging and survival. Neural, metabolic, inflammatory and endocrine pathways have been suggested as the main mediators of biological embedding of childhood adversity, and as common mechanisms driving the rate of ageing and chance of survival; and epigenetic processes that underlie these mechanisms are being investigated. Key and recent evidence is presented from the NSHD and the other British birth cohorts, of the long shadow of childhood, and of these common underlying mechanisms. It is argued that a life course perspective enhances our understanding of aging, at the societal, individual, body system and cellular levels.

THE FUTURE OF PREDICTING HEALTHY LIFESPAN HAS ARRIVED

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Estimating duration of life has been the purview of actuaries for nearly two centuries, but estimating how healthy people are likely to be when they reach older ages is a recent advance of epidemiology, public health, and the availability of requisite data. Yet, even these methods of measuring healthy life expectancy rely on survey data that, while the current gold standard, will be supplanted by a new source of longitudinal health data drawn from wearable sensors. We can now peer into the functioning of our bodies in ways never before thought possible, and discover how we are “driving our bodies” in much the same way we can already determine how well we drive our cars. Add to this the fact that genetic epidemiology is leading to a greater understanding of the inherited factors that influence duration and quality of life, and together with wearable sensors, a new technology has arrived that will revolutionize our concepts and methods of measuring and predicting healthy longevity. Here I will discuss this nascent health data economy and provide an example of what it will look like and how it is likely to function in the coming years.

SESSION 765 (POSTER)

ACUTE CARE II

FUNCTIONAL STATUS CHANGE AS A MORTALITY PROGNOSTIC FACTOR IN HOSPITALIZED ELDERLY: CASE-CONTROL STUDY

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Background: Lower functionality has been associated to negative outcomes, such as worse quality of life and higher risk of mortality. Hospitalization is associated with a reduction of 50% of the previous functionality. On hospitalized elders, the impact of acute loss of basal functionality at discharge (delta functionality or DF) on mortality one year later hasn't been determined. Methods: A case-control study was developed. Case: Elders older than 60 years hospitalized between January 2013 and December 2014 in the Acute Geriatrics Unit of the University of Chile Clinical Hospital, deceased within 1 year of discharge. Control: Alive patients within 1 year of discharge. Exclusion criteria: Basal Barthel ≤ 15 . The functionality loss between basal and discharge Barthel was determined, identifying the cut-off point associated with a worst survival to one year, adjusted by other relevant variables. A p value <0.05 was considered statistically significant. Results: 105 cases and 153 controls. The mean age was 81. Median Basal Barthel: 85. There were no differences among groups on age, basal or admission functionality, or frequency of geriatrics syndromes. A DF higher than 45% was associated with almost double mortality risk: OR: 1.7619 (CI:1.0394/2.9866; $p=0.0354$). With a DF higher than 50%, the mortality risk becomes higher (OR: 1.8846 - CI:1.0680/3.3255; $p=0.0287$). Conclusions: A functionality

loss higher than 45% doubles the risk of death within 1 year of discharge. The risk becomes higher at higher DF. Therefore, interventions that preserve basal functionality should be promoted.

SURVEY OF AUSTRALIAN AND NEW ZEALAND PUBLIC ON CRITERIA TO TRIAGE PATIENTS IN AN INFLUENZA PANDEMIC

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To determine Australian and New Zealand (NZ) public's view on how intensive care (IC) beds should be allocated in a major influenza pandemic. Postal questionnaire was sent to 4000 registered voters randomly selected from the Australian and NZ Electoral rolls. Respondents chose from 6 methods to triage patients: use a "first in, first served" approach; allow a senior doctor to decide; use predetermined health department criteria; use random selection; use the patient's ability to pay; or use the societal importance of the patient to decide. Respondents' also rated the fairness of the six triage methods as well as 3 additional questions on the use of age, predicted mortality, and chronic comorbidity as selection criteria. The overall response rate was 15.1% in Australia and 27.0% in NZ. Australian respondents preferred that patients be triaged to the IC unit either by a senior doctor (43.2%) or by predetermined health department criteria (38.7%). NZ respondents preferred that triage by a senior doctor (45.9%). Respondents from both countries perceived triage by these two criteria to be fair, and the other 4 methods of triage to be unfair. A large proportion of respondents considered using a person's chance of survival to base triage decisions to be fair (80%) and the majority also considered treating younger people ahead of older people (66%) and on the basis of chronic comorbidity (60%) to be fair. In preparation for future pandemic planning there may be value in knowing the views of the public on how resources should be allocated.

PREVALENCE OF PIMS AMONG HOSPITALIZED ELDERLY PATIENTS BASED ON BEERS AND STOPP/START CRITERIA

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This was a cross-sectional study to determine prevalence of PIMs in hospitalized elderly patients. All patients who admitted at medical ward of Siriraj Hospital during May 2015 to February 2016 were recruited. All PIMs were identified at admission date by geriatric specialty pharmacist by using Beers 2012 and STOPP/START Version 2 criteria. Descriptive statistic were used throughout data analysis. A total of 187 patients were entered the study. Mean age was 74.4 years (SD $\pm$ 8.70) and half of them were male (51.3%). The mean number of medications at admission is 8.24 (SD $\pm$ 4.77) items/patient. Commonly admission reasons were

pneumonia, heart failure, NSTEMI, COPD with acute exacerbation and UGIB. At date of admission, 43.3% and 44.92% of patients had at least one Beer-listed PIMs and STOPP-listed PIMs, respectively. The most common Beers-listed PIMs were related to alpha-blockers, benzodiazepines and anticholinergics. While, the most common STOPP-listed PIMs were related to benzodiazepines, anticholinergics and PIMs induced ADEs in some specific condition such as dosage too high, drug interaction, and duplicate drug class. In conclusion, we found a high prevalence of PIMs among hospitalized elderly patients which could be detected by using either Beers or STOPP/START criteria.

RECOMMENDATIONS FOR THE MANAGEMENT OF OLDER PATIENTS VISITING EMERGENCY DEPARTMENT AND RISK OF DEATH

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Objective: To examine the effects of geriatric and gerontological recommendations for the management of geriatric patients visiting an emergency department (ED) on risk of death in the first year following the ED visit.

Methods: A total of 131 geriatric patients who visited Angers University hospital ED were prospectively included in this pre-post quasi-experimental study. They were separated in three groups matched on age and gender: two intervention groups (11 patients with geriatric recommendations and 23 patients with gerontological recommendations) and one control group (97 patients without any recommendations). Intervention was provided upon the participant's ED admission. Incident mortality was collected via the administrative registry of Hospital before patients' discharge and via a systematic phone call 12 months after the ED visit. Age, gender, place of living, number of daily drugs taken, cognitive decline, and reason for ED admission were used as covariates.

Results: Multiple Cox regression model showed that gerontological recommendations were associated with a lower rate of mortality (adjusted Hazard Ratio [HR] = 0.12, P=0.038) but not geriatric recommendations (adjusted HR=9.94, P=0.905). Living at home was associated with a greater risk of death (adjusted HR=2.55 with P=0.020). Kaplan-Meier distributions of mortality confirmed that patients who received gerontological recommendations had a lower mortality rate compared to those who did not received recommendations (P=0.005) and those who received geriatric recommendations (P=0.015).

Conclusions: Our findings show that gerontological but not geriatric recommendations were associated with a lower risk of mortality after an ED visit in geriatric patients.

FURTHER ENABLING CARE AT HOME HOSPITAL OUTREACH PROGRAM: OUTCOMES FOR OLDER PATIENTS' FAMILY CARERS

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When an older person who receives family care at home is discharged from hospital, an opportunity exists to identify and address the family carer's support needs. Home caregiving sustainability may then be supported. Health outcomes for care recipients may also be improved. This study tested the hypothesis that family carers' inclusion in the Furthering Enabling Care at Home program, immediately following care recipients' hospital discharges, would improve carers' self-reported preparedness for caregiving. The single-blind randomized controlled trial compared outcomes from usual discharge processes with those obtained when the new program was added. The program, costed during the study, was delivered by a nurse over the telephone. The nurse guided carers to seek any required clarification of discharge information and then implemented a systematic, carer-led, caregiving support needs assessment. Carers prioritized their needs and the nurse guided access to appropriate supports. Patients aged over seventy years, and their family carers, were recruited from the short-stay, medical assessment unit of a Western Australian public hospital. Data were obtained from sixty-two family carers in the intervention group and seventy-nine in the control group on three occasions: at the time of the care recipient's hospital discharge, and at approximately three and six weeks later. Compared to the control group, preparedness to care significantly improved in intervention group carers (moderate effect size). Small but statistically significant positive impacts from this low cost intervention were also observed in these carers' levels of strain and distress. The program's implementation in this and other similar settings merits consideration.

EFFECTS OF NURSING PATIENT EDUCATION ON QOL IN ELDERLY INPATIENTS: A SYSTEMATIC REVIEW

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The aim of this study was to evaluate the effectiveness of nurse-delivered education interventions compared to usual care with regard to the quality of life in elders in the hospital.

A systematic review was performed to identify randomized controlled trials examining the effects of nurse-delivered educational interventions on the quality of life in elders in the hospital. The search was performed in December 2012 in the MEDLINE (via PubMed), EMBASE (via Ovid), and CINAHL (via EBSCO) databases and was limited with regard to publication time and language. The studies were appraised according to methodological quality, and p-values were extracted to determine the effectiveness of the interventions.

Four studies were included in the review. One study testing multicomponent interventions showed positive effects on quality of life. Two studies showed no effect, and one study showed a negative effect of the intervention on quality of

life. Methodological appraisal revealed single biases in most of the studies.

Because of methodological issues and heterogeneity between studies, this review could not provide evidence of the effectiveness of nurse-delivered education interventions in elders in the hospital for improving quality of life. Nurse-delivered education may be more effective as a part of multifactorial interventions. Further studies should examine interventions that focus on quality of life using validated measures.

HOSPITAL-WIDE COMPREHENSIVE GERIATRIC ASSESSMENT (CGA) FOR OLDER PEOPLE: A SURVEY OF UK HOSPITALS.

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CGA is widely recommended for older hospital inpatients. The UK National Institute for Health Research (NIHR) recently called for more research on the delivery of hospital wide CGA.

We carried out a survey of acute hospitals in the UK with the assistance of the British Geriatrics Society, The Royal College of Physicians of London and the NIHR Ageing Clinical Research Network.

We asked hospitals to identify services which provided CGA: "A multidimensional, multidisciplinary process which identifies medical, social and functional needs, and the development of an integrated / co-ordinated care plan to meet those needs."

45 hospitals participated in the survey. All hospitals described the provision of CGA and returned descriptions of 82 services. The majority (78/82, 95%) of the services were led (60) or supported (18) by a consultant geriatrician. Teams were generally staffed by physiotherapists (81/82, 99%) and occupational therapists (80/82, 98%), with nurses (76/82, 93%) and health care assistants (73/82, 89%).

The majority (73/82, 89%) used clinical assessment processes (such as consultant or specialist nurse review) to identify appropriate patients, in preference to screening tools (36/82, 44%) or admission criteria (38/82, 46%). Most services (58/82, 71%) did not use standard methods for measuring frailty, with little consistency of choice of instruments among those who did.

Multidisciplinary team based CGA was available in all hospitals surveyed, generally led by geriatricians and staffed with therapists and nurses. These teams make extensive use of clinical assessment to select patients for their care. Relatively few measure or target frailty explicitly.

COMPREHENSIVE GERIATRIC ASSESSMENT PROCEDURE ONLINE, INCORPORATING INTERRAI ACUTE CARE ASSESSMENT

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Nurse administered comprehensive geriatric assessment (CGA), based on the interRAI Acute Care assessment system, accessed online, enables geriatricians to review patients and provide input into care at a distance. This study was designed to determine whether geriatric triage decisions made using CGA performed "online" are less reliable than face-to-face decisions. This was a multi-site non-inferiority prospective cohort study. Patients referred for an acute care geriatric consultation were assessed sequentially by two specialist geriatricians. Patients allocated one face-to-face (FTF) assessment and an additional assessment (either FTF or online (OL)), creating two groups—paired FTF (FTF-FTF) or paired online face-to-face (OL-FTF). Case preparation was conducted by a trained nurse assessor using a web-enabled clinical decision support system. Geriatricians allocated to perform an 'online' assessment had access to this information only. Geriatricians allocated FTF reviewed this data, as well as the paper-based medical file and then consulted directly with the patient and attending staff. The primary decision was referral for permanent residential care. Overall percentage agreement (P_o) for the FTF-FTF group was 88% ($n=71/81$) (95% CI: 0.7847, 0.9392), with a Cohen's kappa of 0.6432 (95% CI: 0.4411, 0.8452). Overall agreement for the OL – FTF group was 91% ($n=77/85$) (95% CI: 0.8229, 0.9585), with a Cohen's kappa of 0.7291 (95% CI: 0.5529, 0.9053). The difference in agreement between the two groups was -3% (95% CI: -13%, 7%) indicating that was no difference. Geriatric assessment performed online using a nurse administered structured CGA system was no less reliable than conventional assessment for triage decisions.

FREEDOM OF MOVEMENT: A MULTILEVEL INTERVENTION TO REDUCE PHYSICAL RESTRAINTS USE IN ACUTE CARE

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Physical restraints are frequently used in elderly care and justified to prevent falls, control disruptive behavior and allow interventions. Physical restraints do not bring benefit, being associated with poor outcomes like direct injuries, reduced mobility and mortality.

We have implemented an intervention multilevel program involving all the health care team of an acute care Alzheimer unit (SOMADEM) to reduce the use of physical restraints and to promote methods for achieving safety.

SOMADEM (SOMAtic and DEMentia) is an 18-bed unit in a geriatric hospital. Patients admitted in this unit have dementia and at the same time behavioral and psychological symptoms of dementia (BPSD) due to a concomitant acute somatic disease. The intervention model has a longitudinal design in 3 phases: education, specialized consultation and physical restraints alternatives. The educational part consists in a 4-hour training of all unit staff taught by a specialized interdisciplinary team. The content covers risk of falls,

management of disruptive behavior, legal issues regarding physical restraints prescription, alternatives to its use and discussion of clinical vignettes. A weekly specialized consultation by the same team proposes alternative ways.

Prevalence of physical restraints after the intervention program is the primary outcome; evaluation of types of physical restraints, falls and fall-related injuries, psychoactive drugs prescription, disruptive behavior, functional independence status and destination after discharge are secondary outcomes. Data during the 12 months after the start of intervention will be compared to a 15-month period before the intervention used as baseline. Encouraging results will be discussed.

POSITIVE BLOOD CULTURE IN ACUTE CARE HOSPITAL FOR MATURE PATIENTS IN JAPAN

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Blood culture is one of the most important clinical examinations for infectious diseases. In this report, we review our blood culture test in recent a couple of years.

From April 2014 to June 2016, 4482 blood culture test were ordered in National Center for Geriatrics and Gerontology in Obu, Japan. In these cases, 611 tests were positive result (positive rate 13.6 %). The percentage for obtaining multiple blood culture sets was 76.6 % during study period.

There were 217 male and 144 female with age 80.4 years old. The cultured bacteria were *Escherichia coli* 68 cases (17.75 %), *S.aureus* 32 (8.36), *S. epidermidis* (MRS) 28 (7.31 %), *Klebsiella pneumoniae* 24 (6.27), *Escherichia coli* (ESBL) 22 (5.74), *S.aureus* (MRSA) 16 (4.18 %), β -*Streptococcus* (group-G) 11 (2.87 %), *Enterococcus faecalis* 9 (2.35 %), *Serratia marcescens* 8 (2.09), *Corynebacterium* spp. 8 (2.09), *St.pneumoniae* 6 (1.57), *St.agalactiae* (B) 6 (1.57 %), *S.epidermidis* 6 (1.57 %), *S. hominis* (MRS) 6 (1.57 %), *Prop.acnes* 6 (1.57 %), *E.aerogenes* 6 (1.57 %), *Proteus mirabilis* 5 (1.31 %), *Enterococcus faecium* 5 (1.31 %), *E.cloacae* 5 (1.31 %), *Bacillus* spp. 5 (1.31 %), *St.bovis* 4 (1.04 %), *S. parasanguinis* 4 (1.04 %), *S. hominis* 4 (1.04 %), *Corynebacterium striatum* 4 (1.04 %), *Bacillus cereus* 4 (1.04 %), *A.baumannii* 4 (1.04 %) and others 77 (20.1 %), respectively.

In our institute, reasonable blood culture test was performed as acute care hospital. However we try to obtain more multiple blood culture sets.

SEVERE HYPERTENSION ON ADMISSION AND ACUTE PNEUMONIA IN THE ELDERLY WITH ACUTE CEREBRAL HEMORRHAGE

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Objective: Cerebral hemorrhage is frequent condition in the elderly, and acute complications such as pneumonia increases the risk of mortality rate. However, there are few studies about the association with blood pressure on admission. We studied the association between the incidence of pneumonia and blood pressure on admission.

Methods: Elderly patients admitted to the Geriatric Emergency Ward of Kanazawa Medical University Hospital with a diagnosis of acute cerebral hemorrhage during 2002–2012 were recruited into the study. (59 men, 58 women, mean ages 80 ± 8 years, range 65–98 years). All patients underwent brain magnetic resonance imaging and magnetic resonance angiography on the first day of admission. The patients were divided into three groups according to the record of the highest mean SBP and/or DBP of two measurements every 2 h during the first 24 h after admission; 21 control patients with normotension to mild hypertension (SBP < 160 mmHg and DBP < 100 mmHg), 37 patients with moderate hypertension (SBP 160–179 mmHg and/or DBP 100–109 mmHg), 30 patients with severe hypertension (SBP 180–199 mmHg and/or DBP 110–119 mmHg), 29 with very severe hypertension (SBP $\geq$ 200 mmHg and/or DBP $\geq$ 120 mmHg). CT images were classified as 37 subcortical, 37 thalamus, 28 basal ganglia, 4 pons brainstem, 11 cerebellum and stratified analyses were performed. The definition of pneumonia includes clinical finding of rales, fever onset, purulent sputum, chest radiograph showing evidence of an infiltrate/consolidation/cavitation, necessity of medical treatment and antibiotic course.

Results: After admission, developed acute pneumonia occurred one out of 21 normotensive (4.8%), 7 out of 37 moderate hypertensive (18.9%), 6 out of 30 severe hypertensive (20.0%), 16 out of very severe hypertensive (55.2%). After adjustment by potential confounding factors such as age, sex, JSC, midline shift, hemorrhage volume, diabetes, white blood cell count, CRP, serum albumin, incidence of pneumonia was significantly associated with very severe hypertension comparing with other hypertension groups (OR: 4.89, 95% CI: 1.37–42.5, $p=0.014$).

Conclusion: We conclude that very severe hypertension on admission is a risk factor for acute pneumonia in elderly patients with acute cerebral hemorrhage.

EBV-POSITIVE DIFFUSE LARGE B-CELL LYMPHOMA OF THE ELDERLY: A DIFFERENTIAL DIAGNOSIS FOR SEPSIS.

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Epstein-Barr virus (EBV)-positive diffuse large B-cell lymphoma (DLBCL) of the elderly is an uncommon aggressive lymphoma subtype arising in immunocompetent patients >50 years. Disease in elderly could have an atypical presentation and compromised functioning. We report a fatal case of EBV-positive DLBCL of the elderly in an 84-year-old man presenting as a respiratory sepsis and multiorgan failure.

Mr. E., an 84-year-old man, was admitted to hospital with a 3-days history of asthenia, functional decline, fever, unintelligible speech, and delusions. It was associated since two months ago with anorexia, weight loss, and an exertional dyspnea. Imaging demonstrated pulmonary infiltrate at right lower lobe. Mr. E. was transferred to Acute Geriatric Unit with diagnosis of pneumonia and delirium. Empirical treatment with antibiotics was started despite which we observed persistent fever, elevated bilirubin and cholestasis. CT-scan

showed pulmonary patched consolidation and retroperitoneal and mediastinal lymphadenopathy.

He developed renal and liver failure, and shock, and he was referred to Intensive Care Unit. Nevertheless he worsened with multiorgan failure, metabolic acidosis, and pancytopenia, and, accordingly, it was done bone marrow aspirate. He died sixteen days after his hospital admission. Bone marrow aspirate showed a neoplastic polymorphous lymphoid population composed of Reed-Sternberg (HSR)-like cells which expressed CD20, CD30, EBV/LMP and MUM-1 and the diagnosis of EBV-positive DLBCL of the elderly was made.

Disease in elderly could have an atypical presentation and compromised functioning. EBV-positive DLBCL is an uncommon aggressive lymphoma subtype and has a worse survival than would be expected in patients with EBV-negative DLBCL.

MOVE (MOBILIZATION OF VULNERABLE ELDERLY) AB INITIATIVE FOR INPATIENTS IN ALBERTA COMMUNITY HOSPITALS

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The objective of MOVE AB was to disseminate, implement and evaluate in community hospitals in Alberta, Canada an evidence based strategy that had been successful in promoting early mobilization in older patients admitted to academic hospitals in Ontario, Canada. Early mobilization strategies have been shown to improve both patient and system outcomes.

Four community-based hospitals in Alberta participated. The multi-disciplinary approach focused on three key messages: 1. encourage mobility three times a day, 2. progressive and scaled mobilization, and 3. mobility assessments should be implemented within 24 hours of admission.

MOVE AB was delivered in phases: Planning/pre-intervention, Intervention and Post-intervention. Key planning activities included a Readiness assessment and Barriers and Facilitators survey, which allowed for tailored interventions to each unit participating. Interventions included coaching, fairs, huddles, educational materials, e-modules as well as focusing on natural opportunities.

The primary outcome was the proportion of patients aged 65 and older who were mobilized during their hospital stay. Audits were conducted through all study phases, twice a week, 3 times a day.

Average mobilization rates increased over time (pre-intervention= 42.5%, intervention= 43.4%, post-intervention= 45.6%). Average mobility rates were highest during lunch (57.4%) and increased by 8% from pre-intervention to post-intervention. The majority of mobile activity consisted of sitting in a chair; sitting in bed with legs dangling or standing/walking in room independently. Additional analyses will include examining impact on length of stay and discharge location. However, we were able to successfully disseminate

the MOVE initiative from academic hospitals into smaller community hospitals.

EFFICACY OF DYSPHAGIA REHABILITATION AND NUTRITIONAL MANAGEMENT IN THE ACUTE CARE HOSPITAL

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We have experienced dysphagia rehabilitation by Speech-Language-Hearing Therapists (SLHTs) under nutritional management (nutrition support team, NST) which has been effective for patients' recovery especially in the acute stage. However, available information on the relation among recovery status, rehabilitation by SLHTs, and NST in the acute stage is limited. Hospitals where are not any or are only a few SLHTs, even in some urban areas of Japan still exist. Our aim of this study is to clarify the efficacy of dysphagia rehabilitation under nutritional management in an acute care hospital. The data of 750 patients admitted in a tertiary care hospital provided for this study. They were divided into four groups; SLHT group who were rehabilitated by SLHTs, both SLHT and NST (Abreast) group who were rehabilitated by SLHTs under NST, NST only (NST) group and Non-intervention (NI) group. The patients in SLHT and Abreast groups were older, more demented and with lower scores of FIM on average than the other two groups. 55.4% of SLHT group and 46.7% of Abreast group showed moderate to severe dysarthria. The percentage of tube fed patients was significantly higher in SLHT and Abreast group than others. However their inpatient periods and FIM score improvements did not show significant differences from others. The rate of their secession from tube feeding was significantly higher than others. We concluded that Dysphagia rehabilitation by SLHTs under nutritional management is effective for patients' recovery not only in convalescent stage but also in the acute stage.

DEVELOPMENT OF AN OUTPATIENT TRANSFUSION PROTOCOL TO REDUCE AVOIDABLE HOSPITALIZATIONS

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Improving the quality of care to the elderly is a fundamental cornerstone of the practice of geriatric medicine. Reducing the frequency of avoidable hospitalizations is an area of particular focus. Inpatient hospitalizations in the elderly population are often also associated with the development of multiple complications, which, in turn, increase lengths-of-stay. These include hospital-acquired infections, development of new decubiti, physical declines resulting from prolonged immobility, and the untoward effects of acute adjustment reaction from an unfamiliar hospital environment. The development of well-designed interventions in the nursing home can significantly reduce the number of potentially avoidable hospitalizations in this population. "Development of an Outpatient Transfusion Protocol to Reduce Avoidable Hospitalizations" is a quality improvement initiative that was implemented at The Hebrew Home at Riverdale, a skilled nursing facility in Bronx, NY. The objective of this program was to develop a favorable

alternative to the hospitalization of postacute and long-term care patients requiring blood transfusion. In our experience, all patients being sent to the hospital for blood transfusion were being admitted as an inpatient, irrespective of the goals of care. This program is being successfully utilized for the patient who is evaluated for anemia at the skilled nursing facility and a clinical decision is made to order a blood transfusion without pursuing further workup. Through a clinical collaboration with a local hospital blood bank, a transfusion protocol was developed. The hospital physician coordinates the transfusion with the hospital's blood bank for the following day, to be done as an outpatient procedure.

SESSION 770 (POSTER)

AVENUES FOR AGING IN PLACE I

CHALLENGES IN ELDERLY NIGHT-TIME CARE: DIGNITY 24 HOURS A DAY IN SWEDISH ELDERLY HOME CARE SERVICES?

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The research study explores a large knowledge gap within Swedish elderly care – namely the challenges of within home care services at night. Despite that home care services is the most common support given to the elderly in Sweden. The few National and International studies that exist on night-time care, have focused on residential care facilities for the elderly. Therefore, focus here is on night-time care in their own homes, given by the night patrol – which we know very little about.

In the last decades, organizational transformation has taken place within elderly care towards increased rationalization and marketization. Along with demographical changes, this raises questions of dignified care, equal social rights and access to care. As the elderly are living longer and living in their own homes with severe disability and vulnerability, the pressure on home care services will increase – including at night. Dignity in care has been legislated in the Swedish Social Services Act, but is vaguely implemented, specifically at night.

Discussed are results of an interview survey with managers responsible for night-time home care services in 50 Swedish municipalities. How night-time care is organized varies depending on local governance, location and size of municipalities. This indicates challenges for equal access to care, depending on where you live. Care workers experience time pressure at night with many fragile elderly in need of care. How efforts to secure dignity and safety for older people varies over night is therefore important to reveal, not the least from a social equality perspective.

ACTIVITY ENGAGEMENT AMONG OLDER ADULTS LIVING IN THE COMMUNITY

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Activity is central to theories and frameworks regarding healthy aging. In this pilot study we sought to 1) understand

past and current activity engagement among older adults and 2) identify challenges and opportunities for re-engagement. We completed structured, in-person interviews with 110 older adults living in two community-based settings; 1) a low-income senior apartment community and 2) single-family homes or apartments located within the boundaries of a local NORC. Interviews included completion of the Activity Card Sort, a tool where past and present activity levels for 89 activities—classified as instrumental, low-demand leisure, high-demand leisure, or social—were reviewed. Interviews also included a series of questions that assessed reasons for reducing activities, facilitators to re-engaging in activities, and willingness to re-engage. Findings indicate that participants remained most engaged in instrumental (e.g., doctor visits, grocery shopping) and low-demand leisure (e.g., reading, using a computer) activities. There was no significant difference in current activity engagement across ages, however there was significant difference depending on where older adults lived. Participants living in senior apartments reported lower activity engagement for both instrumental and social activities. The most common barriers reported for activities were ‘no opportunity’ (83%), ‘no one to do it with’ (82%), and being ‘physically difficult’ (73%). The top activities residents would like to re-engage in were social or low-demand leisure. In terms of starting new activities, interest in high-demand leisure (e.g., yoga, biking) was high. These findings can help inform the development of interventions to engage older adults living in the community.

LONELINESS AS A MEDIATOR BETWEEN SOCIAL SUPPORT AND LIFE SATISFACTION AMONG SOLITARY OLDER ADULTS

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Despite the importance of optimal life satisfaction in later life, the varied pathways through different sources and directions of social support to older adults’ life satisfaction remain unclear. Using a sample of a sample of 151 community-dwelling solitary Chinese older adults (65 and older) in Hong Kong, the present study used path analysis within the structural equation modelling (SEM) framework to examine the mediating effect of the sense of loneliness in the relationship between different sources and directions of social support and life satisfaction. Bootstrap approach was employed. Goodness-of-fit indices were obtained for the final model, with SRMR = 0.045, RMSEA = 0.039, and CFI = 0.987. The results showed that the sense of loneliness partially mediated the effect of family support (standardized $\beta_{\text{family-LS}} = 0.213$; standardized $\beta_{\text{family-loneliness-LS}} = 0.110$) on life satisfaction and fully mediated the effect of friends’ support (standardized $\beta_{\text{friend-loneliness-LS}} = 0.084$). It seemed that confidante relationships and formal sources of social support represented by community services did not affect solitary older adults’ life satisfaction, but helping others can directly influence life satisfaction of solitary older adults (standardized $\beta_{\text{helping-LS}} = 0.123$). The findings pointed out the importance of enhancing awareness among ageing service providers about the negative effect of insufficient social support on the sense

of loneliness and life satisfaction in older adults. Familial and friendship networks should be expanded for solitary older adults, and more volunteer programmes could be developed for them to join.

AGING IN PLACE WITH INTELLECTUAL DISABILITY: CARE TRANSITIONS AMONG OLDER TWO-GENERATION FAMILIES

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Little is known of transitions in care and housing of old two-generation families that include aging (≥ 40) adults with intellectual disability (ID) and their older (≥ 65) parents. This study employed the “housing pathways” theory in order to explore the experiences of these families of such transitions. All potential old two-generation families from two local authorities in Taiwan were recruited; 237 families completed our survey and 61 our in-depth interviews between May 2015 and July 2016. Different models and types of transitions in care and housing of these families were identified and found to be connected with changes in their care responsibilities and living arrangements. Old parents are concerned with transferring their care responsibility to others, often to their other children. The lifecycles and social/financial contexts of older parents and aging adults with ID, and those of the siblings of adults with ID, are linked together and need to be considered in the process of making moving decisions. Concerning the transitions in care and housing, kin relations, living geography and ethnic culture seem to be more important factors than social/health care needs/use of older parents and aging adults with ID. Aging in place was more popular than moving in old age among these families; hiring a migrant care worker strengthened families’ choice of ageing in the old place. Care transitions, aging with disability and kin relations are linked together for these families and should be taken into account and addressed by aging, housing and disability policies.

TOBACCO CONSUMPTION AND INPATIENT HOSPITAL SERVICE USE AMONG AN OLDER ADULT POPULATION IN CHINA

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This secondary research is based on the WAVE I (2010) of the WHO Study on Global AGEing and Adult Health (SAGE). Based on the Andersen- Newman Behavioral Model of Health Services Utilization, this study examined the role of tobacco use in predicting utilization of inpatient hospital service among older adult tobacco users (self-identified) in China ($n = 2,467$; age 55 or older). Tobacco consumption was assessed in terms of whether elders at the time of interview were using tobacco products (including cigarettes, cigars, pipes, chewing tobacco or snuff) daily. The mean age of the sample is 65.54 ($SD = 8.11$), with 91% male and 86% married. Results showed that 23% of the sample had received at least one overnight hospital stay in the last

12 months. Other things being equal, tobacco consumption was a significant need factor to inpatient hospital use. Data suggest that heavy smokers were more likely to use inpatient services. Among the predisposing factors, rural residency was associated with hospital use. Rural elders may prefer to stay in the hospital when needed because of the distance between villages and hospital facilities. In addition, the two enabling factors (having more financial resources and a higher level of social participation) were associated with increased likelihood of using hospital inpatient services. Consistent with the literature, having poor health status was a need factor associated with the increased likelihood of hospital service use. Tobacco use has been identified as a key preventable morbidity, and culturally meaningful tobacco cessation programs will be discussed.

LONG-TERM OUTCOMES OF HOME MODIFICATIONS FOR PERSONS AGING WITH A DISABILITY: A SURVEY

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The Home and Vehicle Modification Program (HVMP) of the Ontario Ministry of Community and Social Services currently funds modifications to the homes and vehicles of eligible Ontarians to help them: continue living in their own homes, avoid job loss, and participate in their communities. (Ministry of Community and Social Services, 2015).

The program is administered by March of Dimes Canada, which in 2014 conducted a survey of consumers of the program to determine whether the homes whose modifications the program has subsidized are still occupied by the recipient of the subsidy, and to assess consumers' opinions of the effectiveness of the modifications of their homes.

495 consumers or their designates were surveyed by telephone, by mail, or online to evaluate the long-term benefits of home modifications funded under the program. They were sampled from consumers who had received funding between 2007 and 2010.

Results showed that 75% were still living in their modified home and the most frequent unexpected benefits were greater independence, improved personal care, improved mobility indoors, and improved quality of life. Median cost of modifications per day of use was less than \$8. In 2008 the cost for a long-term care home placement was approximately \$135 a day -- since 2013, the costs have increased to \$158.36 a day.

"WE TAKE CARE OF OUR ELDERLY ON OUR OWN": OBSERVATIONS ON AN AMIS COMMUNITY SENIOR CENTER IN TAIWAN

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Faced with population aging in Taiwanese society, the government has promulgated the "Long-term Care Services Act" as the principal legal basis for developing a comprehensive long-term care system for improving the quality of life of the elderly. Resources, however, are distributed unevenly between urban and rural areas. To compensate for this, scholars have recently introduced the concept of

"Culture Care", and called on locals to build up their own care network through cultural knowledge that integrates interpersonal relationships and the social resource of the community. This study was conducted from January 23rd to 31st in 2016, under the course "Field Methods of Cultural Anthropology (with Practices)," with assistance of the professor in arranging research area and connecting informants. The study describes how the concept of culture care works in a Taiwanese indigenous community's senior center through participant observation and in-depth interviews. By understanding how the project was initiated, the organization of members, member interaction and local viewpoints on care of the elderly, it is found that clan-based caring boundaries, member interaction following the pattern of the Amis finawlan (age-set organization), curriculums focusing on member empowerment, and concerns of cultural heritage make the center not only a caring organization but also a social support network. In addition, the center enables every generation to take part in caring for the elderly and strengthens their social identity at the same time.

RURAL SYSTEMS CHANGE COLLABORATIONS TO IMPROVE COORDINATION OF SERVICES SUPPORTING AGING IN PLACE

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In rural and resource-poor regions, strategies to support aging-in-place focusing efforts on improving coordination of existing services represent a low cost strategy for improving older adult health and wellbeing. This poster presents findings from an ongoing evaluation of a multi-site systems change collaboration to improve service coordination in two rural US counties. Pilot interventions targeting community needs such as transportation or home-based services are paired with meetings of providers to improve service integration and build understanding of the spectrum of community resources available. Needs assessment findings indicate that among adults 65+ surveyed in the region (N=280), the most prevalent challenges for aging-in-place included getting household repairs (30%), understanding government benefits (21.5%), isolation (18.9%), falls (18.7%), and help with homemaking activities (18.2%). Among partners (N=15) involved in one of these collaborations, a limited history of cooperation in the community was rated as the most significant challenge to collaboration (Mean = 3.2) of the 20 factors measured by the Wilder Collaborative Factors Inventory. The project evaluation utilizes a mixed method approach to measure collaborative functioning through the Wilder instrument and uncovers systems changes through the Ripple Effects Mapping (REM) qualitative method. Early REM results indicate successes in increasing knowledge of the spectrum of services in the targeted regions among partners and supporting interactions between sectors that have normally not worked together. Findings also highlight the need for a dual approach educating consumers and providers about the range of available resources. Barriers to systems change will also be examined.

A LONGITUDINAL STUDY AT AN ELDER COHOUSING COMMUNITY: AFTER 10 YEARS, WHO LEFT AND WHO'S LEFT?

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Long common in Europe, the first senior cohousing communities opened in the USA in the last decade. These communities are run by the residents themselves and offer the potential for mutual peer support and a strong sense of community. A longitudinal mixed methods study has been conducted by annual data collection at one such community since it opened in 2006. One outcome explored is retention, which is important to sustainability and future-proofing. The cohousing community is comprised of both owned units and income-subsidized apartments, with 31 units in total. Of the original 39 first "charter" residents, 38 were white, 8 were male, and the mean age at move-in was 70.4 (range=63–84). Thirteen (33%) of these charter residents were still living in the community in 2016: 11 were females, all were white, with a mean age of 79.5 (range=73–94). Reasons why they have stayed included friends, the location, liking the community and the mutual support, and pride in their creation of a new model of housing for older adults. Six (15%) charter residents died locally. The remainder (projected mean age in 2016=79.7, range=73–88) moved due to health issues and the need for greater care, to be near family, because of the income-subsidized housing regulations, or because they found that living "in community" was not a good fit for them or was too much work. Lessons learned about sustainability and the value of cohousing for older adults will be shared and suggestions for similar housing models will be discussed.

DESIGNING AGE-INTEGRATED COMMUNITIES: LESSONS FROM A NATURALLY OCCURRING RETIREMENT COMMUNITY

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Urban environments are an essential determinant of health and quality of life for older adults. Architecture cannot force people to participate in society, or create community cohesion; it does, however, have the potential to lay the foundation of social infrastructure necessary to encourage and support social relations. This in turn has the potential to influence behavior in a positive way. The purpose of this study was to learn from a highly successful naturally occurring retirement community (NORC) the different design characteristics of the built environment that make this such a desirable place to live. This study employed a hermeneutic phenomenological methodology to explore, describe and interpret the lived experiences of 12 independent, interdependent and dependent residents living in the Cherryhill NORC in London, Ontario, Canada. Participants identified the criteria that attracted them to this NORC initially and encouraged them to remain within the community. Participants also identified a number of elements within their apartment buildings, the transitional threshold areas, and external spaces that would further enhance their experience of living within this NORC. Issues included airflow, temperature control, exposure, balcony design, pet ownership, accessibility, community transportation, amenities and more.

Many design and planning guidelines for age-friendly communities describe elements that improve safety, mobility and access. This study revealed that 'social opportunity' spaces play a key role in the life of older individuals and provides further evidence of how seniors within this NORC leverage social capital to provide an invaluable support network for each other.

COMMUNITY-BASED SERVICES AND RESOURCES IN A RESIDENTIAL SETTING: LOCATION MATTERS

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One key component to facilitate an older adult's ability to remain in the community is provision of formal services in their residence. However, service-accessible housing options are often limited to those with financial means, and many older adults remain in housing that is considered "service-poor." The study examines the disparity of services availability by types of residence. Using cross-sectional data from Wave 2 of the Pathways to Life Quality dataset, we examined the sociodemographic characteristics, health status, and social support by residence for adults aged 50 and older. Data were categorized by elders living in their own home in the community (N=347), independent elders living in service-rich housing (Continuing Care Retirement Community residents; N=188) and elders living in service-poor housing (government subsidized housing; N=137). Data were analyzed across groups using ANOVA. The sample was a majority female, with an average age of 76 (range 50–101). Older adults living in the service poor residences had lower socioeconomic resources (lower education levels, less income; p-values<.000), worse health (higher functional limitations, more chronic conditions; p-values<.000), and less social resources (less social integration, less social support, lower marriage rates; p-values<.000) compared to those in service-rich residences or living in the community. These data suggest that elders living in service-poor areas are not only vulnerable due to lower service availability, but also have high social, economic, and health vulnerability. It is particularly important to identify groups that are most vulnerable in order to target interventions efficiently. Recommendations for policy and practice will be discussed.

PLACE ATTACHMENT AND PLACE IDENTITY AMONG OLDER ITALIAN MIGRANTS IN NEWCASTLE UPON TYNE

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This paper aims to gain a critical understanding of affective bonds established with and through places in later life, from the perspective of members of a migrant population. Whilst place attachment in older age has been investigated from a wide range of scholarly angles, the ways in which it might be experienced by people who are ageing away from their home countries is a neglected area of research. Older migrants' processes of identification and belonging to specific places contributes significantly to active ageing and wellbeing in later life. In order to better understand this, I focus on how older Italian migrants in Newcastle upon Tyne, UK, interpret a sense of attachment and identification with significant places. This paper explores their experiences

of private and public places and the meanings they attribute to them. I build from ethnographic research on the ways in which private and public spheres are physical but also operate on social and symbolic levels (Wiles, 2011). Drawing on the social gerontology literature (Rowles 1978; 2003; Peace, 2005). I explore how individual make sense of the role of the home - and its embodied practices- plays in sustaining a sense of identity for themselves and others. This reflection offers a broader perspective on the migration status, of both appropriation and expropriation even many years after the process of migration (Basu and Coleman, 2008). Home, the experiences and meanings associated with it, need to be addressed as an expressive site to understand the perspective of a migrant population.

FACTORS INFLUENCING HUMAN-PET INTERACTION AMONG OLDER ADULTS

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As more attention is paid to the role of pets in the lives of older adults, we need to better understand who is more likely to have a pet at home. Studies that recruit pet owners do not allow us to estimate either the proportion of older adults with a pet, identify the socio-demographic characteristics of persons more likely to own a pet, or whether different characteristics are more strongly associated with ownership of a particular type of pet. The 2012 Public Health Management Corporation's Household Health Survey asked a representative sample of older adults in Philadelphia and the four surrounding counties about pet ownership. Of the 3,042 persons age 60+ interviewed, almost 40% had a pet in their home. Our analyses compared persons 1) with no pet (n = 1,864) to 2) persons with a dog only (n = 406) and 3) persons with a cat only (n = 476). We found statistically significant differences in regard to sex, age, size of the household, income, renting or owning their home and whether the older adult had experienced depressive symptoms in the previous week. Interestingly there were no differences on measures of self-rated health, frequency of social interaction, or feelings regarding neighbors. Our findings suggest that research on the human-pet interaction in old age needs to consider several contextual issues (including the type of pet and the composition of the household) to better understand the impact of pet ownership on health and other outcomes for older adults.

FROM UNDERSTANDING OUR AGEING BODIES TO SAFETY IN AGEING IN PLACE

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This paper aims to discuss a cross-disciplinary collaborative project conducted by researchers from design and engineering. The project adopted the Action Research (AR) Methodology which intended to involve active senior citizens throughout the research process. The collaboration kick-started by the Ageing Bodies Study with the goal to develop the 1st Hong Kong ageing population profile including an ergonomic database animated by visual records of

people's everyday behaviors. This part was led by a group of design researchers working with design students to develop innovative ways to engage senior citizens. Through participating interactive activities, senior citizens were invited to co-investigate their bodies and lifestyle changes in the city. Additionally, ethnographic study including interviews at their homes was conducted to further inspect issues associated with independent living in their confined spaces in typical social housing projects in Hong Kong. Using the ergonomic and ethnographic results of the Ageing Bodies Study, engineering researcher took the lead to develop a series of low-cost devices for confined bathroom to prevent accidents and improve safety at home. All the solutions were prototyped with local manufacturers and sent back to people's homes for testing and develop creative conversations on issues regarding their "Ageing In Place". This people-centered process documented a cohesion creation might form a good platform in rapid ageing society to bring both researchers, communities and developers together to address wicked problems of ageing for our future.

STATE OF COLLABORATION BETWEEN SELF-HELP AND PROFESSIONAL SERVICE NECESSARY FOR AGING IN COMMUNITY

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Due to the necessity to cut down social security expenses in many aging societies,

frail older adults are directed to enhance self-help in their home-based lives. The development of self-help or mutual help has been also focused to substitute professional services. At the same time, difficulty to involve informal carers has been emerging due to the change in family relation, and the rapid increase of one-person households.

A new inclusive service to support home-based older adults has been launched in super-aged society, Tokyo. The users can select necessary services from a comprehensive care preparation consisted of meals, living assistance, nursing, consultation, social work, 24-hour regular home visitation, and as-needed visitation services. This initiative takes families and informal carers as effective environmental factors in supporting the users to involve their spontaneous participation in providing services.

Service records of 30 users of the service for one year were analyzed to capture the emergence of self-help. This study aimed to clarify how self-help could function and collaborate with professional supports.

Many of the users used the service under family supervision. Family living nearby modified and adjusted the service according to the changes of the users' needs especially on occasion of bad health condition, and also played an intermediate role between doctors/nurses and care professionals. Distant families or families with jobs received information from care staff. Based on the information, they advised the staff for future support.

The results indicate systemizing effective communication between self-help and care professionals needs to be considered in aging societies, and, in case raising self-help is difficult, professional staff needs to carry out thorough

information gathering, or an intermediate position between an older adult and care staff need to be prepared.

SESSION 775 (POSTER)

BIO-BEHAVIORAL RISK FACTORS OF HEALTH

USE, INTENTION TO USE, AND PERCEPTIONS OF RISK ACROSS TOBACCO PRODUCTS AMONG OLDER SMOKERS

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Recently there was an eight-fold increase for e-cigarette use among older smokers with nearly a 20-fold increase among former smokers. The purposes of this national survey study were to explore the perceptions of benefits and risks of tobacco product use among older current and former smokers. The sample (N=549) had a mean age of 56.9 (SD= 7.3) and included 92% current smokers, 56% females and 83% Non-Hispanic Caucasians. Dual use for e-cigarettes with cigarettes at 30 and 7-days was (24.3 and 16.6 %, respectively). When asked about the risk of harm on a 0–5 scale across products (cigarettes, cigars, e-cigarettes, and dip/chew), from least to greatest for self, others, and environment; cigarettes and cigars were seen as most harmful (4.3 and 4.1) and e-cigarettes as least harmful (2.5). For the risk of addiction across products, cigarettes had the highest mean score across three addiction measures: overall rating of addiction (4.6), ever tried to quit and couldn't (3.8), and felt addicted to the product (3.7). Among those who had never tried e-cigarettes, almost 12% said they were likely to try a flavored e-cigarette with nicotine for the first time in the next six months and among current smokers when asked about their next cessation attempt, over 50% thought they would try/use e-cigarettes. These findings suggest that older smokers perceive e-cigarettes as least harmful of all tobacco products and are increasingly using e-cigarettes to circumvent no smoking policies and for cessation attempts that are largely unsuccessful.

HEALTH AND RELIGIOUS CHANGE IN LATER LIFE

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Recent research has demonstrated a positive relationship between religion and health in later life. However, no research to date has examined how changes in religiosity, shifts upward or downward in spiritual or religious life, might have an impact on physical or emotional health. In this research we examine trajectories of later life religiosity and their relation to health in a mixed-methods longitudinal study based on the 45-year Longitudinal Study of Generations. The survey data were collected from some 400 individuals now 60–90 between 1971 and 2016. Qualitative data come from 100 interviews collected in 2016. Results indicate that most individuals who are religious report they have increased their religious or spiritual involvement since retiring; for those who are not religious a similar increase in spiritual and contemplative activities is reported. The quantitative data provide limited support for the linkage between increased religiosity and health or well-being.

REEXAMINING THE EFFECTS OF RESIDENTIAL MOBILITY ON WELL-BEING IN NULLPARENT WOMEN. FINDINGS FROM THE DUTCH NUN STUDY

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In the 1980's The Nun Study by David Snowdon showed us new insights on the influence of ageing, lifestyle and Alzheimers. However, since then we have been struggling to find the significance of lifestyle versus biological factors and healthy ageing of the brain. In an effort to find new answers Dutch Nun Study included 200 Dutch Nuns living in Netherlands between 70 and 104 years of age and studied the relationship between biological factors, ageing and lifestyle. A better understanding of the interactions between genetics, individuality of functionality of neurons and lifestyle may change our view on the role and importance of cognitive functioning and help prevent cognitive decline in late life. Lifestyles of Contemplative, Active and Missionary Nuns were included. Findings are presented.

SOCIOECONOMIC ADVERSITY AND ALLOSTATIC LOAD: A TWIN ANALYSIS

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Childhood socioeconomic status (SES) is related to health concurrently and into adulthood, and is associated with adulthood SES. Given these far-reaching relationships, some question whether adulthood SES associates with health beyond childhood SES. Biometric twin (ACE) models partition the predictor variables into additive genetic (A), shared environmental (C), and nonshared (unique) environmental (E) variance components. Researchers can control for latent genetic and shared environmental factors that may confound conclusions about the causal effects of adulthood SES on health. We used family data from the second wave of the national Midlife in the United States (MIDUS) Study (128 MZ pairs, 99 DZ pairs, 119 Sibling pairs) to examine this question. Health was assessed with a measure of multi-system physiological dysregulation posited to confer risk for the development of physical health problems. Adult SES was calculated with education, family-adjusted poverty to income ratio, current financial situation, enough money to meet needs, and difficulty paying bills. Results of ACE models suggested that male twins with lower adult SES had higher allostatic load, indicating greater physiological risk, than their co-twins with higher SES ($b = 0.19$), adjusting for genetic and shared environmental correlations between allostatic load and SES, and observed childhood SES, health status, and perceived support from family and friends. This relationship was not observed among female twins. These results add to a growing literature indicating that lower adult SES is associated with poorer multi-system physiological health, even after accounting for shared genetic and early environmental influences.

SOCIO-ECONOMIC DIFFERENCES IN THE SPEED OF HEART RATE RECOVERY FOLLOWING ORTHOSTATIC CHALLENGE

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Much recent work has focused on the prognostic value of heart rate recovery (HRR) as a risk factor for cardiovascular disease and cardiovascular mortality. This paper explores socio-economic variation in HRR following exposure to a potent physiological stressor. The sample involves a nationally representative cohort of 4475 community-dwelling older persons aged 50 years+ participating in the Irish Longitudinal Study on Ageing (TILDA). Participants completed an active stand (i.e. vertical stand from a supine position) as part of a clinic-based cardiovascular health assessment and heart rate and blood pressure responses to the stand were monitored over a two-minute time horizon using a finometer. Highest level of educational achievement served as our measure of socio-economic status. Mediation analysis was undertaken to explore the pathways through which social inequality comes to affect the speed of HRR using the extensive array of covariates available in the TILDA dataset. Participants with a primary level education were characterised by a significantly slower HRR following the stand compared with those with tertiary level education ($B = -1.16$ bpm, $CI_{95\%} = -1.78, -0.55$; $p < 0.001$). Mediation analysis revealed that lifetime smoking history accounted for a sizeable proportion (~50%) of the educational differential. Additional adjustment for other objectively measured markers of lifestyle measured during the clinic-visit rendered the educational differential non-significant.

INTENT TO AVOID FAT FOOD CONSUMPTION AND PERCEIVED STRESS IN MIDLIFE AND OLDER AFRICAN AMERICANS

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Cardiovascular disease (CVD) is the leading cause of death for African Americans (AAs) in the USA, with diet and perceived stress identified as two key factors. Fat consumption has been identified as a key contributor to poor dietary health in AAs and stress may lead to increased fat consumption. However, few studies have examined the extent to which perceived stress and intent to avoid high fat consumption are related to fat consumption in mid-life and older AAs. Thus, the purpose of this study was to examine the relationship between intent to avoid high fat food consumption (intention to change fat behaviors, consistency of avoiding high fat foods), fat consumption (NCI Fat Screener) and perceived stress (Cohen's Perceived Stress Scale). Guided by the planned behavior and social cognitive theories, this study uses baseline data from a broader longitudinal church-based project to reduce CVD risk conducted with mid-life and older AAs ($n=221$) in six churches across a two county area of North Florida, USA. Age, gender, educational level and marital status were controlled in the analysis. Preliminary results showed perceived stress had an inverse relationship with consistency of avoiding high fat foods ($p < .01$). In addition, consistency of avoiding high fat foods was negatively related to general fat consumption ($p < .01$). Findings suggest participants with higher stress have less ability to consistently

avoid fat, and participants with higher ability to consistently avoid consuming high fat foods had lower reports of general fat consumption in their diets. Implications for practice will be discussed.

HEALTHFUL DIET PATTERNS ARE POSITIVELY ASSOCIATED WITH LEUKOCYTE TELOMERE LENGTH IN HEALTHY ADULTS

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Studies examining associations with healthful diet patterns and leukocyte telomere length (LTL) have been inconclusive. Using data from the 1999–2002 National Health and Nutrition Examination Surveys (NHANES), we examined four evidence-based measures of healthful dietary patterns in relation to LTL – the Healthy Eating Index-2010, the Alternate Healthy Eating Index-2010, Dietary Approaches to Stop Hypertension (DASH) Index, and the Alternate Mediterranean Diet Index. The NHANES study population included 4,758 US adults, aged 20 to 65 years, with no prior history of coronary heart disease, diabetes, stroke, or cancer. LTL was assayed from DNA specimens. Dietary patterns were estimated from 24-hour dietary recall data – for each pattern, a higher score signified better diet quality. Associations were examined using multivariate linear regression models, adjusting for sociodemographic characteristics, health behaviors, and total energy intake. Pearson correlation coefficients between the four dietary patterns ranged from 0.609 to 0.730. One-standard-deviation increases in the Healthy Eating Index-2010 ($B=0.015$, 95% CI 0.003, 0.028) and the DASH index ($B=0.016$, 95% CI 0.003, 0.029) were both associated with longer LTL. A marginally significant association was also observed with the Alternate Healthy Eating Index-2010 ($B=0.009$, 95% CI -0.000, 0.018). Further adjustment for body mass index and waist circumference did not alter these associations. The Alternate Mediterranean Diet Index was not associated with LTL ($B=0.002$, 95% CI -0.009, 0.013). In this nationally representative sample of US adults, several healthful diet patterns were associated with longer LTL. These results may provide insight on the complex associations between optimal nutrition and longevity.

HEALTH BEHAVIOR PROFILES OF KOREAN BABY BOOMERS: EFFECTS OF PERCEIVED HEALTH CONCERNS AND MASTERY

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Health behaviors including health-risk and preventive behaviors are closely linked to various health outcomes and longevity. This study aimed to identify distinct profiles of health behaviors among Korean Baby Boomers (born between 1955 and 1963) and examine factors (e.g., demographic characteristics, perceived health and illness, and mastery) distinguishing health behavior profiles. We analyzed a sample of 4,053 respondents from the *Korean Baby Boomer Panel Study* in 2014. Latent class analysis was applied to six health-risk (smoking, drinking) and preventive (exercise, health check-up, and supplement and herbal medicine intake) behaviors to classify profiles. We identified

five different combinations of health-risk and preventive behaviors: a) moderate risk and low preventive (34%), b) low risk and high preventive (22%), c) high risk and high preventive (16%), d) moderate risk and moderate preventive (14%), and e) high risk and low preventive (13%). Multinomial regression analyses for the pattern membership indicated that respondents who reported higher levels of health concerns were more likely to belong to the high risk and high preventive pattern, compared to the moderate risk and moderate preventive pattern. Also, respondents with a stronger sense of mastery were less likely to be in the low risk and high preventive pattern. Our findings suggest that different levels of health concerns and sense of mastery are reported by individuals who engaged in certain patterns of health behaviors among Korean Baby Boomers, which may highlight the potential importance of examining different types of health behaviors as patterns.

HEALTHY LIFESTYLE HABITS AND HEALTH-RELATED QUALITY OF LIFE AMONG OLDER ADULTS WITH DIABETES

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Health-related quality of life (HRQOL) is impaired among people with diabetes. This study aims to examine the relationship between having at least one healthy lifestyle habit (no smoking, physical exercise, or both) and HRQOL among older adults with diabetes.

Adults age 65 or older with diabetes were selected from the 2014 Behavioral Risk Factor Surveillance System. HRQOL measures are general health (excellent, very good, or good = 1) and less than 14 days physical health not good, mental health not good, and impaired activity. Healthy lifestyle habits included not smoking and engaging in physical activity in past 30 days. Covariates were age, gender, race, education and body mass index. Binary logistic regression is employed to examine the relationship between having at least one healthy lifestyle habit and HRQOL.

In total 30,917 participants age 65 or older with diabetes were selected for this study. Just over half (56.2%) were female ($n=17,373$), 71.4% were non-smokers and 60.1% had physical exercise during past 30 days ($n=18,578$). Having at least one healthy lifestyle habit is associated with significantly better general health (odds ratio=2.78, $p<0.001$), less than 14 days physical health not good (odds ratio=2.68, $p<0.001$), less than 14 days mental health not good (odds ratio=2.11, $p<0.001$) and less than 14 days impaired activity (odds ratio = 2.95, $p<0.001$).

Overall, study findings imply that to help older adults with diabetes have better health and reduce impaired activities, prevention could encourage them not to smoke and to engage in more physical activity.

DRINK WISE AGE WELL: A UK-WIDE MULTILEVEL PROGRAMME TO REDUCE ALCOHOL-RELATED HARM IN OLDER ADULTS

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Alcohol use can have a detrimental impact on health, physical and mental functioning, social wellbeing and quality of life in older adults. The World Health Organisation has identified alcohol-related harm among older adults as an increasing concern. With funding from the National Lottery, a five-year multilevel programme to reduce alcohol-related harm in older adults (50+) is being implemented and evaluated across the UK. The programme, known as Drink Wise Age Well, is being delivered in five "demonstration areas" in England, Wales, Scotland and Northern Ireland. The programme is evidence-based and designed specifically for older adults. Activities include delivering community-level public awareness campaigns, providing a telephone helpline, a peer education project, a group resilience intervention, a programme of diversionary activities, alcohol training for professionals working in older adults' services and a range of age-appropriate interventions for those with existing alcohol problems. Importantly, the programme is also engaging with national and local policy makers to increase the profile of the issue and ensure that the needs of older adults are considered and highlighted in relevant strategy. Early findings suggest that the programme is reducing at-risk drinking, decreasing symptoms of depression and anxiety, increasing resilience, raising awareness of the issue, increasing professional capacity and improving positioning of the issue on the policy agenda. Multilevel programmes such as Drink Wise, Age Well could be key to reducing alcohol-related harm in ageing populations worldwide.

SIXTY AND SEXY: FACTORS INFLUENCING HIV RISK-TAKING BEHAVIORS AMONG OLDER AFRICAN-AMERICAN WOMEN

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Despite myths and stereotypes, many older women are sexually active. Among older African American women, rates are increasing for newly-diagnosed HIV infection, for those living with HIV and for HIV/AIDS-related mortality. While African American women represent only 14% of the U.S. female population, they account for nearly two-thirds of all new HIV infections in women and for over half with AIDS. Although many health promotion/disease prevention (HP/DP) efforts are directed toward HIV risk-reduction for younger African-American women, less notice is directed toward their sexually active, older counterparts. Yet, the primary mode of transmission for both is high risk heterosexual exposure. Does a one-size-fits-all prevention approach work for all African American women? Or, is it necessary to customize interventions for older African-American women because of unique factors influencing their risky sexual behaviors? This inquiry explored whether early gender socialization and the establishment of gender norms and roles in a very different social era impact their current risk-taking sexual behaviors. Surveys and focus groups were used to elicit values, beliefs, attitudes, gender role expectations and knowledge in relationship to high risk sexual behaviors. The results highlighted the need to tailor HIV prevention interventions that

are socially- and culturally-relevant and appropriate for the priority population of older African American women. The resulting intervention design takes into account overcoming long-held gender roles/norms and positively impacts their knowledge, attitudes and behaviors that in turn empowers them to protect their health, practice healthy sexual behaviors and to improve their overall quality of life.

PROTECTIVE FACTORS IN VULNERABLE, RURAL OLDER ADULTS: LINKS WITH SALIVARY MARKERS OF INFLAMMATION

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Numerous social determinants-- individual, interpersonal, community, policy- converge to increase stress among older rural adults. This stress, which can manifest itself physically in potentially harmful inflammatory response, frequently erodes health and undermines social relations. Yet, over the life course, individuals tend to become more effective at identifying efficacious coping strategies. To improve our understanding of how this vulnerable population copes with stress, we conducted semi-structured and structured interviews with 21 rural residents, aged 65+ about physical and mental health, stress, and protective factors, including social support, religiosity, and exercise. Additionally, we collected saliva samples which were assayed for markers (pro-inflammatory molecules C reactive protein (CRP), tumor necrosis factor alpha (TNF α), and interleukin-6 (IL-6) of stress and inflammation. This sample was 65.6% female and comprised predominantly lower class families: 50% indicated they struggled to make ends meet and maintained numerous physical health problems: 53.1% reported at least one chronic disease, including heart disease, diabetes, high blood pressure, high blood cholesterol and etc. Of the three focal protective factors, only social support was significantly associated with lower levels of salivary inflammation markers. However, both exercise and religiosity demonstrated non-significant associations with inflammatory parameters that were in the predicted direction and may emerge as significant with additional participants. In addition, all three protective factors were significantly related to lower self-reported stress. Religiosity was most consistently associated with lower risk for health problems. Drawing on these protective strategies may be helpful for designing future interventions and policy for this and other vulnerable populations.

ASSOCIATIONS OF BIOBEHAVIORAL FACTORS AND SELF-RATED HEALTH IN BLACK MEN: NHANES 2009–2010

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Background: Self-rated health is a strong predictor of health outcomes including mortality in the general population. Men with low self-rated health, living with diabetes or psychological distress have an increased risk of mortality

compared to women. Few studies have examined the relationship between physical activity and self-rated health within older African American men. The purpose of this study was to assess the relationships of diabetes, depression, and physical activity with self-rated health.

Methods: Investigators used 2009–2010 National Health and Nutrition Examination Survey data and participants were African American men age 45 years or older. They completed survey measures of demographic and socioeconomic factors, physical activity engagement, mental and physical health, and perceived health status. Covariate-adjusted multiple linear regression was used to assess whether diabetes, depressive symptoms, and physical activity were independently associated with self-rated health.

Results: The mean age of the analytic sample of 270 African American men was 60.17 ± 9.36 years. Thirty percent ($n=81$) had poor or fair self-rated health and 27% had diabetes. Results revealed that fewer days of vigorous recreational activities, reporting high levels of depressive symptoms, and having diabetes were each individually associated with lower levels of self-rated health, $p's < .05$.

Conclusion: Findings from this investigation identified subsets of African American men who are at-risk for low levels of self-rated health. These results also suggest the potential importance of developing interventions that target diabetes and depression management as well as physical inactivity for this population in order to improve perceived health status.

SESSION 780 (POSTER)

CANCER AND AGING

A MULTI-MODAL INTERVENTION TO MANAGE PROSTATE CANCER SYMPTOMS

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There are nearly 3 million prostate cancer survivors in the U.S., with many reporting urinary incontinence UI and decreased quality of life QOL. While post treatment recommendation include referral for Pelvic Floor Muscle PFM rehabilitation including Kegel exercises, timed voiding and medications it does not appear that this recommendation is consistently being done and evaluated. (ACS, 2015). In this study 279 eligible participants who consented were randomized to 1) a biofeedback and peer support group, (2) biofeedback group and individual phone calls and 3) usual care which included printed instructions. Biofeedback included a 60 minute session on pelvic exercises. Support groups and telephone groups included 6 biweekly sessions led by either a psychologist or nurse using a problem-solving approach to address urinary symptoms. Measures included: a urinary diary to track frequency of urine leakage, the University of California Prostate Cancer QOL Index, a visual analogue scale to measure severity of UI and SF-36V2 to measure overall physical well-being. Mean age was 64.8 years, 63.6% were white, 25.5% were high school graduates, 64.9% were married, 30.5% employed, 67.6% had stage II cancer, 56.1% were treated with surgery, 50% with radiation

therapy. The biofeedback plus support and plus telephone groups reported less symptom severity ($p \leq 0.001$) and fewer incontinence problems ($p \leq 0.01$) than the usual care group at 6 months. Study findings show that PFM exercise practice plus peer and individual problem solving support can significantly improve urinary continence and quality of life in patients following prostate cancer treatment.

PREDICTORS OF ADJUSTMENT TO AGING AMONG OLDER WOMEN IN BREAST CANCER REMISSION

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Objectives: To build a structural model to explore the predictors of adjustment to aging (AtA) reported by older women in breast cancer remission.

Methods: 214 older women in breast cancer remission participated in this study. A questionnaire to determine socio-demographic (age, income, professional and marital status, education, household, living setting and self-reported spirituality), lifestyle and health-related characteristics (physical activity, leisure, perceived health, recent disease and medication), and measures to assess AtA, sense of coherence and subjective well-being, were employed. Structural equation modeling was used to explore a structural model of the self-reported AtA, encompassing all variables.

Results: Preliminary results indicated that self-reported spirituality ($\beta = .397$; $p < .001$), leisure ($\beta = .383$; $p < .001$), physical activity ($\beta = .267$; $p < .001$), perceived health ($\beta = .211$; $p < .001$), marital status ($\beta = .173$; $p < .001$), professional status ($\beta = .156$; $p = .009$), sense of coherence ($\beta = .138$; $p < .001$), and living setting ($\beta = .129$; $p = .007$), predicted AtA. The variables accounted for 79.2% of the variability of AtA.

Conclusion: Self-reported spirituality and leisure were the strongest predictors of AtA. Our preliminary findings suggest that health care interventions with older women in breast cancer remission still living in the community may benefit from clearly including predictors of AtA, as these are essential for promoting older women's aging well.

INCIDENCE OF AND RISK FACTORS FOR FALLS IN CANCER PATIENTS RECEIVING CHEMOTHERAPY

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Falls are complex in nature, causing physical injuries and emotional trauma. Certain medications, muscle weakness of lower extremity and sensory loss are reported as significant risk factors for falls in the elderly population. Frequently most of these risk factors can exist in cancer patients receiving chemotherapy. However, few studies have explored falls and fall risk factors in this population. In this secondary analysis of a longitudinal study, 85 patients with breast, ovarian, or lung cancer receiving chemotherapy at risk for falling were closely monitored using a novel automated telephone system (SymptomCare@Home). Fall events, defined as actual falls and near falls were ascertained during about three months of follow-ups. The mean of 1.05 falls ($SD=2.09$) with a 35.3% fall rate and a 16.7% injury rate were reported. Gender ($t(5)=1.31$, $p=.25$), ethnicity ($t(76)=-.08$, $p=.93$), and comorbidity ($t(69)=.86$, $p=.39$) were not associated with the

number of falls. Among fallers ($n=30$, 35.3%), about one-third had their shoes on, one-fourth fell in a dark area, and most fell onto a flat floor and inside the house. About 17% of patients had their medication regimens changed due to falls and fall related injuries. The main precipitating reason for the falls were faintness, the sudden loss of balance, and tripping, indicating falls were often unanticipated, leaving patients no time to avoid the fall. These findings suggested that the overall rate of falls in cancer patients is similar to that of the elderly population. However, due to the small sample size, risk factors for falls need further study.

DAILY FATIGUE AND COGNITION AMONG BREAST CANCER SURVIVORS

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According to the World Health Organization over the next 20 years new cases of cancer will increase by 70%. Because of increased cancer risk with age and improved survival rates, individuals over age 65 make up 2/3 of cancer survivors. Memory and attention difficulties (e.g., 'chemo-brain') and fatigue are common quality of life concerns for survivors but little is known regarding prevalence of these problems in daily life. Breast cancer survivors ($n=38$, age: 40–64), 6–36 months post-chemotherapy, were recruited from a cancer center in the United States. Neuropsychological tests were administered during a lab visit. Participants carried study smartphones for 14 days; five times daily the phones prompted them to complete brief surveys and to play brain games. Each night, participants reported on that day's memory problems. Survivors completed 91% of smartphone cognitive tasks and 92% of daily memory failure surveys. Multilevel models were conducted to determine if survivors report more daily fatigue on days when memory failures were reported. Results indicated that differences between people accounted for 69% of the variation in daily fatigue. Contrary to predictions, survivors did not report more fatigue on days when memory failures were reported. However, survivors who reported more memory failures across the two weeks also reported higher levels of daily fatigue. In sum, ecological cognitive assessments can inform which and when survivors are affected and which domains are impacted, essential information for developing interventions targeted to survivors most impacted by decreased quality of life and situations in which they are most at-risk.

MEANING-MAKING COPING STRATEGIES AMONG JAPANESE OLDER ADULTS WITH CANCER

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With the rapid expansion of aging population in Japan, the number of older adults with cancer has been increasing too. For example, a research conducted in 2008 shows that by the age of 70 years old, 20% of male and 16% of female are likely to be afflicted by cancer. And by the age of 80 years old, 39% of male and 26% of female are at risk. Besides

medical treatment, people with cancer tend to choose different methods to cope with their current situation. In recent years, some studies have drawn their attention on the role of religiosity and spirituality in coping strategies of disease. One significant problem is that many studies in this field have neglected non-religious populations.

This presentation will discuss the meaning-making coping strategies among older adults with cancer in Japan and what impact culture has on the coping methods they choose. The presentation will also draw attention on which meaning-making strategies are chosen by cancer patients in a non-religious country like Japan, and to discuss whether meaning-making coping methods can be used in the treatment of cancer.

PSYCHOSOCIAL FACTORS THAT INFLUENCE MOTIVATION TO SCREEN FOR CANCER AMONG ADULT BLACK MALES

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There are significant disparities in morbidity and mortality rates among minority populations in general and among Black males in particular. Cancer, for example, is the 2nd leading cause of death among Black males. Yet, there exists prevalence of imminent and aggressive stage of diagnosis among this gendered population. An individual's motivation to screen for cancer is influenced by knowledge of cancer prevalence and perceived likelihood of being diagnosed. While the relationships between health and masculinity, identity, and attachment have been reported, much less is known as to how these factors influence the decision to screen for cancer. This study aimed to determine the influence identified health and social factors have on cancer screening among Black men. Participants were surveyed on questions assessing cancer knowledge, belief about cancer diagnoses, masculinity, self-esteem, attachment style, ethnic identity, and additional social and health characteristics. Results from the multivariate model showed that education, ethnic identity, masculinity, and attachment were significant indicators of cancer screening. Cancer screenings among Black men are contingent upon a myriad of psychological, social, and behavioral factors that are not exclusive, but rather coexisting determinants of health. Focusing exclusively on Black men enhances our understanding of this adult population, and data from this study holds promise in informing health messages that may reduce deleterious health behaviors and outcomes among this marginalized population, by underscoring factors that may impact the health needs of diverse race and gendered populations.

DYADIC INTERDEPENDENCE ON DEPRESSION TRAJECTORIES AMONG OLDER ADULTS WITH CANCER AND CAREGIVERS

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This study explores dyadic interdependence on depression for older adults with cancer and their family caregivers.

Cancer takes an emotional toll on patients and their family caregivers. Family caregivers' distress levels are similar to patients with cancer. Based on actor-partner interdependence model and caregiver stress process model, integrated stress

process model was developed as a research framework. Depression as a stress outcome was measured by Korean version CES-D. Stressors for older adults include functional status, physical symptoms and side effects. Stressor for family caregivers is caregiving burden. Older adults' functional status, physical symptoms and side effects were measured by EORTC-QLQ-C30. Stress moderators include optimism, spirituality, and family support for both older adults and their family caregivers.

A total of 180 older adult with cancer and family caregiver dyads who participated in two wave surveys in 2013 and 2015 are used for this study. Paired t-test, repeated ANCOVA, AMOS, and Mplus were used to analyze the data.

The level of depression of older adults with cancer and their family caregivers was not significantly different between wave 1(T1) and wave 2(T2). However, the level of depression of older adults with cancer who were cared by their adult children were significantly higher than their spouses. And family caregivers' level of depression was influenced by the period of caregiving. When the period of caregiving was under sixteen months, the level of depression of family caregivers was significantly increased at Time 2.

Results showed significant actor effects for the depression of older adults with cancer and their family caregivers from Time 1 to Time 2, and also significant partner effects for the depression leading from older adults with cancer (Time 1) to their family caregivers (Time 2). Spirituality, optimism, and family support were significant mediating factors reducing actor and partner effects between older adults with cancer and their family caregivers.

Results revealed that spirituality of both older adults with cancer and their family caregivers was important variable on depression. Research on spiritual effects of cancer on patients and caregivers show that there are positive effects of cancer on patients and their caregivers. For the most part, findings indicate that cancer can be a transformational experience. Patients and family members reconsider their priorities and reflect on what is important in their lives. Patients and family caregivers who are able to find more meaning in the illness report better quality of life.

AGE-RELATED DIFFERENCES IN HEALTH-RELATED QUALITY OF LIFE IN CANCER SURVIVORS

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The purpose of this study is to examine age-related differences in health-related quality of life (HRQOL) between younger (age 18–65) and older cancer survivors (age 65+). Data used for this study were drawn from the 2014 Behavioral Risk Factor Surveillance System, a cross-sectional, state-based, annual random-digit-dialed telephone survey of non-institutionalized adults. All respondents who had completed the core questionnaire and cancer survivorship module were included (n=5,656).

Demographic data show that 60% of participants were females and 40% were males. Approximately 55% were married and 45% were separated, divorced, widowed, or never married. 49% reported having a high school degree or lower. T-tests indicate that older cancer survivors had poorer physical HRQOL than younger cancer survivors; however,

they were more likely to fare better mentally. Multiple regression results suggest that cancer survivors who exercised and were married had significantly better HRQOL. Survivors with greater co-morbidities and those who had not completed treatment reported worse HRQOL. Findings indicate that physical activity and social support could help improve survivors' HRQOL. Special attention should be paid to survivors who have co-existing conditions and those who have not completed treatment.

FLOURISHING DESPITE A CANCER DIAGNOSIS: FINDINGS FROM A NATIONALLY REPRESENTATIVE STUDY

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This study investigated the association between cancer and complete mental health (CMH). CMH has three elements: 1) absence of mental illness, addictions and suicidal thoughts in the past year; 2) almost daily happiness or life satisfaction in the past month; 3) psychosocial well-being. Control variables included socio-demographics, health behaviours, current physical health and lifetime history of mental illness and childhood maltreatment. The nationally representative 2012 Canadian Community Health Survey-Mental Health was analyzed. This study used bivariate and logistic regression analyses to estimate the odds ratios of CMH among community dwellers aged 50 and older with current cancer ($n=438$), previous cancer ($n=1,174$) and no cancer history ($n=9,279$). Our analyses suggested that adults aged 50 and over with current cancer had a much lower prevalence of CMH (66.1%) than those with previous cancer (77.5%) and those with no cancer history (76.8%). After adjusting for 17 variables, the odds of CMH among those with current cancer remained substantially lower ($OR=0.63$; 95% $CI=0.49-0.79$) than those without cancer. Among those who had ever had cancer, the odds of CMH were higher for female, White, married, and older respondents, as well as those with higher socioeconomic status, and no history of childhood physical abuse, substance abuse, depression or anxiety disorder. These findings have a hopeful message for patients and clinicians. Two-thirds of current cancer patients have CMH. Former cancer patients are comparable to those without a cancer history, suggesting substantial resilience.

DECISIONAL CONFLICT AND PROSTATE CANCER SCREENING DECISIONS AMONG RURAL AFRICAN AMERICAN MEN

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African American (AA) men have prostate cancer death rates (47.2) that are 137% higher than non-Hispanic whites (19.9). These numbers provide clear evidence that a significant prostate cancer disparity exists among AA men in the United States. Our study interviewed a sample of 33 AA men ($Age = 54.61$, $SD = 8.30$, $range = 40-71$) from three southern, rural counties about their prostate cancer screening decisions and the conflict experienced in these decisions. Men were interviewed three times over the course of twelve

months (baseline, 6 mo, 12 mo). In addition to an overall score, the Decisional Conflict Scale (DCS) consists of 4 subscales: Informed (to assess how much is known), Values (to assess personal preferences), Support (to assess resources available), and Uncertainty (to assess clarity of choice). High numbers indicate greater conflict and low numbers indicate greater ease in making decisions. Men's report of overall decisional conflict decreased across 12 months, $F(2, 42)=8.983$, $p<.005$, with a significant difference between baseline ($M = 40.23$) and 12-months ($M = 20.91$). Moreover, this predicted how likely men were to report a desire to engage in preventive prostate cancer screening, $t(29) = 2.68$, $p = .013$. Specifically, greater perceived levels of support and stronger values predict greater intention to engage in prostate cancer screening across the course of one year. Rural AA men benefit from having social support, such as the presence of health care advocates (e.g., wives, mothers, siblings) to reduce decisional conflict and facilitate engagement in prostate cancer screening.

RELATIONSHIPS OF OLDER AFRICAN AMERICAN WOMEN AND FAMILY CAREGIVERS IN THE BREAST CANCER EXPERIENCE

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Within all human relationships, major life events, including diagnosis of a life-threatening illness, such as cancer, will be experienced differently by each member. African American women and family members in 'cancer dyads' may struggle with adjustment in new roles as "patient" and "caregiver" and also have multiple concerns about well-being as the combination of age and ethnicity puts older African American women at high risk for poor cancer outcomes. In this study, experiences with breast cancer diagnosis and treatment decision experiences within the context of relationships between older African American women and close family members/caregivers were explored.

Utilizing a qualitative phenomenological approach, in-depth, semi-structured, individual interviews were conducted with 15 older African American women (ages 46-67) who were diagnosed with and received treatment for breast cancer and one family member (husbands, daughters, sisters, and others) with whom they most closely shared the 'cancer experience'. Data were analyzed using dyadic analysis to identify meaning units and themes that both overlapped and contrasted; highlighting the relationship as affected by a common yet unique experience (Eisikovits & Koren, 2010). Overlapping themes included: fears/emotional reactions; family concerns; protection; and support. Contrasts included: trust/confidence in decisions; discovery and meaning of diagnosis; and future care.

Older women and family caregivers may have difficulty understanding each other's changing needs and that their relationship is affected differentially when confronted with life-altering serious illness. The mutual protection and support beliefs/behaviors developed within relationships during the cancer experience may be utilized to facilitate future medical decisions or health crises.

ETHNIC DISPARITIES IN CANCER INCIDENCE AND SURVIVAL AMONG THE OLDEST OLD IN THE UNITED STATES

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Two of the fastest growing segments of the U.S. population are the oldest old, people aged ≥ 85 years, and Hispanics. Currently, no studies have examined ethnic disparities in cancer incidence and survival in the ≥ 85 population. This study sought to examine potential ethnic disparities in cancer incidence and survival rates among the oldest old using data from the SEER Program. Cases diagnosed with one of the leading four cancer sites (lung and bronchus, colon and rectum, female breast, prostate) were reported to one of 18 SEER registries. Differences in cancer incidence were examined for cases aged ≥ 85 years and diagnosed 1992–2013. Five-year relative cancer survival probability was examined for Hispanic and non-Hispanic adults aged ≥ 85 years diagnosed 2006–2012. Results indicated that from 1992–2013, among those aged ≥ 85 years, non-Hispanics had higher incidence compared to Hispanics for colon and rectum, lung and bronchus, female breast, and prostate cancers. Five-year survival probability for cancers of all stages combined was higher for non-Hispanics than Hispanics in this age group. However, Hispanics had higher survival probability of colorectal cancer diagnosed at regional (67.2% vs. 60.5%) and distant (5.4% vs. 3.8%) stages than non-Hispanics, respectively. Hispanics also had higher survival probability of lung and bronchus cancer diagnosed at regional (15.9% vs. 12.7%) and distant (2.8% vs. 2.2%) stages than non-Hispanics, respectively. In summary, ethnic differences in cancer incidence and survival probability exist within the ≥ 85 population. Continued efforts are needed to understand and reduce ethnic disparities in cancer prevention and treatment among this population.

A MIXED METHODS APPROACH TO EXAMINING POSTTRAUMATIC GROWTH IN OLDER CANCER SURVIVORS

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A wealth of research has been conducted on cancer survivorship and posttraumatic growth (PTG; defined as positive change following the struggle associated with a trauma), but little research has investigated PTG in older samples. This lack of scholarship is surprising, considering cancer diagnoses are especially prevalent in older adults. To address this gap in our knowledgebase, a population-based random sample of older cancer survivors ($N = 56$) was recruited through the Kentucky Cancer Registry. Participants mailed in questionnaires that included several validated surveys, including the Posttraumatic Growth Inventory (PTGI). Overall, participants reported high levels of posttraumatic growth (PTG $Mean = 54.85$; $SD = 28.31$), which was positively associated with personal significance of the cancer diagnosis ($p = .04$). Normed PTGI Subscale scores were nuanced such that participants felt more appreciation of life, but a decreased sense of having new possibilities. Even among older adults, there

were age trends such that “older” older adults reported less PTG than “younger” older adults ($p = .002$), and were less personally impacted by a cancer diagnosis ($p < .001$). Qualitatively, a reliance on faith and a sense of acceptance emerged as themes, consistent with previous literature identifying a shift in perspective with age that allows for embracing changes in health status. It is feasible that older adults are better able to accept traumatic illnesses as a natural part of the life course, as has been seen in other studies on late-life illness.

SESSION 785 (POSTER)

CAREGIVING II

INFORMAL CAREGIVER BURDENS AND THE SUBSEQUENT COGNITIVE STATUS OF THE CARE RECIPIENT

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Studying factors influencing caregiver burden implies that, in addition to the caregivers' quality of life, such burden may influence the health trajectory of care recipients. Five domains of caregiver burden are analyzed in relation to care recipients' change in cognitive status one year later using National Health and Aging Trends Study and linked National Study on Caregiving data. A sample of 703 care recipients whose baseline cognitive status is not probable dementia, and their primary informal caregivers, are included. Caregiver burden dimensions of social limitation, role overload, and psychological distress are associated with care recipients' transition to probable dementia, while positive mood and financial burden are not, in separate regression models with controls for care recipients' sex, age, race/ethnicity, marital status, education, self-rated health, and “possible dementia” status. When all five domains are included in the same model, social limitation is the sole net predictor of cognitive status change. Determinants of caregiver burden are examined as well. Simultaneous regression of all five burden measures on care recipient and caregiver characteristics reveals several factors. Notable predictors of specific caregiver burdens are recipients' relationship to the caregiver, their health, and caregivers' employment status, marital status, and gender. Caregiver commitment to a set schedule of caregiving is associated with social limitation, role overload, and psychological distress. Distress is greater among sons who are primary caregivers, compared with those who are the care recipients' spouse, while being married (but not the recipients' spouse), is protective. Additional findings will be reported, and their implications discussed.

PARTICIPATORY ARTS IN THE HOME TO SUPPORT WELLNESS IN DEMENTIA CAREGIVER AND CARE RECIPIENT DYADS

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There is growing evidence that participatory art has a positive role in promoting the health and wellness of older people with a range of conditions, including people with dementia and caregivers. This pilot project trialled an eight week, two hours per week, participatory arts program (e.g. visual arts including mixed media, painting and clay) delivered in participants' homes by one of four professional artists ($n = 6$ caregiver and care recipient dyads). The evaluation employed mixed methods.

Caregiver interviews found that caregivers were overwhelmingly surprised by their own creative output and that of their care recipient. They indicated the program provided time away from the caring role, describing feeling 'relaxed' and 'less stressed'. The artists' visits provided an opportunity for caregivers to learn new skills, enjoy much-appreciated social interaction and reduce 'monotony'. Several caregivers learned novel ways of engaging with their care recipient from artist-care recipient interactions. Some dyads were able to use their creative output for inter-generational family engagement; and five dyads expressed an interest in pursuing art in some form post-program. Improvement in scores on the Warwick-Edinburgh Mental Well-being Scale and the Zarit Burden Interview were also found for some carers.

This pilot suggests that participatory arts delivered by professional artists in the home can equip family caregivers with new skills in shared creative activities that bring joy and emotional interaction and may counteract agitation and stasis. The model of program delivery can be readily scaled up and tested in a larger study.

"IF I GOTTA DO IT": EXAMINING COUPLES' CAREGIVING TRAJECTORIES FOLLOWING SPINAL CORD INJURY

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Sustaining a Spinal Cord Injury at any point in time is life altering – physically, emotionally, and financially – for all persons affected by the injury, but it can place unique challenges on younger married couples. This presentation uses data from individual interviews with 18 couples (ages 21–55) at three time points (96 interviews) following injury, as well as extensive observation in the rehabilitation setting. Using a combination of the life course perspective and cognitive sociology as guiding theoretical frameworks and grounded theory analysis, we examined how the health care institution influenced marital relationships during their rehabilitation stay and the subsequent transition home. We found staff and couples accepted and reinforced the dominant cultural narrative that women are natural caregivers, but larger social structures of class, gender, and the division of paid and unpaid labor work together to push some women into caregiving or prevent other women from engaging in caregiving. In contrast, male caregivers were excused from the expectations of caregiving and actively resisted taking on the caregiving role. Expanding on Aneshensel et al.'s (1995) caregiving career, we identified three main types of caregivers, each with their own path of caregiving – Naturalized, Constrained, and Resistant. Overall, the transition to injury is complex for patients and partners and this presentation highlights how the marital relationship is affected by a non-normative, unexpected transition. This research extends the

understanding of caregiving careers by emphasizing how gendered expectations are further modified by the rehabilitation context and additional structural factors such as work and family.

DOES CAREGIVING INFLUENCE MARITAL AND COHABITING UNION STABILITY IN MIDDLE AND LATER LIFE?

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Family and other informal caregivers provide the vast majority of long-term care to older adults as well as others with chronic illnesses and disabilities. Although they report some positive aspects of caregiving, in general, research suggests that caregiving is stressful and has negative implications for the health and well-being of caregivers. Yet, little is known regarding its impact on related outcomes such as union stability in middle and later life. To address this gap, we drew on retrospective data on union histories drawn from the 2007 Canadian General Social Survey for a national sample of adults aged 45 and older who were in a marital union or a cohabiting union a union at age 45 ($n=17,194$). Cox proportional hazard models revealed that being involved in caregiving activities was associated with a reduced likelihood of separation or divorce in middle and later life, particularly when the respondent was a primary caregiver and the care recipient was a current or former spouse/partner. However, this was primarily the case for men and those in marital unions. For women as well as those in cohabiting unions, caregiving activities (i.e., having been a caregiver before the age of 45, serving as a primary caregiver, and not receiving professional assistance) enhanced the risk of subsequent union dissolution. These findings suggest that caregiving both contributes to and undermines union stability. This, in turn, has important implications for theory, research, and the provision of support to informal caregivers.

DO FAMILY MEMBERS' MOST IMPORTANT CONCERNS ABOUT CAREGIVING VARY ACROSS THE CAREGIVING CAREER?

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Caregiver identity theory posits that family caregivers' relationship identity changes across the caregiving career. Family caregivers' initial relationship identity is one based on a familial dimension. As caregiving unfolds, however, their evolving roles help shape a new relationship identity involving the caregiver role. This study investigated whether family members' most important concerns about caregiving vary across the caregiving career and by kinship status. Participants included 10 adult-child and 18 spousal/partner caregivers to the persons with dementia. Participants identified their caregiving concerns prior to engaging in an enhanced dementia education and training program. Thematic analyses of their concerns yielded the following themes from most to least frequent: positive approaches to care, health status, vigilance, addressing dementia-related changes, safety, happiness of person with dementia, caregiver stress, and time for self and

others. Differences were found by relationship identity and by kinship status. With regard to positive approaches to care, adult-children viewed themselves primarily in terms of the familial role whereas spouses/partners viewed themselves primarily as caregivers. The same pattern was observed for health status. However, adult-children's health concerns focused on their relative with dementia's health whereas spouses/partners were concerned about their own health. Caregiver stress and addressing dementia-related changes were major concerns for spouses/partners whose relationship identity consisted primarily of the caregiver role. Happiness of the person with dementia, vigilance, and time for self and others did not vary across the caregiving career or by kinship. Findings reveal the differential needs of spouses/partners versus adult-children across the caregiving career.

A MULTI-COMPONENT CAREGIVER TRAINING PROGRAM FOR MANAGING BEHAVIORAL SYMPTOMS OF DEMENTIA

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Behavioral symptoms, including agitation, aggression, vocalization, and care refusal, are nearly universal among individuals with dementia. Despite the availability of effective psychosocial approaches for managing these behavioral symptoms, these approaches remain widely under-utilized among professional, and especially family, caregivers, due in large part to limited training in these approaches. This paper will examine the development, core components, and outcomes of an evidence-informed, competency-based training program in the prevention and management of behavioral symptoms of dementia among aging services providers and family caregivers within a system of home-based care and support. The Vital Outcomes Inspired by Caregiver Engagement (VOICE) Dementia Care Training Program was developed based on identification of state-of-the-art approaches to managing behaviors through expert review of the literature and structured needs assessment. Results from mixed-method evaluation design reveal significant improvements in knowledge, attitudes, and self-efficacy among training participants, with largest effect sizes ($d=1.8$) on domains of knowledge and self-efficacy to manage behaviors. In addition, the training of aging services staff and family caregivers led to significant increases in engagement, self-care, and personal development among many participants. Findings underscore the need and opportunity for training in improving the abilities and confidence of aging services providers and family caregivers in the nonpharmacological management of behavioral symptoms of dementia.

THE PARADOXICAL IMPACT OF COMPANIONSHIP ON THE BIOPSYCHOSOCIAL HEALTH OF OLDER AFRICAN AMERICAN MEN

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Background: African Americans comprise 9% of the approximately 46 million U.S. adults age 65 and older. Two thirds of older African American (AA) men reside with spouses, relatives or other companions. This study investigated the assumption that living with or having frequent contact with companions most often confers health-related benefits for African American men. **Methods:** Utilizing a secondary data analysis of the National Alzheimer's Coordinating Center Uniform Data Set, this investigation examined the relationship between older African American men's physical health outcomes (diabetes, hypertension, cholesterol), mental health outcomes (depression, anxiety, sleep disturbances) and caregiver characteristics, including living arrangements and frequency of contact with the participants for 3,423 older AA men and their 1,161 companions at baseline. **Findings:** The mean age of both participants and companions was 74 years old and 90% of participants lived in a private residence. Logistic regression models indicated that the likelihood of high cholesterol was significant for participants when companions lived with participants (OR=1.38), called daily (OR=1.057) or visited daily (OR=1.059). Similar increased risk for anxiety was found when companions lived with (OR=1.66), called daily (OR=1.089), or visited daily (OR=1.079) with participants. Finally, participants experienced an increased likelihood of non-medical sleep disturbances when companions lived in (OR=1.67), called daily (1.105), or visited daily (1.078). All p-values were below .01. **Conclusions:** The frequency of contact with companions may be consequential for select health outcomes for older African American men, though the timing of contact (i.e. before any diagnosed illness or in response to it) requires further investigation.

INVESTIGATING THE RISK AND FUTURE NEEDS OF OLDER CARERS IN IRELAND AND ENGLAND: TILDA AND ELSA

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Participation in leisure activities and supportive social ties have been associated with improved physical and mental health. These health effects work through a number of pathways, both behavioural and psychological, which can result in better health behaviours, and buffering of the harmful effects of stress. We investigate and compare the prevalence of informal caring by the older population in Ireland and England and investigate predictors of, and health outcomes associated with informal caring and determine whether these are moderated by social participation and support.

We examined measures of physical function (self-rated and objective (hand-grip strength)), mental health (CES-D, CASP-12), economic and social participation, associated with provision of informal care using multivariate models in the Irish Longitudinal Study on Ageing (TILDA) (wave 3, 2014), and the English Longitudinal Study on Ageing (ELSA) (wave 6, 2012–2013).

Provision of informal care was common and was associated with similar characteristics (younger age, female, more education, not employed). There were similar health outcomes for both countries. While there was no evidence of a difference in physical function, mental health differed:

quality of life increased with low intensity caring hours (<20), while depression increased with high intensity caregiving (50+ hours/week). These associations were attenuated by active social activities and positive social relationships.

Across two separate social care systems, the older population contribute substantially to the support and informal care of their family and friends. Overall, informal caring was associated with positive health outcomes, but this depended on accessibility to both social supports and formal care provision.

AUSTRALIAN LIVES ALTERED BY PARKINSON'S DISEASE: WORK, RETIREMENT, AND CARE

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People diagnosed with Parkinson's disease cannot be certain about when and in what way their motor and non-motor symptoms will progress through time and how efficacious their medication in managing symptoms will be on any given day. In this context people experience fluctuations in both disease and iatrogenic symptoms and, depending on the stage of illness, a person's body may be abled and disabled frequently with varying symptoms throughout the day. Changes in body function, age and stage of disease influence the type of care the person diagnosed will need in everyday life.

An Australian qualitative study has examined narratives from eighteen people living with Parkinson's disease (age >55; $n=9$ people diagnosed; $n=9$ partner-carers) who described how their lives have been changed by the onset of this chronic illness. The study is also informed by data collected from six focus groups ($n=31$). Participants identified a range of responses that clustered around the impact on them physically, emotionally, socially, and financially.

Findings show that people diagnosed and their partner-carer have to reconsider their life goals both individually and as a couple. A diagnosis often comes in the late stages of their career which can influence the transition to, and planning for retirement and, for the partner-carer, require them to manage paid work and spousal care.

This empirical study evidences and describes how people living with Parkinson's disease have very specific care needs, which influence their ability to remain in paid employment and capacity to remain financially independent.

MECHANISMS OF CHANGE IN A CAREPARTNER MOBILE HEALTH INTERVENTION FOR VETERANS WITH HEART FAILURE

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Heart failure (HF) interventions have recognized that involving an informal caregiver in disease management can enhance outcomes. While patient-focused interventions appear to improve self-efficacy, the mechanisms that underlie dyadic interventions remain largely unexplored. We used data from a recently completed comparative effectiveness

trial which examined whether involving a non-cohabitating caregiver (CarePartner) in a mobile health (mHealth) intervention benefited HF outcomes more than mHealth alone did. The mHealth intervention involved weekly interactive voice response (IVR) phone calls to monitor symptoms. In the mHealth+CarePartner arm, participants' CarePartners received a summary of the participant's IVR responses. Results of the trial indicated that medication adherence improved significantly more in the mHealth+CarePartner condition. For this secondary analysis, we used serial mediation models to evaluate indirect pathways that might explain this effect. Specifically, we tested whether improvements in patient-reported relationship quality and self-efficacy mediated the effect of intervention upon medication adherence. Relationship quality was measured by frequency of talking with the CarePartner, perceived difficulty of talking with the CarePartner, and negative emotions associated with talking to the CarePartner. Indirect effects were estimated using bias-corrected bootstrapping with 95%CI, which showed a negative association between the intervention arm and self-efficacy. Paired t-tests showed that the mHealth arm was associated with improvements in self-efficacy ($t=-4.27$, $p<.01$) while the mHealth+CarePartner arm demonstrated no change ($t=-1.59$, $p=0.12$). Findings suggest that constructs that explain the success of patient-focused self-management strategies, such as self-efficacy, are unlikely to sufficiently explain the success of dyadic interventions in HF.

CARE PREFERENCES IN DEMENTIA: THE IMPACT OF INCONGRUENCE ON PERSONS WITH DEMENTIA AND CARE PARTNERS

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The psychosocial impact of care preference incongruence on persons with dementia and their family caregiver remains unexplored in the literature. In-depth interviews were conducted with 128 dyads each consisting of a person with dementia and a family caregiver. Baseline data from an intervention study were used to examine incongruence between the preferences of the caregiver and the person with dementia (actual incongruence) as well as the caregiver's own preferences and the caregiver's perception of the person with dementia's preferences (perceived incongruence). Preferences for three care-related domains were recorded: personal activities of daily living (PADLs), instrumental activities of daily living (IADLs), and socioemotional tasks. Outcomes included dyadic relationship strain, quality of life, and mood for both the caregiver and person with dementia. Results indicated that perceived incongruence of care preferences was a better predictor of negative psychosocial outcomes than actual incongruence. Actual incongruence for socioemotional care preferences was a predictor of greater relationship strain and worse mood for the person with dementia, while perceived incongruence for socioemotional care preferences was related to lower quality of life and worse mood for the caregiver. Unexpectedly, perceived incongruence for PADLs predicted higher quality of life and better mood for the caregiver. Findings have implications for communication between care partners, especially regarding

socioemotional care preferences. These socioemotional preferences, which might be overlooked in the creation of a care plan, may influence the person with dementia's well-being.

INSTRUMENTAL AND EMOTIONAL EFFECTS OF CARE RECIPIENTS' COMPANION ANIMALS ON CAREGIVING

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This study examined the impact of older adults' companion animals on informal caregivers' instrumental and emotional experiences. Older adults report strong emotional bonds with their companion animals (CA) which often become increasingly important as health declines and dependence upon others increases. Individuals requiring assistance meeting their own needs are likely to need assistance in meeting the needs of their CA. The care recipient's companion animal may be an important, though presently overlooked, factor in the caregiving experience.

This study measured the amount of care tasks/activities informal caregivers of older adults devoted to their care recipients' CAs. Role theory was used to model the impact of the CA (i.e., number of tasks/activities performed and caregivers' perceived costs of the CA) on the caregiving experiences of burden, satisfaction, and mastery. Caregivers for an individual ages 50+ who did not consider the care recipient's CA to be his/her own animal completed an online questionnaire. Descriptive statistics and path analyses were conducted in Stata. Preliminary results ($N = 42$) indicated caregivers performed an average of 14.96 pet care tasks/activities ($n = 27$, $SD = 5.38$, range: 5–22), increasing time in the caregiver role by 27.19% hours per week. The number of tasks/activities did not have direct effects on caregiver outcomes. The perceived costs of the CAs were positively associated with caregiver burden ($\beta = 0.31$, $p = .01$) and negatively associated with caregiving mastery ($\beta = -0.39$, $p < .01$). Care recipients' CAs may significantly impact both the instrumental and emotional experiences of caregivers.

HOW PHYSICAL HEALTH CONCERNS AFFECT OLDER ADULTS' ABILITY TO CARE FOR THEIR PET

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Research attests to the numerous physical, mental and social health benefits for those individuals who care for a pet. Older adults are a growing population, but care for the smallest percentage of pets cared for in the United States. The primary goal of this study was to identify and explore major variables as related to an older adult's present physical health that currently affects their ability to care for their pet. The study explored whether health constraints were present in the older adult, and if so, if the older adult viewed them as inhibiting their ease or ability to care for their pet.

Participants were aged 60+ and had to currently care for a pet. Nineteen qualitative, in-depth face to face interviews took place lasting approximately 90 minutes and included a physical and social health assessment and demographic information. An interview guide facilitated questions targeting physical and social health.

Approximately 15 of the 19 older adults interviewed, four men and fifteen women, reported some form of physical

health concerns; i.e. arthritis, balance concerns, immobility, muscle atrophy, allergies etc. though not all reported these physical health concerns as affecting their ability to care for their pet. Concerns involved inability to pick up their dog, large or small, difficulties with lifting and carrying 20 pounds of litter, inability to walk their dog, allergies to the pet and struggling to carry a cat or small dog in a carrying crate. Strategies to overcome limitations were developed through behavioral change and/or social support.

CAREGIVERS IN CALIFORNIA: ARE THEY DIFFERENT FROM THE NATIONAL CAREGIVERS?

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Purpose: To determine the prevalence of caregiving and characterize the California caregivers (CGs).

Background: National reports on caregiving in the USA revealed that 18% are CGs. Half of CGs provides care to their parents. CGs spent 24 hours/week providing care and most provided medical/ nursing care without training. CGs who provided higher hours of care may report their health as fair/poor and consider caregiving as highly stressful.

Methods: We analyzed data related to demographics, access to care, insurance, self-perceived health status, chronic conditions and provision of care from the 2009 California Health Interview Survey (CHIS).

Results: Of 11,321 CGs, 51% were currently CGs, 45% were ≥ 50 years, 57% were female, 55% were white, 52% were married. Most of CGs were US-born (76%) and live at $\geq 300\%$ federal poverty level (54%). Most of the CGs were insured (81%), 19% reported fair/poor health status, 60% were overweight/obese, 75% used alcohol, and had hypertension (28%), and heart failure (22%). CGs tended not to attend the Medi-Cal training for long term CGs (3%).

Conclusions: The percentage of the California's CGs was higher than the national level of CGs, lower in current CGs, and similar in reporting fair/poor health status. California CGs were high income earners relative to the national level. CGs utilized negative coping behaviors to manage the burdens of caregiving. These results provide evidence of the negative impact of caregiving on CGs' health outcomes in CA. Efforts must be intensified to provide consistent support for CGs to help mitigate long-term fatalistic outcomes for CGs.

SESSION 790 (POSTER)

CHRONIC CONDITIONS AND DISEASES

RACIAL-ETHNIC DIFFERENCES IN MULTIMORBIDITY COMBINATIONS OVER TIME

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Background: Multimorbidity, defined as having multiple chronic conditions, is common and disabling. Comparatively little research on multimorbidity has focused on how disease combinations progress over time and whether this differs by race/ethnicity.

Methods: We analyzed up to 16 years of follow-up for 7,116 participants who start at age 51–60 in the Health and Retirement Study (HRS). Participants reported having ≥ 2 of the following chronic conditions: hypertension, heart disease, lung disease, diabetes, cancer, arthritis, stroke, cognitive impairment, or high depressive symptom burden (CESD score ≥ 4). We identify the most common disease combinations that characterize white, black, and Latino adults from middle-age forward (i.e., when they become study age-eligible until death or dropout).

Results: The racial/ethnic composition of our sample was 56% (non-Latino) white, 26% (non-Latino) black, and 14% Latino. We find that white, black, and Latino middle-aged adults start with relatively similar prevalent multimorbidity combinations: (1) hypertension + arthritis and (2) hypertension + diabetes are the most prevalent combinations across all three race/ethnic groups. However, after 2–4 years of follow-up, race/ethnic patterns of prevalent multimorbidity combinations emerge. Black and Latino adults are characterized by prevalent combinations that include cognitive impairment earlier in the lifecourse relative to white adults.

Conclusions: These findings have implications for clinicians and researchers who seek to identify how multimorbidity combinations evolve differently for middle-aged and older adults from white and underrepresented race/ethnic backgrounds. It will be important to further disentangle the competing challenges of greater morbidity and increased risk of mortality over time in future studies.

HEALTH DISPARITIES: ARE THEY REGIONAL? A DESCRIPTIVE ANALYSIS OF OLDER ADULTS IN THE UNITED STATES

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Unequal access to social, financial and educational services cause differences in the mental and physical health of older adults. This study investigated health disparities of older adults in the United States using the 2014 Behavioral Risk Factor Surveillance System published by the CDC. Respondents selected were 65 years and older, and analyzed variables included: general health status, BMI, physical and mental health status, exercise, history of depression and cognition. When compared with other regions, the southern U.S. had the highest percentage of individuals endorsing poor perceptions of health (23.5%), a lifetime prevalence of depression (20.2%) and trouble with cognition (13.2%). Of those who reported a lower quality of health in last month, individuals from the South indicated the highest average of days of poor physical and mental health (13.1 and 12.1, respectively). With respect to health behaviors, this same region demonstrated the lowest percentage of individuals participating in physical activities (71.2%). Obesity was found to be highest in the Midwest (31.6%) and South (31.4%). Difference in health indicators between U.S. regions are interpreted using the social determinants perspective and fundamental cause of health inequalities. According to the 2014 U.S. Census, the southern region has the highest percentage of older adults living below the poverty line, as well as the lowest household annual income and education rate. Differences in social capital and unavailable resources shape

older adults' health behaviors by determining their lifestyle choices, and ultimately influence their physical and mental health.

ENTERING OLDER AGE AS LONG-TERM SURVIVORS OF END-STAGE RENAL DISEASE: LESSONS FROM EXPERIENCE

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The global prevalence of chronic kidney disease is growing and older adults are over-represented among dialysis recipients. Increasing incidence of End Stage Renal Disease (ESRD) at all ages has corresponded to the rapid growth in the leading causes of diabetes and hypertension. Long-term ESRD with dialysis treatment may accelerate biological aging and result in premature vascular disease, impaired cognitive functioning and frailty (Kooman, van der Sande, & Leunissen, 2016), thus compromising quality of life. In a qualitative phenomenological study, in-depth, face-to-face interviews were conducted with ten individuals (6 male; 4 female; ages 42–68) diagnosed with and managing treatment for ESRD for twenty years or longer (currently receiving in-center hemodialysis). The number of years since ESRD diagnosis ranged from 20–45 years. A semi-structured interview guide was constructed to explore factors that facilitate and challenge long-term survival with ESRD. The primary themes that emerged from the data were Reactions to Initial Diagnosis (discovery/reactions), Treatment Experiences, Quality of Life, and Vision for the Future. Most participants realized, through trial and error, that consequences were severe for not adhering to the prescribed treatment regimens and shared ongoing struggles with treatment adherence. They attributed their current success to desire to 'find' a good quality of life, family, friends, faith in God and hope for the future. The results of this study indicated that holistic interventions are needed to facilitate adherence, self-efficacy and social support in order to live longer and healthier well into old age.

SOCIAL CONTROL, SELF-EFFICACY, AND PSYCHOLOGICAL FUNCTIONING IN OLDER PATIENTS WITH TYPE 2 DIABETES

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Diabetes mellitus is one of the most prevalent chronic diseases globally. If not managed well, it would cause a variety of severe complications that would adversely affect patients' functioning. Research shows that family's involvement is beneficial to patients' adjustment only when there is a healthy interaction between family members and patients. This cross-sectional study examined the role of persuasion-based and pressure-based social control received from family members in diabetes management and whether patients' self-efficacy moderated the relationship between persuasion/pressure and patients' psychological functioning. Participants were 96 men and 103 women with type 2 diabetes mellitus in Singapore, with a mean age of 63.3 years. Results show that persuasion was positively related to self-care adherence. In addition, significant interaction effects were found. Patients with lower self-efficacy benefited from persuasion, but were

adversely affected by pressure. In contrast, patients with higher self-efficacy were adversely affected by persuasion, but were less negatively affected by pressure. In conclusion, findings highlight the importance of reducing pressure-based social control, considering patients' self-efficacy when family members seek to influence patients' self-care behaviors, and targeting patient-family interaction in future interventions with an ultimate goal of promoting patients' better adjustment to diabetes.

AGING WITH DIABETES AND DIABETIC FOOT: ASSOCIATION BETWEEN ADHERENCE TO TREATMENT AND COGNITION

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Diabetes and aging are independent risk factors for cognitive decline. Self-care is a cornerstone in diabetes management and prevention of complications, including cognitive decline. The presence of ulcers (diabetic foot, DF), represents an increase in self-care burden and in cognitive demands needed for adherence to self-care recommendations (ASC). We examined the association between ASC and cognitive functions in people with diabetes with (GD) and without DF. This case control study included 99 individuals with DF [58y±6.9, diabetes duration (DD) 15.1±7.8, HbA1c 8.8±2.1, 76% males]; and 95 controls [(61y±7, DD 13.4±8.5, HbA1c 7.4±1.3, 76% males)]. Groups were matched for DD and gender. ASC was determined using The Summary of Diabetes Self-Care Activities questionnaire; Cognitive function was assessed by Neurotrax computerized battery, Digit symbol and Verbal fluency tests. Association between adherence (high/low) and group (GD/DF) on cognitive functions was assessed by a series of ANOVA's. Adherence to nutrition was found to be positively associated with memory (101.5±11.2 vs 93.5±14.4**), phonemic fluency (96±21.1 vs 86.3±19.9*), semantic fluency (99.5±19.9 vs 90.7±15.6*), psychomotor abilities (94.7±13.7 vs 85.2±18.9***). A highly significant group effect was found, as DF scored significantly lower than GD in all tested cognitive domains (p<0.0001). No interaction effect was found between group and adherence levels on cognition. Cognition was not associated with adherence to physical activity, blood checks or medication. The results demonstrate the importance of adherence to diet for preserving cognitive functioning in people with diabetes, with and without DF, an issue of special relevance in older age.

NURSING INTERVENTION FOR ELDERLY HIGH-RISK PATIENTS WITH DIABETIC FOOT ULCERATION

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Foot ulcerations is one of the most severe complications of older patients with diabetes. The incidence rate is as high as 62% and up to 10 % of those patients have an amputation within three years. Patient education comprising instruction on foot care and self-monitoring has been suggested as pivotal part of treatment.

An RCT evaluating the effectiveness of a nurse-led intervention for patients with existing diabetic foot ulceration

and/or amputation was conducted. In addition to dressing and wound inspection (usual care), the patients in the intervention group received eight individualized, face-to-face counselling sessions at patients' homes over five weeks and two telephone follow-ups.

From 254 identified high risk patients, 118 could be enrolled (age M=64.2/±11.5 years). During the 12 months follow-up, overall hospital or ER admission was significantly lower in the IG compared to the CG (40.0% vs. 62.5%, RR=0.67, p=.029). Hospital/ER admission specific due to foot ulceration was lower (18% vs 31.3%, ns), but not statistically significant, as were new wounds (42.6% vs. 56.1%, n.s.).

Survival time in overall hospital admission was significantly longer in the IG compared to the CG (M=280 days/CI: 240, 321 vs. M=206 days/CI: 164, 249, p=.021).

Although the study did not show significant effects on wounds or hospital admission specific due to foot ulceration, the nurse-led intervention showed preventive effects in this high risk population of older patients with diabetes. Therefore, further full-powered research investigating patient-directed, and more individually tailored interventions should be conducted in this high risk patients.

EFFECTS OF SYNERGISTIC DEPRESSIVE SYMPTOMS AND DIABETES ON MOBILITY IN OLDER MEXICAN AMERICAN ADULTS

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Current literature suggests that diabetes and depressive symptoms are independently associated with mobility, and that mobility in turn may predict disability and mortality. This study aimed to investigate the synergistic effect of depressive symptoms and diabetes on mobility as measured by performance oriented mobility assessment (POMA) scores over a 9-year period in older Mexican Americans. A secondary objective was to examine whether mobility scores over time were associated with increased risk of functional disability and mortality. We used data from 1,458 participants of the Hispanic Established Population for the Epidemiological Study of the Elderly (H-EPESE) survey, for adults 75 years and older for the years 2004–2013. Generalized linear mixed models were used to examine the effects of synergistic depressive symptoms and diabetes on mobility over the study period, after which we examined the effect of mobility over time on disability and mortality. Our findings suggested that diabetes and depressive symptoms were significantly and independently associated with mobility over time. Synergistic depressive symptoms and diabetes however were not significantly associated with mobility. The change of POMA scores over time when compared to the baseline (2004–2005) scores was strongly associated with functional disability (p<0.01) and mortality (p<0.01). Further, synergistic depressive symptoms and diabetes showed a significant association with functional disability (p<0.01), but not mortality in our models. While our preliminary analysis did not find synergistic depressive symptoms and diabetes to be significantly associated with mobility, further research is warranted given the high prevalence of both functional disability and diabetes in this population.

EFFECTS OF NON-PHARMACOLOGICAL TREATMENTS ON QUALITY OF LIFE IN PARKINSON'S DISEASE

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Parkinson's disease (PD) is a multifaceted neurodegenerative chronic condition with a declining trajectory over an average 20–30 years. Health-related quality of life (HRQOL) is increasingly recognized as an important aspect of PD treatment given the lack of cure for PD and expected life expectancy upon diagnosis. The purpose of this systematic review of the literature is to analyze the effects of non-pharmacological treatments on HRQOL in persons with PD to suggest the best practices in PD care. Keywords, e.g., PD, QOL were used for literature search in PubMed, CINAHL, and PsycINFO databased up to June 15, 2016. Of the 161 articles generated, 12 met the eligibility criteria. The level and quality of each article were determined by two authors independently using the Effective Public Health Practice Project (EPHPP) Quality Assessment Tool for Quantitative Studies. Our findings show that 58% of the 12 included studies represented 'Level I' (RCT) and 42% 'Level II' (quasi-experimental designs). About 50% of the studies have strong quality, 8% moderate quality and 42% weak quality. The interventions varied tremendously across studies (e.g., music therapy, cognitive training, spa therapy, neuromuscular therapy, reflexology, acupuncture, self-management program, physiotherapy network, and telemedicine) with only 3 studies evaluated a similar intervention (i.e., exercise). About 83% of the studies showed that the interventions improved HRQOL. We conclude there is a pressing need to increase the volume of high quality research in each intervention category to further establish the minimally and optimally effective doses of those interventions.

MULTIMORBIDITY AND LONELINESS AMONG CANADIAN OLDER ADULTS: THE MEDIATING EFFECT OF PAIN PERCEPTION

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Multimorbidity negatively affects the activities, lifestyle and quality of life of older persons causing complex interactions between physical and psychological conditions. These may make social interaction difficult, leading to potential feelings of loneliness. However, it is not known how the pathways between multimorbidity and loneliness could be modulated by the perception of pain. This study aimed to determine if an association exists between multimorbidity and loneliness and whether this association is mediated by pain perception.

This cross-sectional study used data drawn from the 2008/2009 Canadian Community Health Survey, targeting persons aged ≥ 80 ($n=6,427$). Loneliness scale was derived by summing up responses to questions measuring loneliness (Hughes et al., 2004), multimorbidity was measured using an additive multimorbidity scale and pain was assessed with the HUPDPAD variable in CCHS. Ordinary least square regression analysis with six hierarchical blocks was used to estimate the relationships among multimorbidity, loneliness and pain variables.

Multimorbidity expresses a statistically significant beta coefficient with the loneliness scale ($\beta=0.092$, $p<0.001$) in block 3, after controlling for age, sex, marital status, education and income. The inclusion of perceived pain in block 4 reduced the effect of multimorbidity on loneliness to $\beta=0.049$ ($p<0.001$). Inclusion of functional status in block 5 further reduced this association to $\beta=0.043$ ($p=0.001$).

In this study, multimorbidity modestly increases the risk of loneliness among older persons as hypothesized, while perceived pain appears to slightly mediate this effect. Further study is needed to help clarify these associations using more refined measures and other sub-populations.

SESSION 795 (POSTER)

CHRONIC DISEASE MANAGEMENT

THE ASSOCIATION BETWEEN MEDICAL, SOCIOECONOMIC, AND SELF-RATED HEALTH STATUS IN KOREAN ADULTS

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Method: This study sample was consisted of 3610 Korean adults aged 50 years and older which were based on data obtained from the 2009 to 2011 Korean National Health and Nutrition Examination Survey (KNHANES) IV and V. Self-rated health status was measured using the visual analogue scale of the EuroQol 5-dimension (EQ-VAS). The complex sample general linear regression model for EQ-VAS was performed to determine the association with medical and socioeconomic status.

Results: The mean EQ-VAS score was 69.17 ± 4.04 (mean $\pm$ standard error). The score of self-rated health status reported by the EQ-VAS was lower in the subjects with knee pain (-5.46 ; $p=0.001$), hip pain (-5.17 ; $p=0.002$), and back pain (-5.87 ; $p<0.001$) in comparison with the subjects without joints pain, male (-3.72 ; $p=0.02$) in comparison with female after adjustment for age, sex, anthropometric factors, socioeconomic factors and medical comorbidities. The lower EQ-VAS score was also associated with lower education level ($p=0.001$), lower physical activity ($p=0.001$) and lower income level ($p<0.001$). Interestingly, medical comorbidities including stroke, heart disease, diabetes mellitus and radiographic osteoarthritis except high blood pressure were not statistically associated with lower score of EQ-VAS ($p>0.05$).

Conclusion: The presence of pain or lower socioeconomic status was associated with lower score of self-rated health status. Adequate pain management may be important considerations in ensuring a better perceived health-related quality of life for aged 50 years and older.

CAN WE IMPROVE MEDICATION USE IN OLDER ADULTS? AN INTERDISCIPLINARY MEDICATION THERAPY INTERVENTION

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Older adults are at higher risk for experiencing medication side effects due to an altered metabolic profile and higher comorbidity rates. Many of the clinical guidelines

for optimizing pharmacotherapy in this population include anticholinergic drugs on the list of potentially inappropriate medications. Although several drugs exhibit anticholinergic effects, prescribers may be unaware of such properties, thus a team effort (pharmacist-physician) might be the key for successfully implementing interventions to reduce inappropriate prescribing in this population.

We conducted an interdisciplinary medication therapy management (MTM) intervention for older patients who were prescribed one or more anticholinergic medications. We recruited 50 subjects ≥ 65 years with normal cognition ($n=33$), mild cognitive impairment ($n=12$), or mild dementia ($n=5$) enrolled in the University of Kentucky Alzheimer's Disease Center cohort. Participants were randomized to either MTM (direct physician-pharmacist review and modification of medications) or control intervention (FDA materials on inappropriate medication use). After 8 weeks, primary outcomes included change from baseline in the number of anticholinergic drugs and Medication Appropriateness Index (MAI). The intervention reduced anticholinergic use in 56% of the participants (intervention arm) vs 8% (control), $p<0.0001$. The intervention also improved medication appropriateness: mean difference in MAI from baseline 4.16 (intervention) vs 1.13 (control), $p=0.03$.

An effective intervention to address medication appropriateness in a complex population is an essential first step to improve pharmacotherapy-related outcomes. Our MTM proved to be effective and acceptable (per patients' verbal feedback during study visits) method for reducing inappropriate medication use and shows promise for larger scale interventions.

REASONS FOR CARE SEEKING IN THE EMERGENCY DEPARTMENT BY OLDER ADULTS WITH CHRONIC ILLNESS

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Health care in the US is highly fragmented with little continuity. Poorly executed transitions result in a cycle of crisis care. In this grounded theory study we identified factors that influenced care-seeking by older patients in the emergency department (ED). This study was part of a larger randomized controlled trial (RCT) testing the effectiveness of an ED-to-Home Transitional Care Intervention (TCI). The RCT included 1004 community-living Medicare patients, > 60 years who sought care in 2 EDs; 40 of these were purposively selected for in-depth interviews and were asked about their decisions to seek care in the ED. Narratives were analyzed using comparative and dimensional analysis. Findings suggest that care seeking decisions were well thought-out based on perceived symptom acuity and severity, previous experiences with similar symptoms, and advice from others. Availability and promptness of primary care, and immediacy and comprehensiveness of ED care were also taken into account. These older patients are often "resource-poor" and have complex unmet social and health-related needs. TCIs

addressing concerns about physical and mental health, social environment, health literacy, and availability and accessibility of resources need to be considered. Facilitating ready access to comprehensive primary care and case management services may also be necessary to eliminate the cycle of repeated ED visits in this population. Research is needed to better understand the social and medical complexities of older adults who seek care in the ED, the impact of patient complexity on hospital-based crisis care, and key constructs for tailoring patient-centered ED-to-home TCIs.

SELF-MANAGEMENT OF OLDER INDIVIDUALS WITH CHRONIC HEART FAILURE IN JAPAN

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Background: Facing a super-aged society, the prevalence of chronic heart failure (CHF) among older individuals continues to grow in Japan, and this will become a social problem in the future. Although older individuals with CHF often repeat hospitalization, about 70% are capable of maintaining self-management at home, without being re-hospitalized for more than one year. However, few studies exist that focus on this population in Japan. **Purpose:** This study aimed to explore why older individuals with CHF are capable of maintaining self-management at home. **Methods:** This study was a descriptive qualitative design. Eight participants aged 75 years or older with New York Heart Association class I or II heart failure, who have not been re-hospitalized for more than one year, were interviewed regarding the self-management of their health. **Results:** Eight categories were extracted, including "self-management guidance by medical staff," "support from caregivers," "experience dealing with CHF symptoms by themselves," "understanding their own disease," "carrying out daily living in accord with what they think is good," "not worrying about disease," "having methods to maintain good health in his/her own way," and "being aware of the disease in their function with aging." **Implications:** These findings suggest that medical staff need to provide appropriate self-management guidance for each older individual with CHF. In order to effectively provide such guidance, medical staff must understand and respect the important habits and views that older individuals with CHF have acquired over the course of their lives.

THE DIVERT-CARE CATALYST TRIAL: TARGETED CHRONIC-DISEASE MANAGEMENT FOR HOME CARE CLIENTS

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Home care patients are a large population of vulnerable older adults living in the community. They are medically complex, access care across settings, have very high rates

emergency department use, and have relatively poor access to effective chronic disease management. We tested a multi-disciplinary intervention deployed with a case-finding tool to determine its 'real-world' effectiveness.

A cardio-respiratory disease management intervention was developed based on existing guidelines and deployed using the validated Detection of Indicators and Vulnerabilities of Emergency Room Trips (DIVERT) Scale. Intervention components were refined and delivered by a multi-disciplinary group of geriatricians, cardiologists, primary care providers, home care coordinators, nurses, and pharmacists. Components included: sustained self-care training, patient self-care resources, medication review, advanced care planning, clinician communication tools, and staff education.

We conducted a non-randomized pragmatic cluster trial. One hundred home care patients from three geographic areas were enrolled for the intervention over 6 months. The control group included patients who met the same eligibility in the six surrounding geographic areas. A city-wide control group was also included ad hoc. Data were analyzed based on intent-to-treat. The absolute risk of an emergency department visit was reduced by 20% over the 7-month follow-up. Nursing costs increased by approximately \$4 per day, or approximately \$500 over the entire follow-up period. Results were similar with the ad hoc control group.

Targeted, multi-component cardio-respiratory disease management interventions are feasible and effective for home care clients. The trial received honours from provincial health care organizations. A large pragmatic cluster-randomized trial is being planned.

SLEEP DISORDERS IN OLDER DEPRESSIVE PEOPLE

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Introduction: Disorders of sleep and mood disorders occur often in elderly, have impact on quality of life and morbidity, and influence each other. Objective of the study was to identify sleep disorders in elderly and adults diagnosed with mood disorders.

Material and method : We analyzed 2 randomly selected groups of adults and older patients, total of 440 subjects, 110 men and 110 women in each group. A previously validated questionnaire has been used to assess sleep, with a total of 23 items. Neuropsychologist evaluated mood disorders. 71% adults and 89% elderly resided in urban area. Over 32% adults had higher education and 64% elderly had medium education.

Results: More elderly (21%) as compared to adults (7%) lost their spouse. 1/3 of subjects in both groups felt tired after waking-up; 86% adults and 63% elderly continued to feel tired whole day. Adults had significantly more often ($p<0.001$) altered sleep program. 2/3 of elderly had difficulty with initiating sleep. Most elderly slept 4 hours every-day, statistically significant difference from adults ($p<0.01$). Elderly woke-up during night because of various pains and

renal conditions, while adults because of depression. Women had sleep disorders mainly due to depression in both age-groups. Nightmares were more prevalent in elderly ($p<0.05$). Elderly with mood disorders sleep less ($p<0.01$), wake-up during night. Elderly describe more often poor quality of sleep ($p<0.01$).

Conclusions: Women present more frequently with sleep disorders. Older depressive people sleep less, wake-up more often during night and take longer to sleep again than adults.

PROFILES OF MORBIDITY, DISABILITY, AND RISK FACTORS FOR OLDER ADULTS IN TAIWAN: A GIS-BASED APPROACH

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Association of morbidity and disability in older adults changed over time, and it has great implications informing public health policy concerning care for the older population. This study used Q-GIS to discern the relationship between disease risk factors, including physical conditions, environment, health behavior, social-economic and medical resources, and disability in older Taiwanese over time. The data were based on nationally representative National Health Interview Survey in 2005 and 2009. There were 2,709 and 2,914 nationally representative older adults (65+) in 2005 and 2009, respectively. According to our analysis, behavior such as smoking, significantly associated with asthma ($r=0.55$, $p<0.05$) and tends to increase stroke ($r=0.36$). Hypertension was more prevalent in both urban and resource-lacking areas than in general rural areas. Depressive symptoms has higher self-reported rate in older adults living in mountainous eastern Taiwan than in other areas. Medical resources and family income both negatively associated with hospital admission rate ($r=-0.38$ and -0.30 , respectively). However, prevalence of chronic disease has weak association with disability or hospital admission rate geographically. The gap between urban and rural medical resources grew larger in 2009 than in 2005. Our Q-GIS model shows that lack of medical resources or family economic support, but not chronic disease, increases hospital admission rate. Findings from this study suggest that improving medical resources and family income may be the most critical factors to promote health for the growing older population in Taiwan.

RELATIONSHIP BETWEEN SILENT HYPOGLYCEMIA AND TREATMENTS, OR HbA1C IN ELDERLY PATIENTS WITH DIABETES

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Introduction: There are few researches that studied about the relationship among HbA1c, the diabetic treatments and the blood glucose profile in the elderly patients with diabetes by continuous glucose measurement system (CGM).

Methods: We compared the percentages of time estimated as hypoglycemia (glucose level $<70\text{mg/dL}$ on the CGMS)

and severe hypoglycemia (glucose level <50mg/dL on the CGMS), and other parameters, between the patients treated with insulin, SU, or glinides and the patients treated without them. We performed the same comparison between the group of HbA1c less than 8% and the group of HbA1c 8% or more.

Results: The percentage of hypoglycemia time was significantly higher in the patients treated with these 3 class drugs than the patients treated without them ($2.8 \pm 6.6\%$ vs. $0.7 \pm 1.7\%$, $P=0.0011$). The percentage of hypoglycemia time was significantly higher in the patients with HbA1c less than 8% than the patients with HbA1c 8% or more ($3.2 \pm 7.1\%$ vs. $1.1 \pm 2.9\%$, $P=0.0352$). Compared with the patients without hypoglycemia, the patients with hypoglycemia had significantly lower BMI ($20.9 \pm 4.5 \text{ kg/cm}^2$ vs. $23.0 \pm 4.3 \text{ kg/cm}^2$, $P=0.0118$). The average insulin total daily dose in the patients with hypoglycemia was more than that of the patients without hypoglycemia (14.4 ± 15.5 units vs. 9.2 ± 13.0 units, $P=0.0297$).

Conclusion: In the 65 years or more elder patients with diabetes, the patients treated with insulin, SU or glinides had hypoglycemic risk. It is necessary to carry out the optimal blood glucose control comprehensively by HbA1c, CGMS and other predictors, in order not to cause hypoglycemia in the elderly patients with diabetes.

APPLICATION OF PEPTIDES FOR COMPLEX TREATMENT OF AUTOIMMUNE THYROIDITIS

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Background: Improvement the existing methods of treatment of autoimmune thyroiditis by using complex application of low molecular weight peptides.

Methods: We have conducted a study of the effectiveness of treatment in 218 patients with autoimmune thyroiditis aged from 39 - 51 years. All peptide preparations used in this study, were developed by the St. Petersburg Institute of Bioregulation and Gerontology, and are essentially complexes of low molecular weight peptides with a molecular weight up to 5000Da, isolated from thyroid and pineal glands of young animals. We measured: indicators of the thyroid hormones levels, indicators of the antibodies levels, indicators of high-fidelity infrared thermography and ultrasonography of thyroid gland.

Results: It was revealed that application of a complex of peptides of thyroid and pineal glands in patients with autoimmune thyroiditis helped to improve general health and laboratory indicators. This complex also caused an antibodies level reduction and the positive changes in thyroid gland, detected by ultrasonography.

Conclusions: It is preferable to apply the complex of peptides of thyroid and pineal glands, as part of complex treatment as well as for prevention of diseases in middle and senior age. The existing conventional treatment regimens of autoimmune thyroiditis require the inclusion of these high-performance schemes, physiological peptide preparations targeted action aimed at increasing the reserve capacity of the organs and tissues involved in the pathological process.

DEVELOPMENT OF CARING MODEL FOR ELDERLY PERSONS WITH CHRONIC ILLNESS BY VOLUNTEERS IN COMMUNITY

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Elderly person with chronic illness need continuity and long term care. Some elderly persons live alone or with family members who cannot care them. Thus, they need help from others. People in a community are a group of care provider for elderly person.

The study aimed to develop the caring model for elderly person with chronic illness by volunteers in the community, Nong Hoi village housing, Muang district, Chiang Mai.

This research and development consisted of 5 processes: 1) surveyed and analyzed the current situation, problem and need. 2) designed the caring model for elderly person with chronic illness (draft version). 3) trial of the model 4) evaluated and improved the model, and 5) distributed. The study population included 24 elderly who lived alone or family members need caring help, 264 elderly with self-help or less dependence, and 17 caregiving volunteers.

The research finding revealed that the caring model for elderly person with chronic illness by caregiving volunteers covered health and social welfare (allowance elderly, disability living allowance, and environment and safety). Elderly were divided into 2 groups: the first group was independence/less dependence; and the second group was lack of self-help/ high dependence. The first group received health assessment and participated in health promotion projects in which caring volunteers were developed to write a proposal for funding from other agencies. The second group received home visit, health assessment, and necessary help by caring volunteers and health care team from the municipal hospital. In a case with health problem would be referred to the municipal hospital, municipal service for older person, or Chiang Mai Provincial Social Development Human Security Office.

DETERMINANTS OF HIGH SELF-CONFIDENCE IN DIABETES MANAGEMENT AMONG OLDER DIABETES PATIENTS

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Self-confidence in diabetes management is important in initiating and maintaining diabetes self-care behaviors, such as healthy diet, being physically active, monitoring blood sugar, medication compliance, good problem solving skills, risk-reduction behaviors, and healthy coping skills. Self-confidence represents that patients are capable and effective in achieving desired health outcomes. Patient's level of confidence in diabetes self-care is associated with patient's perception on the degree of problems present in diabetes management, difficulties in self-care, understanding of self-care methods, self-rated health, and social support. We used data from the Health and Retirement Study (HRS) to explore the determinants of self-confidence in diabetes management among older diabetes patients. The sample consist of 1,888 diabetic patients (mean age = 70 years, $SD = 8.8$, age range = 50 - 96, women = 52.4%) who

completed diabetes survey in 2003. We conducted regression analysis, controlling age, gender, education level, marital status, and types of diabetes. Results revealed that patients who reported higher confidence in diabetes management tended to experience less difficulties in self-care, better understanding of self-care methods, and greater social support. Additionally, those who had higher confidence in self-care gave higher ratings for their self-care and perceived higher self-rated health. Importantly, receiving emotional and tangible support from family and friends is significantly associated with increasing patients' confidence in self-care activities. These results indicate that improving confidence in self-care is essential to have successful diabetes management. Our findings can aid healthcare providers in identifying patients who will potentially struggle with self-care practices.

LONG-TERM LIFESTYLE INTERVENTIONS IN MIDDLE-AGED AND ELDERLY MEN WITH NONALCOHOLIC FATTY LIVER DISEASE

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Nonalcoholic fatty liver disease (NAFLD), a metabolic disorder related to insulin resistance and metabolic syndrome, has become a public health concern worldwide. Currently, principal therapeutic modalities targeting NAFLD are lifestyle interventions. However, the efficacy of long-term lifestyle interventions in NAFLD management remains largely unexplored. This study aimed to evaluate the efficacy of long-term lifestyle interventions in middle-aged and elderly men with NAFLD. All the 280 eligible patients were randomized to control or test group. In test group, patients received counseling by two physicians every 3 months via phone visit. A diet tailored to their calorie need and increased physical activities according to individual situations were prescribed. Patients in control group received no intervention. After periodic interventions for 2 years, body weight, abdominal circumference, ALT, TCH, LDL-C and HDL-C decreased in test group. Specially, fatty liver index (FLI) and NAFLD-fibrosis score (NAFLD-FS) in test group reduced markedly. However, in control group, there was only significant decrease in LDL-C, HDL-C level and NAFLD-FS ($P < 0.001$), whereas other parameters remained essentially unchanged. Liver steatosis grade in test group decreased significantly, while the situation aggravated in control group. In NAFLD, long-term lifestyle intervention exerts an anti-obesity effect and attenuated liver dysfunction and steatosis.

NUTRITIONAL PROFILE AND INTEGRATED MODELS OF CARE TO THE AMAZONIAN ELDERLY

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The bad nutrition that occurs in the elderly may be due to physiological changes of aging, the socio-economic conditions, diseases and the interaction between nutrients and drugs. The food served to the elderly should be mostly cooked or prepared to facilitate mastication. These types

of food contain less vitamins, minerals and fiber. Examine the association between body mass index, waist-hip ratio, waist circumference and nutritional profile in groups of elderly relating it to their food habits and observer by type of shelter of this population taken care of in one of them Centers in Manaus, aiming at to know the reason of the search of the aged, the medical attendance, types of requested examinations. During 2015, 1076 elderly was accompanied, amongst routine medical consultations; inclusion revisit. Excrement and blood biochemical analysis had been requested, and gauging of the arterial pressure. The highest BMI, WHR, and WC quartiles and predefined BMI categories were analyzed as predictive variables. The alimentary consumption was registered during 3 days and each specific nutrient. We used a statistical analyzed by SPSS. Was found overweight prevalence's (65, 8%), 87% hypertension, 48% intestinal parasitism; 45% high cholesterol, 47% anemic and 32% diabetics. The diet compared to the Dietary Reference Intakes showed inadequate. BMI = $30,3 \pm 10,5$ e $28,3 \pm 4,0$ and WHR = $0,91 \pm 0,05$ e $0,93 \pm 0,08$.

DELIVERING TAILORED REHABILITATION THROUGH AN ELECTRONIC PATIENT RECORD TO PROMOTE PHYSICAL FUNCTION

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Rehabilitation has potential to exploit technology to address changes in physical functioning associated with chronic diseases and aging. This cohort study was designed to determine feasibility of using an electronic patient health record to prevent the physical functional decline in persons ≥ 44 years with and without chronic diseases/conditions. Participants completed self-report measures including assessments of function and preclinical disability, the Rapid Assessment of Physical Activity (RAPA), at baseline, 6, 12, and 18 months. Participants, 97 persons with chronic diseases/conditions (CD) and 50 persons without (NCD), identified goals using the Patient Specific Functional Scale (PSFS). Using the assessment results, physical and occupational therapists tailored recommendations delivered electronically to address the goals. A library of therapist intervention pages (TIPs) on rehabilitation strategies was created, with topics such as back pain, energy conservation, managing arthritis, balance exercises etc.. Forty-two percent of persons with CD had no difficulty or preclinical changes at baseline compared to 92% without chronic disease; 35% with CD and 8% (NCD) had early changes or difficulty; while 23% (CD) had established difficulty in physical functioning, experiencing significant or longstanding difficulties with physical functioning, mobility, or activities of daily living. Although the range of health-related activities identified with the PSFS varied, functional mobility and exercise/physical activity items were prominent. After 6 months, significant changes in physical activities (RAPA; $p=0.05$) were detected in the CD group. Findings suggest that on-line monitoring and delivery of rehabilitation strategies support improvements in physical activities and thus promote physical functioning for people with chronic conditions.

FUNCTIONAL GAIN OBTAINED BY A CATALAN MODEL OF INTEGRATED GERIATRIC CARE

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Background: Health systems based in the care have obtained better results in clinical care for patients with health and social complex needs. In this context an integrated geriatric model of care could improve results in functional gain, health outcomes and patients' quality of life.

Methods: Quasi-experimental study was designed. During the years 2006 to 2012 1.309 patients were attended in this new catalan integrated geriatric care model (CICM) and 1.068 patients were enrolled in the usual care (Catalonian geriatric care model).

Results: CICM patients were significantly older (81.6 versus 78.3 years old). There were no differences for the main admission reasons in both groups. At admission time, CICM patients had a higher degree of dependence, measured by Barthel Index score (32.8 versus 39.9 points) and total dependence prevalence (38.4% versus 32.2%), higher clinical complexity and more geriatric syndromes. In the ANCOVA analysis, functional gain was significantly higher in CICM group (17.2 (SD 0.8) points in Barthel Index than control group (-5.6 (SD 1.1)), adjusting by age, gender, number of geriatric syndromes and Barthel index score.

Conclusions: Patients enrolled in CICM group obtained a higher functional gain. The results of this study may be an useful start to design future randomized controlled studies.

OUTCOMES OF A MOBILE, NURSE-LED INTERPROFESSIONAL COLLABORATIVE TEAM IN UNDERSERVED RURAL AMERICA

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The evolution of healthcare payment systems in the USA has fostered increased emphasis on health maintenance by patients who actively engage with providers who use evidence-based strategies and tactics. For those with rising risk or pre-existing chronic conditions, improved self-management and touch point surveillance can prevent use of high end health services such as emergency room visits and hospitalizations. While cooperating with patients, primary providers, health coaches and community stakeholders, the Health Co-Op pushes inter-professional care delivery beyond the traditional hospital and clinic settings, out into communities.

This project describes early impact of an innovative trial involving a person-centered, health delivery model to improve access and outcomes for rural, frontier and diverse populations in the Upper Midwest. The model involves the deployment of a dedicated, community-based, nurse-led, mobile Interprofessional Collaborative Practice (IPCP) team into small urban, rural and diverse underserved adult populations, including ~75% older adults, non-English speaking Hispanics and Native Americans. The Team includes experienced health professionals including nurses, a pharmacist, physical therapist, occupational therapist, dietician and social worker. Each discipline contributes to the IPCP collective

identity, including intra-IPCP referrals, weekly Team Skype conferences, and documentation in EPIC for discrete data abstraction. A federal HRSA grant (#UD7HP26906) and 5 community partnerships support the free, non-primary care weekly Co-Ops, in rent free "store front", high traffic, locations. The project is also a part of the emerging NEXUS network of IPCP projects, and the National Center for Interprofessional Practice and Education (Regents of the University of Minnesota, 2013.) Outcomes after 18 months and more than 1600 visits and home visits include improved or sustained measures of population health (e.g., SF 36; PROMIS 10; preventive health practices; HgbA1c; hypertension control), experience of care (CGCAHPS), and reduced cost (number of hospital days), consistent with the IHI Triple Aim.

SESSION 800 (POSTER)

COGNITION II

EFFECTS OF COMBINED PHYSICAL, SOCIAL, AND INTELLECTUAL LEISURE ACTIVITIES ON COGNITIVE STATUS

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This presentation describes observational work examining the potential benefits of combined social, physical, and intellectual leisure activities on cognition. A sample of 333 recent retirees (46 - 79 yrs.) completed questionnaires to evaluate their engagement in everyday social, physical, and cognitive activities. Cognitive outcomes included tests of global cognition (MoCA), switching (Trails B-A), and processing speed (Digit Symbol Coding). Multiple stepwise regression models revealed that physical and social activities were most predictive of global cognition and switching ability. Importantly, high levels of physical activity protected against low MoCA scores, particularly for individuals who did not engage in high levels of social or intellectual stimulation. These findings suggest that in training intervention designs, physical activity should be prioritized, but that other types of leisure activity confer additional benefits when combined, above and beyond the individual activity types.

THE IMPACT OF COMBINED PHYSICAL AND COGNITIVE TRAINING ON MOBILITY OUTCOMES—DOES FORMAT MATTER?

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Researchers have demonstrated that with age, declining sensorimotor abilities are compensated for by the recruitment of higher level cognitive processes. This view was recently supported by showing that cognitive dual-task training improved mobility and posture among older adults.

Moreover, preliminary evidence suggests that combined physical and cognitive training is more effective than single domain training in improving mobility among older adults. However, to date there has been no investigation contrasting sequential and simultaneous training conditions. To explore this hypothesis, 41 older adults were assigned to either a sequential or simultaneous training group consisting of 12 weeks of computerized divided attention training and aerobic training. All participants completed pre- and post-training assessments consisting of mobility (STS: Sit-to-Stand) and cognitive (*n*-back working memory) tasks performed singly and concurrently. Additionally, the sound intensity of the cognitive stimuli was manipulated in order to increase auditory challenge. Pre-post comparisons on the STS mobility task revealed that both groups improved under dual-task conditions at both levels of auditory challenge. Additionally, participants in the sequential training group demonstrated improved dual-task performance on the cognitive task. These results suggest that while both training protocols were successful in improving mobility under challenging dual-task conditions, sequential training was more effective in improving dual-task cognitive performance. Therefore, focusing on one training intervention at a time appears to be more beneficial than dual-task training where participants are required to divide their attention between two tasks.

METAMEMORY ACCURACY FOR OLFACTORY MEMORY IN AGING

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The California Verbal Learning Test (CVLT) is known to have utility in the identification of Alzheimer's disease (AD) and other dementias. Odor memory tasks have also been shown to have particular utility in aiding the early detection of AD, where loss in olfactory function has been shown to become evident prior to significant impairments in memory functioning. However, declines in memory are heterogeneous. Metamemory, or the ability to monitor, judge, and control one's memory, is one factor that has been shown to influence trajectories of age-related declines in memory functioning, even in neurodegenerative disorders like AD.

The current study investigated age differences in metamemory based on retrospective confidence ratings of recognition memory performance on an olfactory analogue of the CVLT, the California Odor Learning Test (COLT). Confidence ratings were self-reported using a bipolar visual analog scale. Participants included 16 older (70-88yrs) and 25 younger (18-26yrs) adults. Age groups were equivalent on demographic variables (e.g. gender, education). Odor threshold was assessed and controlled for.

Across memory measures, younger performed better than older adults ($p < .05$). Analysis of confidence accuracy indicated that overall, older adults demonstrated stronger calibration between recognition memory performance and confidence; however, young adults demonstrated better confidence resolution, rating correct responses with higher confidence ($p > .05$).

More accurate metamemory in aging has been associated with fewer memory errors and higher quality of life, while metamemory impairments can precipitate errors in judgment, and difficulty managing responsibilities (e.g. medication adherence, finances). Thus, further research on aging metamemory remains important.

PREMORBID PERSONALITY AND THE OCCURRENCES OF THE RISK OF MCI AFTER 3 YEARS IN JAPANESE ELDERLY

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Background: Recent studies have reported that the onset of dementia or mild cognitive impairment (MCI) in old age has associations with personalities of individuals before their onsets. However, it had not been confirmed in Japanese elderly people.

Objective: To investigate the associations between personality traits and MCI risks by the prospective study on Japanese elderly people who are cognitively intact.

Methods: Data were obtained in two waves three years apart from 1251 community-dwelling older adults (637 women, mean age=74.6±4.9 years at Wave 1). Cognitive function and 5 big five personality traits were measured at Wave 1 by Japanese version of Montreal Cognitive Assessment (Moca-J) and NEO Five Factor inventory. After 3 years, Moca-J was conducted at Wave 2.

Result: The score of Moca-J less than 26 was judged to have MCI risk. 325 individuals had no MCI risk at Wave 1. Three years later, 147 of 325 individuals were with risk of MCI at Wave 2.

As a result of a binary logistic regression analysis with whether having MCI risk or not at Wave 2 as a objective variable, it was indicated that the occurrences MCI risk in three years significantly associated with high neuroticism (OR=2.11, 95%CL:1.31-3.40, $p<.01$), and with low openness (OR=.50, 95%CL:.31-.86, $p<.01$) at Wave 1. There were no significant associations between other personality traits and MCI risks.

Discussion: These results suggested that, as reported by preceding studies, the associations between personality traits (neuroticism and openness) and MCI risks in three years on Japanese elderly people.

SELF-REGULATED LEARNING OF MOVEMENT SEQUENCES IN ADVANCED AGE

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Self-regulated learning can be defined as a self-directed process by which learners transform their mental abilities into a new skill. The purpose of this study was to demonstrate a possible impact of self-regulated learning on the acquisition of movement sequences among elderly people. Earlier studies revealed that with increasing age, sequence acquisition is more error-prone. It was hypothesised that this would not be observed in self-regulated sequence learning: While older subjects were expected to choose a slower pace and less ambitious learning goals, no association between error rate and age was expected. N=140 subjects (aged 50-94) were

trained in a sequence of typing movements. At each trial, participants imitated a part of the sequence presented on a wooden plank. Participants determined the learning pace (number of sequence elements per trial) and learning goal (final number of elements). They were asked to acquire as many elements as possible while remaining able to flawlessly demonstrate the acquired sequence part later on. As hypothesised, a higher age was associated with fewer elements per trial and fewer final elements, but not with higher error rates, which were exceptionally low in all subjects. These results prove the potential of self-regulated learning for the compensation of age-related declines in sequence learning. Further investigations should explore how older subjects' sequence learning can be fostered so that they feel safe adopting more ambitious learning goals without risking more errors.

EXPOSURE TO GREEN DOES NOT ALWAYS RESTORE ATTENTION IN OLDER ADULTS

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Objectives: Exposure to green scenes has been proven restorative for directed attention (Attention restoration theory, ART) in young adults, but very few studies have beneficial effects of green on older adults' attention. The present study aimed to test ART on older individuals considering the potential influence of current environment of residence.

Methods: A sample of 37 community-dwelling people aged 60+ (mean age: 66.2, standard deviation 7.1; 48.6% female), was divided into two groups. Each group first completed the sustained attention to response task (SART) to fatigue directed attention, after which they viewed images of either restorative (natural) or nonrestorative (urban) scenes, and then completed the SART again.

Results: Participants who were currently rural and were exposed to nonrestorative images showed a significant increase in number of commissions between the two sessions of the SART, $t(10) = -3.01$, $p = .013$, Cohen's $d = -0.912$, and significantly faster reaction times, $t(10) = 3.112$, $p = .019$, Cohen's $d = 0.981$; on the other hand, rural participants exposed to restorative images became slower ($t(8) = -2.614$, $p = .031$, Cohen's $d = -1.253$, but did not show any significant differences in terms of accuracy. No significant pattern was found for urban participants. The findings held after controlling for sex, age, education and MMSE.

Conclusions: The results did not show attention restoration and suggest that the environment of residence of older individuals, which could be considered as a form of long-term exposure, mediates the influence of exposure to nature on attentional skills.

MEDIATORS OF THE EFFECT OF CHILDHOOD SOCIOECONOMIC STATUS ON COGNITIVE PERFORMANCE

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Growing up in a low socioeconomic status (SES) background in childhood has been associated with lower general cognitive ability (GCA) in childhood, adulthood, and later life. Less examined is the extent to which childhood SES affects

specific cognitive domains in later life and whether these associations are mediated by other factors. Participants were 1009 Vietnam Era Twin Study of Aging (VETS) male twins with mean age of 56 (range 51–61), and 62 (range 57–67) at the adult assessments. Measures included: childhood SES (parental occupation+education), and three mediators: age 20 GCA measured with the Armed Forces Qualification Test, adult SES, and cognitive engagement at age 56 (e.g., self-improvement, educational and cultural activities). Thirteen neuropsychological tests were utilized to measure seven specific cognitive domains at age 62. Childhood SES, age 20 GCA, cognitive engagement, adult SES, and cognitive domains were all significantly correlated. Multiple mediation analyses were conducted separately for each cognitive outcome. For abstract reasoning, there remained significant direct effects of childhood SES (accounting for 39% of the total effect) as well as a significant indirect effect accounting for 61% of the total effect. Associations between childhood SES and episodic memory, processing speed, verbal fluency, visual-spatial ability, working memory domains as well as age 62 GCA were fully mediated by the paths through age 20 GCA, cognitive activity, and adult SES. Thus, the long term effect of childhood SES on cognitive performance was predominantly indirect; results suggest the importance of early indicators of GCA when making inferences about later life cognition.

SUBJECTIVE MEMORY COMPLAINTS, LEARNING POTENTIAL, AND OBJECTIVE COGNITIVE FUNCTIONING IN OLDER ADULTS

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Introduction: Subjective memory complaints in older adults should not be considered only as an age-related phenomenon or a symptom of depression. Instead, these complaints deserve to be taken seriously, at least as a possible early sign of dementia.

Methods: Cross-sectional study, $n = 201$ older adults 60-years and older (mean age=71.88, $SD=7.07$ years, 84% women) were interviewed in a senior center. Memory complaints were self-reported, learning potential was assessed by using The Rey Auditory Verbal Learning Test (RAVLT). For objective cognitive functioning a battery was applied, for episodic memory (Subtest-RBNAS), working memory (Digit Span Backward WAIS-IV), processing speed (Symbol Digit WAIS-IV), attention (Trial Making Test-A), executive functioning (Trial Making Test-B). Socio-demographic and health data were also asked. Pearson's correlation test was performed.

Results: 13.4% reported his memory as bad, 64.7% regular, 18.4% good and only 5% excellent. Subjective memory complaints are significantly related ($p < .01$) with worse performance in all cognitive test. Moreover, it was found a statistically significant difference ($p < .05$) in the learning curve, between those who complain and those who have no memory complaints. Age does not correlate with subjective memory complaint. There was a negative correlation between subjective memory complaint and depression.

Conclusion: The results support the consideration of memory complaints of as possible predictors of changes in

cognitive functioning, due to its correlation with objective assessment of cognition in older adults.

COGNITIVE FUNCTIONING IN OLDER MUSICIANS: BENEFITS OF TRAINING WITH A MUSIC ENSEMBLE

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Previous research suggests that learning a musical instrument during childhood may have an impact on cognitive functioning later in life. There are many aspects of musical training, including participating in an ensemble (e.g., band, orchestra), or learning to improvise or compose proficiently. Music training history of community dwelling older adult instrumental musicians (N=45) was collected and each participant completed a standard battery of neuropsychological tests. Analyses were run to determine if there were differences in cognitive scores between subgroups of musicians: 1) those who participated in an ensemble and those who did not, 2) musicians who compose and those who do not, 3) musicians who improvise and those who do not, and 4) musicians considered competent on one vs. multiple instruments. Results found that musicians who participated in an ensemble showed higher performance on tests of immediate memory (California Verbal Learning Test, $p<0.05$), verbal fluency (Animal Naming – $p<0.02$ and COWAT-FAS – $p<0.05$), visual memory (Brief Visual Memory Test-Revised – $p<0.01$), and a version of the Stroop Task (DKEFS Color Word Interference Trial 3 – $p<0.01$). There were no differences between groups of musicians who did or did not compose, improvise, or play multiple instruments. These findings suggest that there are aspects about playing in an ensemble that may provide increased mental control and memory performance later in life.

COGNITIVE-PHYSICAL-PSYCHOLOGICAL INTERVENTION IMPROVES COGNITION AND SOCIAL SUPPORT IN OLDER ADULTS

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Cognitive, physical and social activities are cognitively beneficial for older adults, but intervention has rarely been conducted in combination of these three components. This four-armed controlled non-randomized trial investigated the synergistic effects of a multimodal intervention on cognition, well-being and brain plasticity in a sample of healthy older adults. Four groups older adults respectively received multimodal intervention (cognitive training, Taichi exercise and group counseling), or cognitive plus Taichi training, or cognitive training, or lectures (active control group) during six weeks. Seventeen participants in the multimodal intervention group and 17 controls completed resting-state functional magnetic resonance imaging scanning before and after intervention. Cognitive performance and well-being were assessed at baseline, post-intervention and 3-month follow-up. A total of 156 participants completed intervention and 134 were available at follow-up. Compare to the control group, three intervention groups showed improvements to varying degrees on cognitive function. The cognitive plus Taichi group had largest increase with the multimodal group as the second best at post-intervention, while both group showed parallel maintenance effects on cognition at

follow-up. Enhancement and maintenance in social support were only found in multimodal group. Moreover, multimodal intervention induced strengthened functional connectivity between the medial prefrontal cortex and medial temporal lobe, as well as regional alterations of intrinsic activity in frontal, temporal and cerebellum regions. The results suggest that cognitive-physical-psychological intervention is helpful for preserving brain and cognitive function during old age, and has advantages in comprehensive promotion of both cognitive and emotional well-being.

DAILY LEISURE ACTIVITY AND COGNITIVE FUNCTION IN LATER LIFE: AN 11-YEAR FOLLOW-UP STUDY

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Previous studies used the composite measure of leisure activities to examine the relationship between leisure activities and cognitive function in later life. The aim of this study was to investigate differential effects of cognitively stimulating leisure activities (CSLAs) on cognitive decline in the elderly population using four waves data (1996, 1999, 2003 and 2007) from the Taiwan Longitudinal Study on Aging (TLSA). 2,532 Taiwanese community-dwelling elders aged 67 and older were included in analysis. In each wave, leisure activities and cognitive performance of participants were assessed using questionnaire-based instruments. Four CSLAs including watching TV, radio listening, reading and gambling were assessed in terms of weekly frequencies. The number of error responses from a 9-item Short Portable Mental Status Questionnaire (SPMSQ) was used to measure cognitive performance. Generalized estimating equation models with negative binomial distribution were employed to examine associations between 4 CSLAs and error numbers of SPMSQ. After adjusting for covariates including age, sex, education, marital status, financial status and physical function, the lowest frequency (< once a week) in all four CSLAs were associated with increased error numbers of SPMSQ comparing to their counterparts who were in the highest frequency (almost everyday) in up to 11-year follow-up. Among 4 CSLAs, the greatest effect on cognitive performance was found in reading activity, followed by watching TV and listening radio. We conclude that daily activities in these 4 CSLAs were protective of cognitive function in later life.

SUBJECTIVE MEMORY AND ITS RELATION TO DEPRESSION AND COGNITIVE FUNCTION IN VIETNAMESE ADULTS

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The population in Vietnam is aging rapidly. Subjective memory complaints that accompany aging have been associated with a variety of poor mental and cognitive health outcomes for adults in the U.S. The relation of subjective memory complaints to objective measures of cognitive

functioning is tenuous – some studies indicate that subjective memory complaints are associated with subsequent cognitive decline, while others demonstrate that subjective memory complaints are related more to mood. However, little research has been done with aging Vietnamese. In this study, we examined the relation between subjective memory and depressive symptoms (CES-D) as well as cognitive function (MMSE). Whether subjective memory is more strongly related to depression than it is to actual cognitive function has implications for treatment and interventions in Vietnam. The sample consisted of 477 adults 55 years and older living in Da Nang, Vietnam and surrounding rural areas. In separate multivariate regression analyses, memory complaints were significantly associated with depressive symptoms ($\beta = .19$, $p < .001$), controlling for several covariates; memory complaints were also significantly associated with MMSE score ($\beta = -.10$, $p < .05$), although not as strongly. Results suggest that memory complaints are associated with depression, possibly because one notices a decline in memory even when objective memory measures show no evidence of impairment. Consistent with the literature, these findings suggest that depression may precede cognitive decline related to dementia. However, future research should test the pathway between subjective memory complaints, depression, and dementia using a longitudinal sample.

LEISURE ACTIVITIES, EDUCATION, AND COGNITIVE IMPAIRMENT: A POPULATION-BASED LONGITUDINAL STUDY

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Background: We examine the association between leisure-time activities and the risk of developing cognitive impairment among Chinese older people, and further investigate whether the association varies by educational level.

Methods: This follow-up study included 6586 participants (aged 79.5 ± 9.8 years, range 65 – 105 years, 51.7% female) of the Chinese Longitudinal Healthy Longevity Survey who were aged ≥ 65 years and were free of cognitive impairment in 2002. Incident cognitive impairment was defined at the 2005 or 2008/2009 survey following an education-based cut-off on the adapted Chinese version of Mini-Mental State Examination (MMSE). Participation in cognitive activities (e.g., reading) and nonexercise physical exercise (e.g., housework) was assessed by a self-reported scale. Cox proportional hazard models were employed to examine the association of leisure activities with incident cognitive impairment.

Results: During a 5-year follow-up, 1448 participants developed incident cognitive impairment. Overall, a high level of participation in leisure activities was associated with a 41% decreased risk of cognitive impairment compared to low level engagement in leisure activities after controlling for age, gender, education and other confounders. The beneficial effect was significant in nonexercise physical activities but not cognitive activities. Moreover, there was a significant

interaction between leisure activity and educational level, such that the beneficial effect of leisure activities was larger in educated elderly than their uneducated counterparts, and only educated elderly benefited from cognitive activities.

Conclusions: Late-life leisure activities protect against cognitive impairment among elderly Chinese people, and the protective effects are more profound for educated elderly.

EXECUTIVE FUNCTION IN OLDER ADULTS: A PSYCHOMETRIC EVALUATION OF THE HEAD-TOES-KNEES-SHOULDERS TASK

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Executive function (EF) abilities are recognized as components of cognition most likely to show age-related declines, and measurement of EF is often computer-based, task-focused and lacking ecological validity. We investigated a new way of measuring EF in older adults by adapting a brief, behavioral measure of EF in children, the Head-Toes-Knees-Shoulders task (HTKS). An easy to administer measure would allow for early detection of declines and intervention among those at risk for mild cognitive impairment. A sample of 150 community-dwelling older adults (Mean age = 68.55, SD = 6.34) completed the HTKS, NIH Toolbox (NIHTB): Cognition Battery and Positive and Negative Affect Schedule. The HTKS showed good internal consistency, $\alpha = 0.84$. Significant associations between HTKS variables and measures of attention, inhibitory control, and processing speed demonstrated convergent validity (HTKS completion time r 's ranged from -0.20 to -0.30; HTKS total score r 's ranged from 0.17 to 0.24). HTKS completion time exhibited the strongest associations to NIHTB measures, suggesting that the time it takes older adults to complete the HTKS may be a better measure of EF than the total score. Non-significant associations between HTKS variables and positive and negative affect demonstrated discriminant validity. These results provide evidence for use of the HTKS as a brief, low-cost, easy to administer measure of EF in older adults. Further research is needed to determine its potential to identify individuals at risk for poor cognitive outcomes. A brief, valid measure may allow for wider screenings aimed toward intervening early when interventions are most effective.

SOCIAL CONTACT AND COGNITIVE FUNCTIONING IN OLDER ADULTS LIVING IN THE COMMUNITY

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Korea is one of the countries showing the fastest growth in the population of elders, with a rapid increase in the number of people with dementia. Social contact has been identified as a potential moderator of cognitive decline associated with aging. This study examined the relationship between social contact and cognitive functioning using a national survey of older adults. Data obtained from 3721 participants 65 years and older from the Korean Longitudinal Study of Aging (KLoSA) (2012–2014) were analyzed. Social contact was scored by the frequency of meeting close acquaintances

and cognitive function was measured by a Korean version of the Mini-Mental State Examination (MMSE-K). Multiple linear regression was used to compare social contact in 2012 with the MMSE-K score in 2014, adjusting for covariates. Participants with higher frequency of social contacts were more likely to have higher MMSE-K score in the overall population ($B = .138, p < .0001$). The magnitude of the association was stronger among those at risk of dementia ($B = .307, p < .0001$), compared with those who were cognitively normal ($B = .082, p = .014$). This study demonstrated that frequent social contact was associated with higher levels of cognitive functioning in later life. Further studies are warranted to investigate whether social relationships buffer against cognitive decline.

EFFECTS OF BIOFEEDBACK ON BLOOD PRESSURE AND COGNITIVE FUNCTIONING OF OLDER ADULTS WITH HYPERTENSION

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We explored the effects of biofeedback-assisted relaxation training on blood pressure and cognitive functioning of the community-dwelling older adults with essential hypertension. One hundred and eight older adults with essential hypertension were selected from a community in Changsha and randomly divided into equal-sized control and experimental groups. Participants in the control group were given routine service of the community, while those in the experimental group received biofeedback-assisted relaxation training plus routine service of the community. All participants were assessed by trained assistants blind to study group allocation using mercury sphygmomanometer, Mini Mental State Examination (MMSE) and Montreal Cognitive Assessment (MoCA), before the training and at 3 and 6 months of the training. Spearman correlation analysis indicated SBP and MoCA score, attention, abstract, delayed recall scores were related negatively ($r = -0.308, -0.317, -0.290, -0.342$, respectively) ($P < 0.01$); DBP and MoCA, abstract, delayed recall score were also related negatively ($r = -0.206, P < 0.05$; $r = -0.218, P < 0.05$; $r = -0.245, P < 0.01$). Repeated measures analysis of variance showed that there was significant time effect as well as interaction effect between intervention and time on SBP ($P < 0.01$), and significant intervention effect, time effect as well as interaction effect between intervention and time on DBP, MMSE and MoCA ($P < 0.05$). Therefore, there is a negative correlation between blood pressure and cognitive functioning; biofeedback-assisted relaxation can be used to control hypertension and improve cognitive functioning of community-dwelling older adults with essential hypertension.

EFFECTS OF SERIAL SUBTRACTIONS ON ELDERLY GAIT SPEED IN A VIRTUAL REALITY SETTING

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Falls are the leading cause of fatal injuries in older adults aged 65+ with one in three adults falling each year. Cognitive processes are involved in gait, and thus, as cognitive changes

are normative with age, this may impact fall risk in the elderly. Sixteen older adults aged 70.8 ± 5.3 years took part in a dual-task (DT) study where they walked on a split-belt self-paced treadmill with and without a virtual reality (VR) setting while simultaneously performing a serial subtraction (SS) task. For SS, individuals were given a random 3-digit starting number and told to subtract by three from that number for one minute; this process occurred three times. Only correct substitutions were counted toward their total score. Previous literature showed that individuals will slow their gait to deal with a cognitive task, and our results supported this trend. Subjects tended to walk slower in both the VR and non-VR settings while dual-tasking compared with the walking-only control trial; walking while SS was significantly slower in the VR session ($p = .008$). Initial analyses found no significant differences in correct scores between conditions, however, when grouping based on age, there was a significant difference ($p < .001$). Subjects below 70 years performed better in the SS task (69 correct) compared to subjects 70 and older (30 correct). Overall subjects tended to score higher and walk faster in the VR condition. This could provide evidence of VR conditions better approximating daily life and thus implementing them as part of a fall intervention program.

SESSION 805 (POSTER)

CRITICAL AND CULTURAL GERONTOLOGY

A CRITICAL ANALYSIS OF AGING IN PLACE AND AGE-FRIENDLY EFFORTS

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Movements to make communities age-friendly are gaining global attention, as population aging and urbanization pressure cities, including San Francisco, to reconsider how built and social environments influence residents' wellbeing throughout the life course. The preventive frameworks of age-friendly efforts emphasize that all sectors of society should adopt and design practices that are age-inclusive, meaning a separate world should not be built for older people alone. Rather, the world must work for all people, regardless of age. This qualitative study interrogates the conceptual frames that inform policies and practices striving to be age-friendly and how those conceptions compare to the lived experiences of community-dwelling older adults. To interpret meaning and processes situated in the experiences of informants, this study employs constructivist grounded theory as its methodological approach. Data collection includes semi-structured in-depth interviews with experts in the field and low-moderate income older San Franciscans, as well as visual representation through informant-produced photographs. Findings include the various meanings and interpretations of 'aging in place' and 'age-friendly' efforts, as well as the paradoxical power of age-friendly discourse that is universalizing and potentially obscuring inequalities across lines of difference, throughout the life course. Applied, this research may improve policies and practices affecting an increasingly longer-living, yet still unequal, society by providing a critical understanding of how aging and place are co-produced.

CHOREOGRAPHIES OF CITIZENSHIP: TOWARDS A RECONCEPTUALIZATION OF DANCE, DEMENTIA, AND EVERYDAY LIFE

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There is a growing literature that argues for the value of dance as an embodied practice for persons with dementia, as it draws significantly on the body's potentiality for innovation and creative action and significantly supports non-verbal communication and affect. Despite the critical knowledge base on dance from phenomenological analyses and somatic and performance studies, dance scholarship and practice in the dementia field largely represent a movement towards cognitive science with an emphasis on embodied cognition and psychotherapeutic use of dance. This has restricted understanding of dance in dementia and has consequently limited the development of opportunities to more fully support this embodied form of self-expression in long-term care settings. We articulate this argument by analyzing findings of an ethnographic study of selfhood in Alzheimer's disease in a Canadian long-term care facility in the context of a relational model of citizenship. Specifically we focus on findings that feature self-expression through dance in the context of everyday life in long-term residential care, specifically during recreational and religious social programs, and non-structured activities. We argue that these examples can more fully be understood and supported with a relational model of citizenship that recognizes that corporeality is a fundamental source of self-expression, interdependence, and reciprocal engagement. This model brings a new and critical dimension to understanding self-expression through dance by persons with dementia, while also addressing broader issues of inclusivity and the ethical imperative to fully support dance through institutional policies, structures and practices.

AUSTRALIAN ATTITUDES AND POLICIES ON INTERGENERATIONAL EQUITY: IMPACTS OF SOCIAL CHANGE

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This paper aims to investigate changing attitudes and policies concerning intergenerational equity in Australia through the aftermath of the Global Credit Crises.

Data are from a representative national sample of adults aged 18 years and older in the Australian Attitudes to Ageing (AAA) study conducted as a component of the national Australian Survey of Social Attitudes (AuSSA) in 2009–10 (n= 1525) replicated in 2015–16 (n= 1211). At baseline a majority of respondents thought that life-long social and economic opportunities were better for baby-boomers than for the preceding cohort now in later life, but views on future prospects were more divided. Results from the latest round found continuing stability of attitudes, although there was an increased perceptions of declining prospects for future

cohorts and younger people. At both times a majority (especially among ageing baby-boomers) opposed policies raising the age of pension eligibility and most believed that older people were getting 'less than their fair share' of government benefits. Across all age groups at both times, only a small proportion perceived strong intergenerational conflict. Significant age, gender, and social class differences were found at both time periods.

The findings confirm modest increases of social tensions between age groups that will be interpreted in terms of cohort succession and responses to contentious government actions on retirement incomes and debt reduction. Deeply-seated beliefs in older people as a homogeneous 'needy' group contrast with increasing evidence of accumulating wealth inequalities and economic challenges ahead especially for younger people.

SOCIAL CAPITAL, HEALTH BEHAVIOURS AND HEALTH: DOES REPORTING HETEROGENEITY PLAY A ROLE?

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Social capital has been shown to be associated with self-reported health and health behaviours. Subjective measures such as self-reports are not as robust as objective measures which are too expensive to implement across large cohorts. To overcome the problems of interpersonal incomparability of self-reports, anchoring vignettes have been proposed as a method of identifying reporting heterogeneity and correcting self-reports for such differences, enhancing the comparability of subjective measures.

Using ELSA Wave 3 (2006/07) in participants aged 50 years and older (n=9343) associations between three dimensions of social capital (local area & trust, social support and social networks) and four health behaviours (smoking, alcohol use, physical activity and vegetable consumption) were examined using logistic regression and controlling for socio-demographic variables. Using vignette methodology to study the effects of socio-demographic factors and social capital on self-reported health allowed us to correct for reporting heterogeneity and threshold variation with a series of hierarchical ordered probit models for a sub-sample of 2341 subjects who completed the health vignettes.

Positive associations were observed between healthy behaviours (not smoking and mod/high physical activity) and local area & trust and social networks; positive associations were also evident with excessive drinking. All dimensions of social capital were independently associated with self-rated health, with physical activity appearing to mediate associations between social networks and health. Independent of social status, high levels of social capital were associated with healthier behaviours and self-reported health. However, ignoring reporting heterogeneity appears to underestimate the positive effect of social networks on health.

AGE AND SEX DIFFERENCE IN WORRIES ABOUT AGING IN EAST ASIAN SOCIETY

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Aging may intensify worries about the future according to personal experience and social stereotypes. In previous studies, different genders and ages showed different concerns in some countries. However, there was no study to discuss worries about aging in different gender and ages across different countries simultaneously. In this study, we try to explain the variables related to worries about aging and that in different ages and gender in the Eastern world. In our study, 3802 participants in China (mean age 47.61 years old), 2134 participants in Taiwan (mean age 47.63 years old), 2496 participants in Japan (mean age 53.70 years old), and 1533 participants in Korea (mean age 47.79 years old) were included from East Asian Social Survey (EASS) database 2012. In both Taiwan and China, women had higher worries about aging than men. Age, education, urbanization, family members, occupation, and social placements were significant factors that contributed to worries about aging. In China, the 41–64 year-old group showed the highest concern, whereas in Taiwan, it was the 20–40 year-old group that had the most worries. Recognizing the worries about aging is useful in identifying senior needs and will help determine policies on the aging society.

GENERATION TO GENERATION: LESSONS LEARNED FROM AN INTERGENERATIONAL COLLEGE SOCIAL CLUB

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Traditional college-aged students have little opportunity to foster meaningful relationships with older adults. Coursework for gerontology students often focuses on difficulties in aging, including disease and decline. Students can easily miss getting to know older adults as vibrant individuals and may then treat them stereotypically in clinical settings. Generation to Generation, a gerontology elective at University of San Francisco (USF) for older (over age 55) and younger (18–30 year old) adults, promotes positive intergenerational contact. Results from the course suggest intergenerational interactions in a classroom setting increase younger adults' positive attitudes toward older adults (Wagner, Dangerfield, & Rodriguez, 2014). When the course was not offered (instructor on sabbatical), previous students formed the Generation to Generation Club. The club held bi-monthly lunchtime discussions in which students from USF and the Fromm Institute for Lifelong Learning discussed topics ranging from dating to ballot propositions. In addition, a mentorship program matched 19 USF students with 19 Fromm students. Pairs communicated with the goal of getting to know someone outside their peer groups. Evaluation indicated that respondents enjoyed group discussions, the mentorship program, and wished to participate again. Challenges included coordinating times where members of both groups were available and encouraging

continued attendance despite last-minute cancellations by individuals from both groups. The Generation to Generation social club model of discussion-based learning and personalized mentoring succeeded in stimulating intergenerational relationships and decreased stereotyping of each age group. Replication on college campuses with lifelong learning or at senior centers close to educational institutions is encouraged.

OLD VOLK: AGING IN TWO GERMANIES, 1945–1990

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This paper is a contribution to the historical study of aging. It uses the natural experiment of the divided German nation, where for several decades a region with similar economic, cultural, and demographic characteristics was divided into two radically distinct social and political systems. In West Germany, American-influenced policymakers and sociologists conceived a “problem of aging” organized around the concepts of autonomy, dignity, and pension reform. In East Germany, Soviet-influenced counterparts conceived the problem entirely differently, avoiding gerontology and the language of dignity entirely, seeking instead different and more egalitarian strategies to incorporate the elderly into the body politic.

My finding is that the socialist style of aging ultimately failed due to internal contradictions and economic collapse, but that it nonetheless provides important resources for the present as we seek ways to manage growing populations of the elderly in Germany and around the world. Socialists pioneered models of housing and community integration for the elderly that are currently being dismantled at great cost, both to East Germany's elderly and to scientists from around the world looking for examples of communal forms of eldercare. The methodology of this paper is cultural history. I have examined hundreds of German-language newspaper articles, social-scientific studies, state archival documents, and even television shows in order to explore the imagination of aging in each nation. This is pathbreaking work, as vanishingly little work on aging has been written by trained historians.

SESSION 810 (POSTER)

CROSS-CULTURAL AND CROSS-NATIONAL STUDIES

A META-ANALYTIC STUDY OF CULTURAL DIFFERENCES IN HOLISM AND ANALYTICISM ACROSS AGE GROUPS

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Holism (i.e. a context-dependent processing style more prevalent in East Asian cultures) and analyticism (i.e., a context-independent processing style more prevalent in Western cultures) are well-researched in cultural psychology, and, to a lesser extent, in developmental psychology. In two meta-analyses, we examined the degree to which cultural differences in holism and analyticism between East Asians and Western Europeans were similar among younger and older age groups. We based our meta-analysis on 42 studies (N=2510) that included holism- and/or analyticism-related

outcomes and recruited participants from both East Asian and Western Cultures. Studies that examined age differences recruited participants from younger (18–30 years) and older (60–88 years) age groups. Using random effects analyses, we found that cultural differences in both holism- and analyticism- related outcomes were significantly moderated by age group. For holism, younger East Asians were significantly more holistic than younger Western Europeans, Hedge's $g=.55$, $p<.001$, while there were no significant difference in holism among older East Asians and older Western Europeans, Hedge's $g=-.17$, $p=.385$, $Q=10.32$, $p=.001$. For analyticism, younger East Asians were significantly less analytic than younger Western Europeans, Hedge's $g=.69$, $p<.001$, while the same cultural difference was even stronger among the older adults, Hedge's $g=1.72$, $p<.001$, $Q=10.98$, $p=.001$. We discuss the implications of these results for the distinct theoretical perspectives that cultural differences are more strongly expressed in old age (Fung, 2013), and that age is an equalizer for cultural differences (Park, Nisbett, & Hedden, 1999).

PREVALENCE AND CORRELATES OF LATE-ONSET SUICIDAL IDEATION AND ATTEMPTS AMONG KOREAN ELDERS

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Purpose of the Study: The present study examined prevalence and correlates of late-onset suicidal ideation and attempts among community-dwelling older adults in South Korea.

Methods: Drawn from the 2013 national survey of older adults in South Korea, 10,267 adults aged 65 or older were analyzed. Data were analyzed using chi-square tests, correlation and logistic regression analyses.

Results: Prevalence rates for late onset suicidal ideation and attempts were 10.9% and 12.5%, respectively. One of the main reasons for late onset suicidal ideation was financial strain (40.4%), followed by health issues (24.4%) and feelings of loneliness (13.3%). Several significant correlates of for late onset suicidal ideation and attempts were found. Those experiencing late onset suicidal ideation were more likely to be female and have lower educational attainments and annual income and greater functional limitations. Late onset suicidal attempts were associated with female gender, not married status, unemployment, lower annual income and no functional limitations.

Conclusions: Late-onset suicidal ideation and attempts among Korean elders were found to be high compared to older adults in other countries. Understanding correlates of late-onset suicidal ideation and attempts may help reduce suicidal rates and improve the treatment for Korean older adults experiencing late-onset suicidal ideation and attempts. Clinical implications are also discussed in a cross-cultural context.

HAPPY LIFE EXPECTANCY AND HEALTH: A CROSS-NATIONAL STUDY OF JAPAN AND TAIWAN

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Good health is generally recognized as an important condition not only for longevity but also happiness. However, few studies have simultaneously examined the role of health for mortality and happiness. The purpose of this study was to examine the contribution of health to happy life expectancy (i.e., the proportion of remaining life that one can expect to live happy) in Japan and Taiwan that share a similar culture and health profile. Data come from the 2012 wave of the East Asian Social Survey (Japan: $N = 2,273$; Taiwan: $N = 1,925$) and the Human Mortality Database. Prior research often used Sullivan's multistate life table method to estimate life expectancy with cross-sectional survey data, but it is limited in its ability to include covariates (e.g., education, income, and health). In this study, we utilized a Bayesian extension of this method to estimate happy life expectancy. Results show that, on average, adults with good health can expect to have relatively long and happy lives. For example, both Japanese and Taiwanese men who are healthy can expect to live about 21% longer and spend a greater proportion (i.e., approximately 20%) of their life happy compared to their unhealthy counterparts. Findings indicate that poor health shortens life because of an increased risk of mortality, but they also suggest that poor health substantially reduces quality of life in terms of happiness. This study adds to a growing body of evidence that shows that health can have a long-term impact on happiness across the life course.

ARE GERMAN AND KOREAN FAMILIES BETTER OFF AFTER SOCIAL LONG-TERM CARE INSURANCE?

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Germany and Korea introduced social insurance systems to finance long term care (LTC) need in 1995 and 2008 respectively. Both LTCI systems aim to help people with LTC need and their families. Even with the similarities as social insurance, the two systems took a different approach toward family caregivers. German LTCI incentivizes family caregivers such as paying pension premium, while Korean LTCI lacks those kind of direct support for families. This study reviews the different approach toward family caregivers of physically dependent people of both systems and investigates how subjective wellbeing (SWB) of families was affected after the introduction of LTCIs in both countries.

To analyze the effect of German LTCI on SWB of German families, the study used the German Socio-Economic Panel from 1992 to 2002. For the analysis of the effect on Korean families, Korean Longitudinal Study of Aging was used from 2006 to 2012. Each analysis included all the adults, who were interviewed in the baseline year in "pre-policy" period. The other waves in both datasets were regarded as "post-policy" treatment conditions. This study took difference-in-difference approach employing logistic regression to evaluate the LTCI effect on SWB of the families of the LTC needy.

The study found that SWB of German families was improved while no change was observed in Korean families after LTCI introduction. The immediate effect of LTCI on SWB measures of German families was relatively large at the beginning period. Active policy measures could be needed to improve SWB of Korean families.

RELATIONSHIP BETWEEN CULTURAL ORIENTATION AND ATTITUDES TOWARD AGING AND THE ELDERLY: U.S. AND CHINA

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The current study examined Chinese and American young people's cultural orientation (i.e., individualism/collectivism) in relation to their attitudes toward aging and the elderly. Seven hundred seventy-nine college students (434 Chinese, 345 American) filled out a questionnaire that included Triandis and Gelfand's IC scale (Cultural Orientation Scale), Kogan's attitudes toward old people scale, as well as relevant demographic and background information. Cronbach's alphas indicated satisfactory reliability of both scales for the two cultural groups. Results show the two groups differed significantly on the IC scale, but in a surprising way that partially challenges the traditional views on individualism/collectivism paradigm. Specifically the Chinese students scored significantly higher than the American participants on both the vertical individualism and vertical collectivism subscales, indicating that while they are more likely to accept hierarchy and inequality in society, they are nevertheless able to view the self both as part of a collective and as fully autonomous. The American students on the other hand scored significantly higher on both the horizontal individualism and horizontal collectivism subscales, indicating while they are less likely to accept hierarchy and inequality in society, they are also able to view the self both as part of a collective and as fully autonomous. Results also show that the American participants hold more positive attitudes toward aging than their Chinese participants. For both groups, collectivistic orientation is positively correlated to attitudes toward aging and the elderly. We will discuss these findings in the context of globalization and the possible eroding of traditional Chinese values.

CONSTRUCTING TRANSNATIONAL FAMILIES: GENERATIONAL TIES, FILIAL PIETY, AND CAREGIVING ACROSS BORDERS

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Research at the intersection of migration and aging has primarily focused on elderly migrants, and has only recently begun to address the issue of transnational family relationships of older parents left behind by their migrant children. The current study contributes to this nascent area of research by examining the intergenerational relationships of Korean Americans with at least one older parent living in Korea. Korean immigrants represent a theoretically rich population to study because, as labor migrants, they have largely been successful in American society, but retain values of filial piety from their native culture. The empirical design consists of in-depth, open-ended interviews of twenty Korean Americans living in the Northeast of the U.S. Most subjects are first-generation immigrants from Korea. A grounded-theory approach is used to detect consistent thematic content across interviews. Findings suggest that there is uncertainty among these immigrants as to future expectations for their parents' later years and how to plan for their care. They tend to feel ambivalent over the difficulties of maintaining family ties and fulfilling filial obligations over great distance, a challenge further complicated by practical issues of formal elder care

availability in contemporary Korea. There is also some tension, both internally for the immigrants and between family members, over future plans and expectations for care, including the expectations of parents. Such conflicting factors mean that when the time comes to respond, intergenerational care provision will involve complex negotiations among members of these transnational families.

FUTURE TIME PERSPECTIVE OF OLDER GERMANS AND JAPANESE LIVING ALONE

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Objectives: Changes in age-related future time perspective (FTP) were found to influence people's social network characteristics (SNC). Earlier studies revealed different patterns of adaptation to their personal network among older adults with or without nuclear family members. Using the framework of socioemotional selectivity theory (SST), this study examined the differential role of living arrangement in SNC between the cultures of Germany and Japan, which share many distinct characteristics, including the types of living arrangements among older adults.

Methods: Our sample consisted of 139 German (71% live alone) and 136 Japanese (49% live alone) adults ranging in age from 60 to 90. The moderating role of living alone in the three way interactions of subjective health (SH), FTP, and SNC was tested.

Results: Among Germans, more extended FTP was associated with an increasing number of very close social partners, when living alone and having rather poor or average health, as well as when living with someone and having rather better health. These findings were consistent with SST. However, no such associations were found among Japanese. Our additional analysis on the interaction between the effects of culture and living alone on FTP revealed a greater cultural effect in the live-alone situation than in the not-live-alone situation.

Conclusions: Our study suggests that culture-specific associations between SH, FTP, and SNC may reflect differences of living arrangements between Germany and Japan. For example, living alone may have a stronger impact on the phenomenon of SST in Germany than in Japan.

ELDERCARE NORMS REGARDING THE PROVISION AND FINANCING OF HOME CARE ACROSS 24 COUNTRIES

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We use 2012 data from the International Social Survey Program to examine cultural norms surrounding assistance with daily activities at home for older people across 24 economically developed countries. We focus on individuals' expressed support for four different elder care arrangements characterized by differences in who provides and covers the costs of elder care. People's elder care beliefs vary substantially both across and within countries. Support for "private responsibility"—i.e., private sources such as family

members are responsible for both providing and financing elder care—is greatest in the English-speaking countries (44 percent), followed by Eastern and Southern Europe and East Asia (both 35 percent), Western Europe (25 percent), and the Nordic countries (9 percent). By contrast, 74 percent of people in the Nordic countries express support for “public responsibility”—i.e., formal sources such as government agencies are responsible for both provision and financing—and support for this arrangement ranges between 29 and 41 percent in the other country groups. We use multilevel models to examine how people’s support for different elder care arrangements are related to societal opportunity structures, familial opportunity structures, and ideological factors. Our results suggest the importance of both opportunity structures and ideological factors in accounting for people’s elder care beliefs. The most important factor at the country level is the percentage of GDP spent on services, which is associated with greater support for “public responsibility” in elder care and less support for “private responsibility” and “publicly financed informal care.”

LIVING IN MANDATORY PALESTINE: PERSONAL NARRATIVES OF THE GALILEE FROM THE 1940S TO 1967

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This paper presents the results of a research study entitled “Living in Mandatory Palestine: Personal Narratives of the Galilee from the 1940’s to 1967.” Forty narratives were collected: twenty from Jewish settlers and twenty from Arabs who have lived or where born in the Galilee, prior to the establishment of the State of Israel and thereafter. The study uses a narrative approach to gerontology that explores the lives of older study participants from a life course-ecological perspective, encompassing cultural, historical, and political reminiscence.

Resilience was analyzed through people’s narratives of critical events that occurred at the personal, interpersonal, sociocultural, and societal levels. Personal-level narrative themes spoke about internal feelings. Interpersonal-level narrative themes such as continuity, personal responsibility to each other, coping, modesty and acceptance addressed relationships between people. Sociocultural-level themes express the beliefs and mores of family, tradition, religiosity, Zionism, modesty and leadership of the time. Societal level narrative themes such as relating to belonging to persons, places, and ideologies are indicative of the work of societal institutions. Initial results point to a strong idealistic commitment to family and state regardless of ethnic background.

MULTIMORBIDITY, HEALTH, AND AGING IN CANADA AND AUSTRALIA: A TALE OF TWO COUNTRIES

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Multimorbidity has been recognized as a major public health issue that is prevalent among older adults, affecting

objective and subjective health, and health care utilization. For instance, in Canadian and Australian population health surveys, self-reported multimorbidity is estimated between 50% and 65% among persons 65 and over. This exploratory study examines selected health outcomes associated with multimorbidity across older age groups/cohorts and gender, comparing Canada and Australia. Data were drawn from the 2008/09 Canadian Community Health Survey and the 2009 Australian HILDA survey. Seven major chronic illnesses were identical across the two data sets, and were combined into an additive measure of multimorbidity. OLS and logistic regression models were performed within age group (45–54, 55–64, 65–74, 75+) and gender to estimate associations between multimorbidity and several health outcomes, including: loneliness, life satisfaction, perceived health, mobility restriction, and hospital stays, adjusting for marital status, education and foreign born status. Overall, country-level differences were identified for perceptions of loneliness, life satisfaction, and perceived health. Australians tended to experience a greater risk of loneliness and lower self-rated health in the face of multimorbidity than Canadians, especially among older men. Canadians tended to experience lower life satisfaction associated with multimorbidity than Australians. No country-level differences were identified for the effects of multimorbidity on hospital stays or mobility limitations. The effects of multimorbidity on health is variable depending on population, age group/cohort, and gender. The strongest country-level associations are for indicators of health-related quality of life, rather than health care or mobility limitation outcomes.

GENDER GAPS AND SES GRADIENTS IN ALCOHOL CONSUMPTION AMONG OLDER ADULTS IN 19 COUNTRIES

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The prevalence of alcohol consumption and its effects on mortality and morbidity have received substantial attention. Most of the evidence is based on single-country studies or in comparative studies of the general population. In contrast, comparative estimates of the prevalence of alcohol consumption among older adults have received less attention. Using recent data from the Health and Retirement Study (HRS), English Longitudinal Study on Ageing (ELSA), Survey of Health, Ageing and Retirement in Europe (SHARE), China Health and Retirement Longitudinal Study (CHARLS), and Korean Longitudinal Study of Aging (KLoSA), this study harmonizes information on alcohol consumption and categorizes respondents as: lifetime abstainers, current abstainers, occasional drinkers, moderate drinkers, and heavy drinkers. Preliminary results suggest that moderate drinking is more prevalent in European countries, while lifetime abstainers are the norm in Asia. Gender gap and SES gradients are substantial, but they vary considerably across countries.

HOME ASSESSMENT OF PERSON-ENVIRONMENT INTERACTION (HOPE): A CROSS-CULTURAL VALIDATION STUDY

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Aging is frequently associated with impaired mobility. Consequently, the elderly face environmental barriers within their home environment and Aging-in-Place becomes a challenge. Few assessment tools exist to address the issue of home adaptation. HoPE is based on a Person-environment Interaction Model and specifically designed for home adaptation evaluation. Since its original version is in French, this study's aim was to yield an English version. Based on a back-translation methodology for cross-cultural research, the first steps of the Vallerand's method were completed: 1) an English experimental version of HoPE was produced by comparing the original version with the translated and back-translated versions by independent translators, 2) this experimental version was submitted to an expert panel to validate the transcultural equivalence using a consensus approach. Comparative data analyses included: 1) highlighting the similarities/differences across the three versions of HoPE (original, translated, back-translated), and 2) reporting the experts agreement/disagreement. Results show that 70% of the experimental version is transculturally equivalent. For the remaining 30%, the experts reached a consensus except for 6 terms for which decision was based on the majority; then, the English version of HoPE was produced. Considering these results and the psychometric properties of its original version (French), this cross-cultural adaptation of HoPE provides clinicians and researchers with a new and valid tool to understand the Person-Environment Interaction in the home setting.

THE ASSOCIATION OF MULTI-ETHNICITY AND HEALTH AMONG OLDER ADULTS: THE CASE OF COSTA RICA

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The Hispanic population is considered one of the most diverse groups of individuals nationally and globally. Assessing the multi-ethnic background of Latin America is very convoluted, and an area that is often ignored, particularly as it deals with health outcomes of older non-White Hispanic adults. This lack of attention has a direct impact on the needs of Black Latinos, in particular and other Latin American minorities in general. This tends to render these groups as practically invisible in terms of health outcomes, behaviors, and other related psychological outcomes. To better understand the global assessment of older minority populations, this project takes the case of Costa Rica as an example of a multi-ethnic country that is aimed at understanding the health needs of its older adult population. An introduction is directed at the historical context of immigration and cultural encounters that have taken place in unjust and inequitable circumstances, particularly among the Black Latino population in Costa Rica, with emphasis on the population coast of Limón, Costa Rica. Although ongoing, preliminary results of a study are provided describing inequities of wealth and segregation, with its deleterious consequences on health. Special attention is guided at how health is defined, how race

has impacted well-being, and understanding the dynamics of this long-standing relationship. These data will direct our understanding of models, facilitators, and barriers that define the life experiences of Black Latinos and other marginalized populations, while highlighting areas that promote medial advancements, equity in access to care, and health promotion and well-being.

SESSION 815 (POSTER)

DEATH, DYING, AND BEREAVEMENT

CIRCUMSTANCES SURROUNDING THE DEATH OF A LOVED ONE AND ADAPTATION TO BEREAVEMENT

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Circumstances surrounding the death of a loved one can affect surviving family members' bereavement experience. Those who believe their loved one had a 'good death' (e.g., death was a relief, expected) may experience better bereavement outcomes than those who were dissatisfied with their loved one's death experience. This study examined: (1) pre-death factors associated with caregivers' perceptions about the circumstances surrounding their care recipients' death; and (2) whether a better perception of death is associated with indicators of adaptation to bereavement. Participants included 89 informal caregivers (CG) aged 32 - 87 years ($M = 63$ years) who experienced the death of their care recipient shortly after placing him/her in a long-term care facility. Pre-death measurements included sociodemographic characteristics, depression, and preparedness for death. Post-death measurements (approximately 3 months post-death) included circumstances surrounding death, restorative health behaviors, and complicated grief. A multivariate regression model showed that CGs who were White and CGs who felt more prepared prior to death perceived better circumstances surrounding their loved one's death. CGs who perceived better circumstances surrounding their loved one's death engaged in more restorative health behaviors post-death and reported fewer symptoms of complicated grief. These findings suggest that a better perception of death facilitates behavioral and psychological adaptation to bereavement. These findings raise questions about the specific circumstances surrounding death that may facilitate adaption to bereavement and whether healthcare providers can improve CGs perceptions of a 'good death', possibly by preparing them for the death of their loved one.

PSYCHOLOGICAL VULNERABILITY TO WIDOWHOOD: FINANCIAL STRAIN, WORRY ABOUT CARE, AND SOCIAL ENGAGEMENT

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Objective. This study examines the ways in which the financial, social, and care factors (financial strain, worry about having no caregiver, and social engagement) modify the association

between widowhood and depressive symptoms among older adults in China. **Methods.** Using national representative data from older adults in China in 2000 ($n = 15,115$), Multiple regressions were used in this study to examine the moderating effects of the financial, social and care factors on the association between widowhood and depressive symptoms. We also performed structural equation modeling to test the mediating effects of these factors on such association.

Results. Compared to their married counterpart, widowed older adults show significantly higher level of depressive symptoms ($b = 0.46, p < .001$), higher percentage of worry about having no caregiver ($b = 0.11, p < .001$) and financial strain ($b = 0.10, p < .01$), and lower level of social engagement ($b = -0.07, p < .01$) which results in higher levels of depressive symptoms. Worry about having no caregiver ($b = 0.15, p < .001$) significantly moderates the relations between widowhood and depression.

Discussion. This study extends bereavement and psychological wellbeing research to developing nations by examining several pathways between bereavement and depressive symptoms. The results provide important implications for intervention when working with widowed older adults in China.

AN EMPIRICAL TEST OF ROLE THEORY IN THE RELATIONSHIP BETWEEN WIDOWHOOD AND LIFE SATISFACTION

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The purpose of this study was to test the social role theory in terms of widowhood transition among individuals in middle and later life. In this study, there were two approaches. One was the inter-comparison approach between married and widowhood individuals. The other was the intra-comparison between pre-widowhood and post-widowhood within individuals. For the analyses, data collected across the years 2006 to 2012, from the 1st to 4th wave of the Korean Longitudinal Study of Aging was utilized. The sample was individuals over 45-years-old and who experienced widowhood transition once or who stayed married ($N=5,735$). The dependent variable was life satisfaction. The independent variable was widowhood status as time-varying dichotomous variables. Utilizing the STATA program, the pooled model and the Fixed Effect model were analyzed. In the pooled model, the differences in life satisfaction between the married and the widowed were significant. In other words, widowhood individuals showed lower life satisfaction than the married. In the fixed effect model, however, widowhood was not significantly associated with life satisfaction. These results imply that the social role theory is not supported. That is, it is likely that other time-invariant characteristics among individuals may be associated with low life satisfaction in the context of widowhood transition in middle and later life. Implications and directions for future research are discussed.

A TARGETED AND TAILORED BEREAVEMENT INTERVENTION FOR CANCER CAREGIVERS

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Current literature suggests that interventions be targeted to those most at risk and flexible enough to accommodate individual preferences and needs. To explore whether tailoring and targeting modifies the efficacy of an intervention, this project utilizes a sub-sample of older spousal caregivers (median age = 64 years) who were randomized to receive an individually-tailored 14-week bereavement intervention ($n=112$) or usual care where they received only the standard bereavement support provided by hospice ($n=114$). Results from a traditional intent-to-treat model find a moderate effect size: those assigned to the intervention had more favorable bereavement outcomes over time compared to the control group. Further analyses revealed that participants benefitted from the intervention regardless of whether they chose to receive a high or low dosage of the intervention and regardless of whether they were categorized as being at higher or lower risk for adverse bereavement outcomes. Despite the similarity in treatment effects, there was substantial variation in how the intervention was delivered (e.g., total number of intervention sessions ranged from 1 to 19 across individuals). Taken together, these findings suggest that the key to effectively supporting older adults during a difficult life transition such as widowhood appears to be in developing an intervention that meets one's unique needs and preferences. As clinicians and practitioners, we should be careful to not force support when it is not needed or wanted, but be willing to provide high levels of support for others who may desire it. Funded by NCI, P01-CA138317.

DOES SPOUSAL LOSS PREDICT COGNITIVE FUNCTION? RESULTS FROM THE MEXICAN HEALTH AND AGING STUDY.

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Background: Mortality following spousal loss has received considerable research attention. The cognitive impacts of spousal bereavement remain understudied. In the United States, previous work suggests that bereavement negatively impacts cognitive function. This has not been studied in developing countries such as Mexico. We examine whether widow(er)hood is associated with cognitive function among older Mexican adults and whether this association differs by sex and anticipatory spousal loss.

Method: We use Waves 2 (2003) and 3 (2012) of the Mexican Health and Aging Study including married respondents in 2003. Those who lose a spouse between waves are analyzed as widow(er)s while the continuously married are controls. Cognition is measured through verbal learning, verbal recall, and visual scanning. Models include cognitive function prior to widow(er)hood. Spousal loss is considered unanticipated if one's spouse reports good health prior to death.

Results: Recently bereaved males performed significantly worse on verbal learning tasks, an effect that seemed to diminish with time since widowerhood. The effect of spousal loss on cognitive function for males was stronger when the loss of their spouse was unanticipated (when the wife reported good health prior to death). Spousal bereavement did not seem to affect cognitive function for females regardless of anticipatory status.

Discussion: Our results echo previous work suggesting that spousal loss harms cognitive function, that males are more affected by spousal bereavement, and that elevated risk seems to decline with time since widow(er)hood. The effect of spousal bereavement on cognitive function may be more pronounced when spousal loss is unanticipated.

THE GENDERED EXPERIENCE OF SOCIAL RESOURCES ACROSS THE TRANSITION TO LATE-LIFE WIDOWHOOD

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Widowhood in later life is a transitional event necessitating considerable change and presents differing challenges for men and women. Social resources - close relationships, social support exchange and opportunities for social participation - can assist in successful adjustment to spousal loss. Using the perspective of life course theory, this study sought to understand the gendered experience of social resources during the transition to widowhood.

Semi-structured interviews were conducted with 20 men and women (aged between 85 and 96 years) who had been widowed in later life. Participants were asked about the continuity and changes which had occurred in their social resources both pre- and post-widowhood. The role that these resources played in adjustment to spousal bereavement was also explored. The interview data were analysed thematically using framework analysis.

Four different phases in the transition to widowhood were identified each with differential experiences of contact with the social network, support and social participation. Older men and women experienced different opportunities in the accessibility and mobilisation of their social resources in widowhood. Male participants reported smaller social networks and received less support than female participants during all phases in the transition to widowhood. They also experienced fewer opportunities for social participation and were consequently more likely to be socially isolated. The stronger social resources possessed by older widowed women may assist them in better meeting the challenges associated with spousal bereavement. Potential gender differences should be taken into account in the assessment and planning of supports and services for older widowed adults.

MENTAL HEALTH AND THE RELATING FACTORS AMONG CHINESE OLDER ADULTS WHO LOST THEIR ONLY CHILDREN

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The number of older adults who lost their only children is increasing year by year with the implementation of the birth control policy in mainland China. They would encounter not only the pain caused by the loss of the child but also the pressure imposed by social context. However, few empirical studies have revealed the mental health among these vulnerable people. This study aimed at investigating the mental health status and the factors associated among them.

The sample consisted of 116 older adults who lost their only children (the lost group) and 100 older adults who didn't (the contrast group) from same communities. Participants were asked to complete a set of questionnaires to measure child death-related factors (time and cause of death), physical health (number of disease and self-rated physical health), social support (satisfaction of formal social support, participation in community activity, and marital quality), resilience, and mental health (depression, loneliness, and anxiety).

The findings revealed that the lost group reported more depression and anxiety symptoms than contrast group and females had more depression symptoms than males. Within the lost group, those whose children died of accidents showed worse mental health while those who had higher resilience, marital quality, and better physical health reported lower level of depression and anxiety. Community practices should channel more resources to improve the mental health of older adults who lost their only children. Efforts will be significantly valuable when focusing on enhancing resilience, physical health or marital quality of parents according to the present study.

SURVEYING ELDERLY PATIENTS' WISHES ABOUT ARTIFICIAL NUTRITION DURING END-OF-LIFE CARE IN JAPAN

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Because ambiguity is one of the prominent features of Japanese culture, it is crucial to understand how many Japanese elderly persons have strong wishes related to end-of-life care. Ninety-nine consecutive inpatients aged 75 years or older were enrolled in the first survey from 2012 to 2014, after excluding patients with a Mini-Mental State Examination (MMSE) score of 20 or less. The first survey was performed by interviewing them about their wishes related to artificial nutrition and hydration (ANH) during end-of-life care. For the 35 patients who had attended the first survey, we performed the second survey from 2015 to 2016 by handing them the questionnaire comprised of the same items as the first survey. 50.0% of the participants were against ANH at the end stage of their lives on the first survey. In contrast, only 5.3% wished to receive ANH. The answers of the other patients were inconsistent or included "I don't know". Aging and MMSE scores of less than 24 were significantly associated with a higher tendency to decline from participating in the interview. However, the distribution of the interview answers was not associated with age or MMSE scores. Interestingly, 87.5% of the patients who had been against ANH on the first survey selected the same answers on the second survey, while only 20.0% of the other patients selected the same answers as the first survey. In conclusion, many patients did not have definite wishes in Japan. However, most of the wishes against ANH did not change with age.

SESSION 820 (POSTER)

DEMENTIA AND ALZHEIMER'S DISEASE II

IMPLEMENTING PHYSICAL ACTIVITY PROGRAMS FOR PEOPLE WITH DEMENTIA: RESULTS FROM A GERMAN STUDY

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Different studies proof the benefit of physical activity for people with dementia and especially a holistic health approach is an effective strategy. Feasibility and sustainability of physical activity programs are more problematic and often not considered, when implementing them. This project (2014 – 2016) evaluated 73 local partnerships between sports clubs and care service providers which introduced this kind of programs for people with dementia (and their informal carers). The evaluation comprised a multi-method approach: (a) focus groups to analyze the needs and expectations of the two partners involved at three different times, (b) qualitative interviews with people with dementia (n=12) and their carers (n=20) to examine the effects of taking part in the physical activity program and (c) analysis of the user statistics. Results of focus group discussions confirm the importance of a local network and a sustainable finance model to ensure long-term feasibility. People with dementia and their carers emphasize that the experience of social support, fun and break from their daily life routine are the most relevant reasons for participation. Instead, time, place and kind of physical activity are of less importance. The key factor for a successful implementation of physical activity programs or for achieving positive effects for people with dementia and their carers is – besides other favorable framework conditions – a local community network which involves all actors mentioned above. These actors, they are all experts in a particular way, must have the willingness for communication and cooperation in order to complement each other.

THE POSSIBILITY OF COUPLES LIFE STORY PROJECT REDUCING CAREGIVERS BURDEN

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In Japan, the older population is growing rapidly and it is estimated that the number of person with dementia will be 7 million in 2025. Over 80% of older people say they prefer to receive caregiving from their spouse, and a quarter of the family caregivers are spouses in Japan. Caring for a spouse with dementia can be very stressful and increase feelings of burden. The couples life story method which was developed by Ingersoll-Dayton helps couples review their life together from the first time they met to the present using photographs to stimulate conversation. We used couple's pictures and a life story board to conduct interviews with couples over 4–5 sessions lasting 1 to 2 hours each. Pre-and post-questionnaires for each spouse were used before and after the tape-recorded sessions; a life story book was produced for each

couple. 13 couples were included to this project. The average age of the caregivers was 79.0(±7.7), and 3 of them were male. The average age of care receivers was 80.2(±6.9), and 10 were male. The average score of MMSE was 14.2(±7.1) in care receivers. Depression and care difficulty was improved significantly after 4–5 session of the couple's life story project. There was no result to show improvement of couples' relationships from statistical analysis. But some couples used the life story book to promote their communication even after this project. This project is recommended to couples to improve spouse caregivers depression and care difficulty.

EATING PERFORMANCE AND ENVIRONMENTAL STIMULATION AMONG OLDER ADULTS WITH DEMENTIA IN NURSING HOMES

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Nursing home (NH) residents with dementia experience increased risk for compromised eating performance due to cognitive and functional decline and behavioral symptoms. Beyond the personal factors, there is a lack of evidence on how environmental stimulation at mealtime influence individuals' eating performance. This study examined the association between environmental stimulation and eating performance among NH residents with dementia. A secondary analysis was completed of 36 baseline eating videos among 19 nursing assistants and 15 residents with dementia in 8 NHs from a communication intervention study. The dependent variable was eating performance (Level of Eating Independence scale). The independent variables were characteristics of environmental stimulation measured by the Person-Environment Apathy Rating-Environment subscale (stimulation specificity, interaction involvement, environmental feedback). Multilevel models were used to examine the association between eating performance and environmental stimulation adjusting for resident characteristics and nesting effects of resident and staff. Eating performance was significantly associated with stimulation specificity (how the stimulation is delivered and tailored to residents) and was not associated with other environmental stimulation characteristics, after controlling for resident characteristics. An environment with more specific stimulation is associated with better eating performance. For each 1 point increase in stimulation specificity, eating performance is increased by 8.78 points (95% CI=.59, 16.97). Environmental stimulation that is personally tailored to residents' needs and preferences and directly offered to residents improves eating performance among residents with dementia. The findings will direct future development and implementation of person-centered mealtime care programs and dining environment arrangements for residents with dementia in NH settings.

PERSONALITY TRAITS AND RISK OF COGNITIVE IMPAIRMENT AND DEMENTIA: NEW DATA AND META-ANALYSIS

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Personality traits are relevant risk factors for dementia because of their widespread impact on individuals' behaviors, lifestyle, and health. We investigated the association between personality traits and risk of cognitive impairment and dementia in a large prospective cohort and in a meta-analysis of the literature. We also tested whether personality traits predict the risk of conversion from cognitive impairment to dementia. Participants were drawn from a national prospective study ($N = 13,882$), the largest and most representative sample to date to test the association between personality and dementia. Participants completed a brief five factor model personality measure and their cognitive status was tracked for up to 8 years and classified into normal, cognitive impairment not dementia (CIND), and dementia groups. With Cox regression analyses we found that scoring lower on conscientiousness and higher on neuroticism was associated with increased risk of incident CIND and dementia ($p < 0.001$). Low agreeableness was also associated with dementia risk ($p < 0.001$). The association of personality with risk of dementia remained significant after adjusting for age, sex, education, race, ethnicity, smoking, physical activity, obesity, diabetes, hypertension, cholesterol, HDL, Cystatin C, CRP, and Hemoglobin A1c. Among individuals with CIND at baseline, we found that conscientiousness was a significant predictor of conversion to dementia ($p = 0.030$), but there was only a non-significant trend for neuroticism. The meta-analysis of 7 prospective studies ($N = 16,311$) found consistent evidence that conscientiousness, neuroticism, agreeableness, and to a lesser extent openness, are associated with risk of dementia.

IT TAKES TWO TO CARE: LESSONS LEARNED WHILE ENGAGING WITH EARLY-STAGE DEMENTIA DYADS

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This presentation reports on the recruitment and implementation stages of a community based early-intervention support model for older people with Mild Cognitive Impairment (MCI)/early-stage dementia and their caregivers (the dementia dyad, $n=96$). Detailed records on non-participation and withdrawal reasons were maintained throughout the study, and intervention acceptability was evaluated using a mixed method analysis. The study findings highlight some key issues regarding the acceptability of early intervention/forward planning approaches to people dealing with a progressive incurable condition. Public impressions of dementia heavily influenced dyad participation in the study, with nearly half (45%) of those who initially expressed interest abstaining. A significant barrier to participation was inter-dyadic disagreement, commonly related to one member's apprehension over involvement in a study for people with dementia. Stigma continued to have an impact post-recruitment. Two dyads in the intervention group and one in the control group withdrew from the study because they found talking about dementia and associated deficits confronting. Among intervention group dyads' that completed the intervention ($n=35$), the majority of dyads' (75%) stated they felt better informed and identified tangible actions taken to plan for the

future. A key challenge in intervening early with people with dementia is how to refute stigma myths and accommodate a positive perspective to adjustment to declining function. The significant impact that stigma has on the decision to engage in research activities associated with dementia may prove insurmountable, until dementia treatment options improve.

IMPLEMENTING OBSERVATIONAL PAIN MANAGEMENT PROTOCOL FOR PAIN MANAGEMENT OF RESIDENTS WITH DEMENTIA

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Objective: To investigate whether the implementation of the Observational Pain Management Protocol (Protocol) can improve pain management for nursing home residents with dementia.

Design: A two-group, single-blinded, cluster-randomized controlled trial

Participants: 128 recruited residents with advanced dementia and pain-related diagnoses from 17 nursing homes were allocated to either the control or the experimental conditions based on the randomized group allocated to their home.

Interventions: The Protocol, which includes assessing, interpreting, and verifying the participants' observed pain scores, initiating pain-relieving interventions according to the observed pain scores, and reassessment, was implemented in the experimental homes for 12 weeks to guide the pain management of the participants. Meanwhile, the control homes continued to employ their usual pain management strategies.

Measurements: These included the use of pain medications and non-pharmacological pain treatments in terms of types and frequency, as well as the participants' observational pain scores (assessed by Chinese-Pain Assessment IN Advanced Dementia).

Results: A significant increase in the frequency (95% CI: -0.13 to -0.09, $p<0.01$) and type (95%CI: -0.05 to -0.02, $p<0.01$) of non-pharmacological interventions used was seen in the experimental homes in comparison with the control homes. However, no statistically significant difference in the use of pain medications was observed. A significant reduction in the observational pain score (95% CI: -0.26 to -0.17, $p<.001$) was obtained only in the experimental home.

Conclusion: This study supports the view that the Protocol is of clinical utility in enhancing the use of non-pharmacological pain-relieving interventions among residents with advanced dementia, leading to a reduction in their observational pain-related behaviors.

QUALITY IS PERSONAL: NEGOTIATING CHOICE AND RISK IN COMMUNITY BASED DEMENTIA CARE

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With a growing population of people with dementia living at home, practitioners working in the community are faced with the challenge of delivering services that provide control

and reflect the choices of this high risk population. The balance between providing older people with the opportunity to be active partners in their care and ensuring that they are not at risk is a difficult one, however it is imperative that we understand the issues that are important to each older person and act accordingly. Despite this, there are currently no gold standard guidelines to assist community health professionals in providing services that address client choices while mitigating risk. This presentation will detail the findings from a study that explored the issue of safety and risk in dementia care, and the creation of a tool that allows health professionals, clients and carers to negotiate the risk to the client. Interviews were used to explore the perceptions of 'healthy' older people, older people with dementia, carers, health professionals and representatives of a community health service organisation. Using case studies from the data, this presentation will report on the development and acceptability of a tool and whether it allows health professionals, clients and carers to negotiate risk while ensuring that clients are active partners in their care.

POSITIVE EXPERIENCES IN DEMENTIA

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The negative image of dementia hampers empowerment and positive health in persons with dementia, their caring relatives and care professionals. Two pilot projects aim to highlight any positive aspects of living with dementia.

The first project used interviews with five family carers and two persons with dementia. Analyses of the interview transcripts involved content analyses.

The second project expanded on the findings of the first. It involved a multiple case study including four cases (each involving a person with dementia, family carer and care professional). The family carers were invited to take photographs of positive daily aspects (cultural probe). All 12 case members were interviewed, using the photographs as prompts. Interview transcripts were analysed within and cross cases.

The findings of the first project show that the positive experiences of persons with dementia and carers involved social contacts, positive life attitude, meaningful and pleasant activities and daily events, positive management of dementia, personal growth and satisfaction as carer, and a pleasant environment.

The analyses of the second study show that all three parties report positive experiences reflected in three themes: (1) It's the little things that matter, (2) being surrounded by loved ones, and (3) life is what you make of it.

We conclude that people with dementia, their informal and professional carers have positive experiences relating to the enjoyment of small things in life and meaningful and pleasant social interactions. These insights may be used to design educational interventions for the general public and professionals and contribute to a dementia-friendly society.

DISCLOSING RISK FOR AD: ATTITUDES AND PERCEPTIONS IN THE GENERAL PUBLIC

J. Gooblar, *Washington University in St. Louis, Saint Louis, Missouri*

Recent biomedical research has focused on early detection of Alzheimer's disease (AD) pathology in people who do

not yet have symptoms of the disease. This focus represents a shift in current diagnostic practices from detection of cognitive impairment to include detection of disease risk. The current study examines attitudes regarding preclinical risk detection for AD in N=581 individuals aged 19–65 recruited online using Amazon's Mechanical Turk. Participants were randomized to view an educational intervention (varying depth of education) and viewed a videotaped disclosure of hypothetical risk for AD to themselves (varying level of risk). Participants also reported on several individual difference variables (e.g., prior knowledge, experience with AD) as well as their interest in predictive testing and subjective risk of AD. The results of this study show that greater prior knowledge and health literacy was associated with better recall of novel information about preclinical AD. Experience with AD, although not age, was associated with greater interest in predictive testing and higher subjective risk. Participants who were disclosed a hypothetical diagnosis of preclinical AD and who viewed in-depth information about the disease reported lower subjective risk compared to participants who learned only basic information about the disease. These findings have implications for the development of empirically-supported education interventions and disclosure processes for preclinical AD in research settings and in clinical practice.

RLIFE™: AN ONLINE PLATFORM TO SUPPORT THE SOCIAL INTERACTIONS OF INDIVIDUALS WITH DEMENTIA

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Social connectedness and participation in meaningful activities can help individuals with dementia maintain a sense of belonging, stay independent at home longer, slow cognitive decline, increase life satisfaction, and promote aging in place. However, there is a lack of consolidated resources to support individuals with dementia with the fulfillment of their social needs after a dementia diagnosis. There are some websites and online information boards to support individuals with dementia; however, the amount of information can be overwhelming because it is not adapted to their needs. The demand to increase and facilitate social connectedness for individuals with dementia encourages the development of solutions tailored to this population. The objective of this work is to develop a prototype of an online platform to Reconnect individuals with mild to moderate dementia to Life, through social Interaction and Fulfilling Experiences (rLife™). Using a transdisciplinary approach, a prototype was co-created based on the information provided by

different stakeholders (i.e., individuals with dementia, clinicians, technicians, engineers, family caregivers, and researchers). We first identified areas for social interaction and translated them into the conception of a matching algorithm aimed at connecting individuals with dementia to personalized opportunities tailored to their needs, values and preferences. We then defined a non-profit model of operation that utilizes partnerships with dementia-focused organizations to ensure the sustainability of the platform. Future directions include developing the services offered on the platform, and designing and testing the user interface with individuals in our target population.

EVALUATION OF THE MEETING CENTER SUPPORT PROGRAMME FOR PEOPLE WITH DEMENTIA AND THEIR FAMILY CARERS

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The Meeting Centre Support Programme (MCSP) is a community-based approach to supporting people with mild to moderate dementia and their families, developed in the Netherlands where they are now widespread. Evaluation studies showed benefits including reduced behavioural and mood problems, delayed admission to residential care, higher levels of carer competence and lower levels of burden. The JPNP funded MeetingDem project aimed to implement and evaluate Meeting Centres in the UK, Italy and Poland.

Our evaluation adopted a before and after control group design with matched patient-carer dyads. In each country we compared a minimum of 25 dyads using the MCSP with 25 receiving 'usual care'. Baseline data were collected at month 1 with a follow up at month 7. Validated measures were used to assess quality of life, depression, social support and caregiver competence. Data were also collected on intervention costs and the use of other services in order to allow a cost-effectiveness analysis. Finally, surveys and focus groups were used to evaluate user satisfaction with the MCSP.

Initial findings suggest significant effects for MCSP compared to usual care, including reduced behavioural problems and improved caregiver coping. This presentation will describe the MCSP approach, present the full evaluation findings and consider the potential for wider implementation.

FINDINGS FROM A REAL-WORLD TRANSLATION STUDY OF THE EVIDENCE-BASED "PARTNERS IN DEMENTIA CARE"

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Numerous non-pharmacological programs for persons with dementia and family caregivers have been found

efficacious in randomized controlled trials. However, few programs have been tested in translation studies to assess feasible and outcomes in less-controlled, real-world implementations. This translation study of the partnership version of *BRI Care Consultation*, "Partners in Dementia Care (PDC)," tested feasibility and outcomes, when delivered via partnerships between Stokes VA Medical Center, Greater East Ohio Alzheimer's Association Chapter, and Western Reserve Area Agency on Aging. The sample was 200 north-east Ohio veterans with dementia and their family caregivers. Data came from the computerized program record and research interviews with caregivers, and veterans who were able. Interviews were conducted before enrollment and 12-months later. Record data showed the program was feasible for regular employees of partnering organizations, with high-levels of fidelity to the evidence-based protocol. Specifically, veterans and caregivers averaged: 15 telephone/computer contacts over the 12 months; 9 and 3 triggered problems in the initial assessment, respectively; and over 11 behavioral action steps to address triggered problems. Similar to past controlled studies, repeated measures ANOVA of pre-post data showed significant changes in various outcomes, especially when veterans were more impaired. Caregivers had significant improvements in: confidence, isolation, physical health strain, unmet needs, informal support, and support service use. Veterans had significant improvements in: embarrassment about memory problems, unmet needs, informal support, and community service use. Encouraging translation-study findings are being used to engage VA's, health systems, and community agencies in discussions about organizational partnerships to deliver PDC.

DEATHS FROM ALZHEIMER'S DISEASE—UNITED STATES, 1999–2014

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Alzheimer's disease (AD) is the sixth leading cause of deaths in the US. Mortality is important to examine because persons with AD might live several years with adverse health effects which places a heavy burden on patients, their families, caregivers, and community. US AD mortality data has been presented at the state level but not counties. We examined AD deaths at national, state, and county levels. Mortality data for 1999 through 2014 from the Centers for Disease Control and Prevention Wide-ranging Online Data for Epidemiologic Research was examined to generate state- and county-level AD statistics. AD was defined using *International Classification of Diseases, Tenth Revision* underlying cause-of-death codes G30.x. Nationally, the age-adjusted AD death rate per 100,000 population significantly increased by 54.5% from 16.5 (44,536 deaths) in 1999 to 25.4 (93,541 deaths) in 2014. Significant increases occurred across the same period for all age groups, sexes, and race and Hispanic origin categories. From 1999 to 2014, AD death rates significantly increased for 41 states and DC. Only one state had a significant decrease in age-adjusted AD deaths (Maine). County-level age-adjusted death rates were aggregated for 2005–2014 to improve stability and ranged from 4.3 to 123.7 per 100,000. Counties with the highest

age-adjusted rates were primarily in the South with additional areas in the Midwest and Pacific Northwest. Increases in the number of AD deaths might be because of improved diagnostic capabilities and improved public knowledge encouraging patients and families to seek a diagnosis or care when symptoms appear.

EFFICACY OF SCHEDULED ACTIVITY ON CIRCADIAN RHYTHMS IN PERSONS WITH DEMENTIA: HEALTHY PATTERNS TRIAL

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Over 60% of persons with dementia experience disruptions in sleep wake patterns associated with circadian rhythm disorders. This pilot trial tested whether the Healthy Patterns behavioral intervention demonstrated efficacy in reducing symptoms of circadian rhythm disorders in home dementia patients with sleep disorders. A prospective, two group controlled trial randomized 33 persons with dementia and their family caregiver (dyads) to treatment or attention control conditions. Dyads were interviewed at baseline and 10 days (trial endpoint). Sleep parameters were collected via caregiver report and actigraphic measures. The 4 session intervention involved a cognitively-engaging activity in the morning, a physically-engaging activity in the afternoon and a sensory based activity in the evening. At 10 days, compared to controls, intervention participants were more likely to experience improvements in wakefulness after sleep onset (62% improved versus 20% improved; $p=.042$) and improvements in number of night awakenings (69% improved versus 20% improved; $p=.021$). Total sleep time improved in the intervention but not the control group. Results suggest clinically-relevant benefits in sleep parameters associated with circadian rhythm disorders in home-dwelling persons with dementia. Routinizing the day based on circadian needs into a predictable but engaging schedule may reduce disrupted sleep cycles and may have future potential for scaling the intervention for adult day care or other dementia care settings.

A SOCIAL ROBOT CALLED PARO AND ITS EFFECT ON PEOPLE LIVING WITH DEMENTIA

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Apathy, agitation, loneliness and depression are common behavioral and psychological symptoms of dementia (BPSD). These symptoms can make life distressing for the person with dementia and can also make it challenging for care staff to meet the needs of the person. In recent years, social robots have been used as a means to reduce BPSD. However, to date, studies have mostly been descriptive or had small samples. This paper presents a cluster-randomized controlled trial with three treatment groups: a robotic animal (PARO), a non-robotic animal (Plush-Toy), and usual care (control). Older people ($n=415$) with a diagnosis of dementia and living in long-term care participated in the trial. The intervention consisted of three individual 15-min non-facilitated

sessions with PARO or Plush-Toy per week for a period of 10 weeks. This allowed both short-term (5-weeks) and long-term follow-up (10-weeks), and sustainability following withdrawal of intervention (15-weeks). Interim analysis found the majority of participants were female ($n=314$), with a diagnosis of Alzheimer's disease ($n=148$), a mean age of 84.9 years and a mean CMAI-SF score of 30.13/70. PARO group experienced significantly higher pleasure than control ($p<.0005$) and Plush Toy ($p<.005$) at end of treatment. Both verbal ($p<.0005$) and visual ($p<.0005$) engagement were also significantly higher in the PARO condition. The majority of participants enjoyed the opportunity to spend time with PARO. This presentation outlines what we have learnt to date about the impact of PARO through the secondary outcomes of interest – sleep duration and activity (step count -Sensewear).

INTEGRATIVE COGNITIVE BEHAVIOR THERAPY FOR PEOPLE WITH MILD ALZHEIMER'S DISEASE: RESULTS OF AN RCT

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About 90% of all mild Alzheimer dementia (AD) cases experience neuropsychiatric symptoms. Although some research has supported the effectiveness of specific psychotherapeutic approaches for mild AD, there are only few attempts to evaluate a multi-component treatment programme. This randomized controlled trial evaluates the effect of an integrative psychotherapy approach on the health of patients with mild AD and their caregivers. It consists of 25 weekly sessions, including eight modules: goal setting; psychoeducation; engagement in pleasant activities; cognitive restructuring; live review; behavior management; interventions for the caregiver; and couples counselling. 50 participants and their caregivers have been randomized to either the CBT-based intervention group (CBT) or to the control group, which received treatment-as-usual (TAU). Before and after the treatment phase, participants have been assessed. Follow-ups took place at 6, and 12 months post-treatment. The primary outcome was depression in the patient with AD. The secondary outcome measures were apathy, other neuropsychiatric symptoms, functional abilities, quality of life, and quality of the relationship to the caregiver. CBT reduced depression significantly more than TAU (interaction: $F = 5.3$, $p < .05$), with a moderate-to-large effect size ($d = 0.76$). There were also a significant advantage for CBT with regard to apathy ($F = 4.7$, $p < .05$; $d = 0.71$) and quality of the relationship to the caregiver ($F = 4.3$, $p < .05$; $d = 0.77$). There was no advantage with regard to other neuropsychiatric symptoms, functional abilities, and quality of life. The results are very encouraging and stimulate an adequately powered multi-center-study.

PREVENTING LOSS OF INDEPENDENCE THROUGH EXERCISE IN PERSONS WITH DEMENTIA IN THE VA (PLIÉ-VA)

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We have recently developed a novel, multi-modal, group movement program for people with dementia called Preventing Loss of Independence through Exercise (PLIÉ) that is grounded in neuroscience and focuses on abilities that are relatively well-maintained (procedural memory, mindful body awareness, social connection). This randomized, controlled trial (N=120) compares PLIÉ to a waitlist control group for its effects on physical and cognitive function, quality of life and caregiver burden. Study sites are adult day centers that contract with the Veterans Health Administration. Inclusion criteria are mild-to-moderate dementia, English fluency and ability to participate in intervention activities. Study participants are randomly assigned to Group 1 or Group 2 in blocks (20/site, 6 sites). Group 1 participates in PLIÉ for 1 hour, 2–3 days/week for 4 months while Group 2 is placed on a waitlist. Then Group 2 participates in PLIÉ for 1 hour, 2–3 days/week for 4 months. Assessments are performed at baseline, 4 and 8 months. The co-primary outcomes are change in physical performance (Short Physical Performance Battery), cognitive function (Alzheimer's Disease Assessment Scale–cognitive subscale), and quality of life (Quality of Life in Alzheimer's Disease) for affected individuals and caregiver burden (Caregiver Burden Inventory) for caregivers. We have completed site 1 with 19 enrolled and 13 completed (7 Group 1, 6 Group 2). Withdrawals were due to unrelated medical conditions and disease progression. Qualitative data to date suggest noticeable improvements in ability to sit and stand, articulate thoughts, and share experiences with others. Quantitative data collection is ongoing.

EFFECTS OF DANCE MOVEMENT INTERVENTION AND EXERCISE ON ELDERLY WITH EARLY DEMENTIA

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Dementia is marked by progressive deteriorations in memory, spatial navigation and language functioning and disturbances in daily functioning. Non-pharmacological interventions target cognitive impairments, prognosis and psychosocial effects of dementia. Dance-movement intervention (DMT) and physical exercise have shown benefits in cognitive functioning and emotional and social support in dementia. The present study is an ongoing randomized controlled trial (RCT) that investigates the effects of DMT and exercise on physical and psychological well-being of Chinese elderly. The target sample size was 201 elderly with early dementia. Participants were randomized into three groups: (i) DMT, (ii) exercise, and (iii) waitlist-control group. The two intervention groups received an 1-hour intervention, twice a week, for 12 weeks. The participants were assessed before

randomization, post-intervention (3-month), at 6-month and 12-month. Primary outcomes included neuropsychiatric symptoms, psychosocial well-being, cognitive functioning, and daily functioning. So far, 114 participants have been recruited and randomized into the three arms. The majority of them were female (76.9%) with mean age of 80.6 years old (SD = 7.1). The study is on-going and preliminary analysis on data in 30 participants who have finished post-intervention assessment showed a positive trend in improvement in physical function and positive emotions. Depression was not improved in DMT group but the other groups deteriorated. Changes were not statistically significant due to the current small sample but trends aligned with clinical observation. Presentation will focus on the intervention model and more data will be shown. This study is supported by the General Research Fund, Research Grants Council (GRF/HKU17402714H).

GAMIFICATION OF DEMENTIA EDUCATION IN ACUTE CARE

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Background: About 40% of older people in general hospitals have dementia, and evidence showed that hospitalization has detrimental effects on people with dementia. Hospital leaders are challenged to engage staff in change of attitudes, knowledge and culture to meet the changing needs of patient population. This poster presents a project of using gamification to achieve the goal of motivating staff engagement and passion to improve care of patients with dementia.

Methods: We used qualitative methods to investigate the benefits and challenges of using gamification in staff education for dementia care. Gamification refers to applying game thinking to non-game context to make learning more exciting, fun and effective. Our intervention focused on game dynamics such as receiving rewards, recognition, social experience and appreciation. Staff received surprise prizes when they completed various games in two fun fairs. These included virtual badges, recognition from clinical leaders and points redeemable for prizes. The fun fairs were videotaped, and the video data were co-analyzed by staff and the researchers in focus groups. Thematic analysis was conducted.

Results: The results of the education intervention included three themes: (a) games reinforced previous learned knowledge in dementia care; (b) healthy competitions among staff created fun learning experiences; (c) collective learning inspired commitment to actions.

Conclusion: Our findings suggest that gamification could tap into both extrinsic and intrinsic motivations and has potential to increase sustained staff behavioural change.

OF SOUND MIND: USING PUBLIC ACCESS TV FOR COMMUNITY OUTREACH AND TO RAISE DEMENTIA AWARENESS

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Every day, Americans spend on average 2.8 hours watching television (TV). After retirement, the time spent watching TV increases. Public-access television (PATV) is a non-commercial media where the general public can create content programming, which is shown through cable TV specialty channels. While there is limited marketing research on the audiences of PATV, Chen and colleagues (2013) found PATV remains relevant, especially for underprivileged populations who have been shown to rely on TV to gather information on health concerns. In a 2009 survey of Spanish speakers in Baltimore City, 82.4% obtain their health information through TV. While abundant information concerning dementia exists for those with access to the internet, there is limited approachable information available through the TV. Of Sound Mind was designed to address multiple needs, including the need for accurate, research-based information about dementia and healthy cognitive aging, which can be scarce on most TV programming. The development of a public access talk show can be split into production and content. Production will contain the steps needed to produce a talk show, including securing a partnership with a local public access studio. Content describes the material being covered, guest recruitment, and establishing credibility. The direct and indirect benefits for the organization producing the talk show are explored. With the inability to gain direct viewership numbers, methods of determining success are reviewed. Finally, the future plans for Of Sound Mind are discussed.

SESSION 825 (POSTER)

DEMENTIA II

PARTICIPATION OF PEOPLE WITH DEMENTIA IN DEVELOPING AN INTERACTIVE WEB TOOL

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Involvement of people with dementia is not self-evident. The aim of this study was to gain insight into the ways in which people with dementia participated in developing the DecideGuide, an interactive web tool facilitating shared decision-making in their care networks.

An explanatory case study design was used when developing the DecideGuide. A secondary analysis focused on the data gathered from the participating people with dementia during the development stages: semi-structured interviews (n=23), four focus groups with a total of 18 participants, three usability tests, and a pilot study with 4 participants. Framework analysis was applied to the data.

People with dementia participated especially as informants and advisors in most phases of the development. Four themes proved to be important regarding the impact of the participation by people with dementia: influence on content and design of the DecideGuide, motivation to participate,

time investment, and the balance between challenge and concern.

People with dementia can give essential feedback and, therefore, their contribution is valuable. Other roles than informant and advisor need to be explored. Significant participation of people with dementia takes time that should be taken into account. It is important for people with dementia to be able to reciprocate the efforts others make and to feel of significance to others.

GENDER, PSYCHOTROPIC DRUG USE AND MORTALITY IN OLDER PEOPLE WITH DEMENTIA

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Psychotropic drugs are commonly prescribed to older people with dementia and have been associated with increased mortality. Behavioral and psychological symptoms of dementia, prescription patterns of psychotropic drugs, and adverse effects from these drugs seem to differ by gender. However, gender differences in mortality risk have not previously been analyzed. Associations between mortality risk and baseline use of antipsychotics, antidepressants, and benzodiazepines were analyzed among people with dementia ≥ 65 years. Participants (n=1037) from four cohort studies were included and followed for 2 years. Cox proportional-hazard regression models were used to analyze associations and gender differences adjusted for confounders. None of the psychotropic drug classes were associated with 2-year mortality in fully adjusted models. Significant gender differences were found in association between mortality risk and antidepressant use ($P=0.047$). When analyzed separately, a reduced risk was found in men, but not in women (hazard ratio [HR] 0.61, 95% confidence interval [CI] 0.40–0.92 and HR 1.09, 95% CI 0.87–1.38, respectively). Significant gender differences were also found in associations between mortality risk and benzodiazepine use ($P=0.029$), with a relatively higher mortality risk in men compared with women. However, no risk was found in separate analyses of men and women. No gender differences were found in mortality risk associated with antipsychotic use.

In conclusion, baseline use of antipsychotics, antidepressants, or benzodiazepines may not be independently associated with increased mortality risk in older people with dementia. Gender may moderate the mortality risk associated with baseline use of antidepressants and benzodiazepines.

LATENT CLASSES OF DEMENTIA COURSE SHOW AN OPTIMISTIC PROGNOSIS FOR THE MAJORITY OF PATIENTS

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Dementia is a neurodegenerative syndrome affecting multiple aspects of life. The large heterogeneity in disease course causes high uncertainty about patients' prognosis. Patients may live in fear of rapid cognitive decline, while in fact their disease progresses slowly and vice versa. This study aims to

provide patients with an individualized prognosis by investigating trajectories of cognition and functioning simultaneously over time.

In the Clinical Course of Cognition and Comorbidity study, 331 dementia patients were followed yearly from diagnosis onwards for a maximum of three years. Cognition was measured using the Mini Mental State Examination. Functioning was recorded according to the Disability Assessment for Dementia. We built a parallel-process growth mixture model to jointly model cognitive and functional progression and used the Bayesian Information Criterion to assess model fit.

Three distinct classes of cognitive and functional trajectories were observed: 32% of the patients showed moderate progression speed, 12% declined rapid and 56% exhibited slowly declining trajectories for both cognition and functioning over time. Cognitive and functional rates of decline were highly correlated ($r=0.86$, $p=0.000$).

This study shows that heterogeneity in the course of dementia could be modeled as latent classes of trajectories and that most individuals were members of a class with stable and slow progression. This presents a more optimistic picture of dementia progression as compared to presenting the mean trajectory across the entire population. Relating class membership to baseline variables can help explain the heterogeneity in disease progression.

PEOPLE WITH DEMENTIA AND SOCIAL ROBOTS: BEST FRIENDS FOREVER?

M. Span, C. Smits, M. Hettinga, *Windesheim University of Applied Sciences, Zwolle, Netherlands*

People with dementia want to stay at home for as long as possible. Social robots that offer interaction and companionship may help them to fulfill that wish. This study aims to identify how social robots may help people with dementia to stay at home longer and what these social robots should offer. We aim to do this in co-creation with them.

Sixteen semi structured individual interviews and four separate focus groups with eight people with dementia and eight informal caregivers were conducted. These focused on what is important to people with dementia, their needs in daily life and which help they would like from social robots. The topic list was illustrated by a video clip and photos of two types of social robots that were presented to people with dementia.

Results show that most people with dementia and informal caregivers are positive about the usefulness of social robots in their home environment. Both think that social robots can support people with dementia by providing guidance in daily life. People with dementia see opportunities in using social robots as support for their memory and in managing their daily life. They expect to feel more independent from their informal caregivers. Supportive functions mentioned are: helping people with dementia to structure daily life by giving reminders for appointments and medications, answering repetitive questions, falls detection, answering questions on the whereabouts of a spouse, and making a conversation. Both people with dementia and informal caregivers were interested to participate in further research on social robots.

ACUTE STRESS REACTIVITY LINKS TO QUALITY OF LIFE (QOL) IN AMNESTIC MILD COGNITIVE IMPAIRMENT (MCI)

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Diminished QoL is a major concern among older adults in Alzheimer's disease associated neurodegenerative processes, such as amnesic MCI. To better assess and improve their well-being, it is important to understand the neural basis of QoL and factors leading to better QoL. In this case-controlled study (MCI, $n = 18$; healthy control (HC), $n = 21$), we examined the relationship between QoL and cognition-demanding acute stress tasks, and the neural mechanism linking these two. Acute stress tasks were the total 20-minute Stroop Word Color task and Dual 1-back task. The discrepancy of amplitude of low-frequency fluctuations (ALFF) of the resting-state functional magnetic resonance imaging administered before and after the tasks was extracted as the neural stress reactivity. The discrepancy of psychological valence and arousal rating was considered the psychological stress reactivity. QoL and ALFF reactivity in three regions (anterior cingulate cortex, medial prefrontal cortex (MPFC), and superior frontal gyrus (SFG)) significantly differed between groups. The associations of MPFC and SFG's reactivity with QoL were not group-specific while the associations of valence and arousal reactivity with QoL were group-specific. Greater arousal reactivity (adaptive coping) was associated with better QoL in HC; lower valence reactivity (maladaptive coping) was associated with worse QoL in MCI. SFG reactivity significantly mediated the association between valence reactivity and QoL for the entire sample. The MCI group may be more sensitive to maladaptive coping. Enhancing SFG, especially among those with MCI, may be a way to intervene in the negative impact of maladaptive stress regulation on QoL.

ENHANCED CARDIOVASCULAR FITNESS ATTENUATES COGNITIVE DECLINE IN ALZHEIMER'S DISEASE

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Dementia is an endemic affecting 44.4 million people worldwide in 2013 and will afflict 135.5 million by 2050. Alzheimer's disease (AD) accounts for 60–80% of all dementias and cannot yet be prevented, slowed, or cured. Cardiovascular exercise training may attenuate AD's course through its action on improving cardiovascular fitness which in turn mediates positive changes in brain structure and function. The purpose of this secondary data analysis was to examine the relationship between cardiovascular fitness and cognition in AD. Twenty-seven community-dwelling older adults with mild-to-moderate AD completed a 6-month, moderate intensity cycling intervention, 3 times a week in two pilot studies. Cardiovascular fitness and cognition were assessed using the intermittent shuttle walk test (ISWT) and AD Assessment Scale-Cognition (ADAS-cog), respectively, at baseline and 6 months. Data were analyzed using Pearson's correlation and linear regression. Adjusted for age (79.3 ± 6.9 years), the 6-month change in ISWT has an inverse relationship with the 6-month change in ADAS-cog

($r=-.40$; $p=0.04$), indicating that enhanced cardiovascular fitness was associated with improved cognition over 6 months. The age-adjusted linear regression was also significant ($F(2,24)=3.70$, $p=0.04$, $R^2=0.24$). Predicted change in ADAS-cog = $33.8 - 0.39 (\text{Age}) - 0.88 (\text{change in ISWT})$. For each additional meter walked in the ISWT at 6 months, a participant's ADAS-cog score improved 0.88 point. In conclusion, enhanced cardiovascular fitness may be essential for cardiovascular exercise to attenuate cognitive decline in individuals with AD. Future studies are needed to replicate these findings and further elucidate the physiological mechanism of exercise-induced neural protection.

PSYCHOMETRIC EVALUATION OF THE EATING BEHAVIOR MANAGEMENT NEEDS SCALE IN NH RESIDENTS WITH DEMENTIA

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This study reports the initial psychometric properties of a recently developed instrument, the Eating Behavior Management Needs Scale (EBMNS), among nursing home residents with dementia. Using a convenient sample of 171 nursing home-dwelling Korean elders with dementia (mean age= 84.35; mean MMSE=8.44; mean duration of dementia=60month), preliminary version of the EBMNS consisting of 31 items with 3 point Likert-type scale was evaluated for content validity, criterion related validity, internal consistency, test-retest reliability, and inter-rater reliability. Through repeated principal component factor analysis with oblimin rotation, the six-factor solution with 24 items for the EBMNS was derived and it explained a total of 63.30% of the variance. Factors were named 'eating behavior associated with cognitive function problem (7 items)', 'eating behavior associated with physical operation and functional problem (5 items)', 'eating behavior associated with BPSD (4 items)', 'excessive eating behavior (2 items)', 'passive eating behavior (3 items)', 'subject influencing factor (3 items)'. The criterion related validity was established by its significant ($<.001$) correlation with Korean Mini Mental State Examination ($r=-.564$), Korean Activities of Daily Living ($r=.602$), Eating Behavior Scale ($r=-.626$), and Edinburgh Feeding Evaluation in Dementia Questionnaire ($r=.734$). Cronbach's alpha for total items was .888 and test-retest reliability and inter-rater reliability was $r=.997$, and $r=.989$, respectively. Although these initial estimates of the psychometric properties of the EBMNS are promising, caution in using the measure is warranted. Therefore, we advise confirmation of these results in an independent random sample and extension of analyses in community samples. Correspondence to jasong@korea.ac.kr.

THE RISK OF ACCIDENTAL INJURY ADMISSIONS AMONG DEMENTIA PATIENTS IN TAIWAN

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Dementia that interferes with people's independent functioning is a significant chronic condition in older adults. In Taiwan, as the number of elderly people is increasing rapidly, dementia has become a major public health issue. Little is known about dementia-related accidental injuries among Taiwanese patients. This study aimed to investigate

differences in accidental injury admissions between people with dementia and those without dementia. The age-standardization admission rate ratio (ASARR) was used for comparison. Data was obtained from Taiwan's National Health Insurance Population-Based Database. Study results showed that dementia patients had lower likelihood of being admitted due to traffic accident (ASARR=0.74), but had higher likelihood of being admitted for accidental falls (ASARR=2.26), burns (ASARR=1.94), homicide (ASARR=1.65), poisoning (ASARR=3.01), and submersion and suffocation (ASARR=3.42). Dementia is a potential risk factor for accidental injuries. The development of prevention and intervention for dementia-related accidental injuries is necessary in the long-term care settings and local community organizations.

ANTICHOLINERGIC BURDEN AND DEMENTIA IN OLDER ADULTS WITH SUBJECTIVE COGNITIVE DECLINE

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Data on the effect of anticholinergic burden (ACB) on cognitive status in older adults with subjective cognitive decline (SCD) are limited. Our aim was to study whether ACB increases the future risk of dementia in older adults with SCD.

The analysis was carried out on 1496 older adults. Out of those, 109 older patients had been diagnosed with SCD at baseline and followed up over 36 months were studied. They were divided into two groups according to cognitive status at last visit: group I included the subjects with SCD who did not progress to dementia and group II included those who progressed to dementia. ACB was calculated for each subject by adding the score of each drug and classified as no or low ACB ($ACB \leq 2$) and high ACB ($ACB \geq 3$).

Sixteen (13.8%) of 109 participants with baseline SCD developed dementia. High ACB was present in 17 subjects (18.1%) in group I and 8 subjects (53.3%) in group II ($p=0.003$). The 75-84 and 85+ age groups ($HR=3.595$; $CI:1.117-11.574$; $p=0.032$ and $HR=12.203$; $CI:2.889-51.537$; $p=0.001$, respectively), hypertension ($HR=7.835$; $CI:1.020-60.189$; $p=0.048$), and high ACB ($HR=4.312$; $CI:1.563-11.899$; $p=0.005$) were found to be possible risk factors for dementia among subjects with SCD in the univariate model. In the final multivariate cox regression model, subjects with high ACB had a 3.3-fold the risk of the development of dementia.

High ACB is associated with an increased risk of dementia in older adults with SCD.

ANTIPSYCHOTIC MEDICATION IN RELATION TO NATIONAL DIRECTIVES IN PEOPLE WITH DEMENTIA IN SWEDEN

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The aim of this study was to explore trends in treatment with antipsychotic medication in Swedish dementia care as

reported in the most recent empirical studies on the topic, and to relate these trends to directives and recommendations from national authorities. The study included two scoping review studies and two empirical studies. The scoping studies reviewed published data in electronic databases as well as Swedish recommendations and directives in the field. During the past decade, recommendations have been developed regarding antipsychotic medication in Sweden. These recommendations were generic at first, but have become increasingly specific and restrictive with time. The scoping review showed that treatment with antipsychotic drugs varied between 6% and 38%, and was higher in younger older persons and those with moderate cognitive impairment and living in nursing homes for people with dementia. A trend towards a decrease in antipsychotic use has been seen over the last 15 years. The empirical studies showed that the medication with antipsychotics decreased from 23.4% in 2001 to 11.5% in 2007, for older people in general as well as for older people with dementia. Among older people with dementia, 10% were utilizing antipsychotic medication, with no difference between those cared for at home and those in nursing homes. Directives from Swedish national authorities seem to have had an impact on antipsychotic medication for people with dementia. Treatment with antipsychotic medication has decreased, while other psychotropic medication has increased. National directives may possibly be even more effective, if applied in combination with systematic follow-ups.

THE RUBBER MEETS THE ROAD: INTERACTIVE THEATER TO PROMOTE DRIVING SAFETY FOR PERSONS WITH DEMENTIA

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Driving safety for older adults with dementia presents a continuing complex challenge in the community for health care providers. More than 5 million people in the United States suffer from dementia, and their numbers are expected to grow. Evidence-based resources to identify and manage driving risk in older adults with dementia do exist, but the challenges of limited time in primary care and outpatient settings can make application difficult. This innovative project, funded by a Hartford Foundation Change AGENTS Action grant award, focused on interprofessional work to address the educational need for primary care professionals and family caregivers to manage driving safety for their loved ones with dementia. After a live interactive theater performance in April 2016 at a medium sized public university's College of Health and Human Services, post-performance surveys assessed audience members' positive satisfaction with interactive theater as a communication strategy, as well as self-reported knowledge, attitudes and beliefs about driving and dementia. Using a videotape of the theater performance, the research team produced an educational DVD to promote continued driving safety and driving decision making for community-dwelling persons with dementia and their family

caregivers. The DVD will be widely distributed to state-level community partners (Alzheimers North Carolina and Nurse Practitioner Council of the North Carolina Nurses Association), in order to guide and educate advanced practice nurses and social workers caring for this population. This practice change project also forged new sustainable interprofessional community partnerships among educators/researchers and health providers caring for this vulnerable community population.

NATIONAL TRENDS IN ANTIHYPERTENSIVE PRESCRIBING IN OUTPATIENTS WITH DEMENTIA IN THE UNITED STATES

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This study aims to investigate national trends in outpatient antihypertensive prescribing in people with dementia in the United States between 2006 and 2012, and to determine clinical and demographic factors associated with different prescribing patterns. Outpatient visits by people aged ≥ 65 years with documented dementia were analyzed in the National Ambulatory Medical Care Survey (NAMCS) and the outpatient department component of the National Hospital Ambulatory Medical Care Survey (NHAMCS). Complex samples multivariate logistic regression was conducted to estimate temporal trends and adjusted odds ratios (AORs) with 95% confidence intervals (CIs) for factors associated with prescribing of antihypertensives, multiple antihypertensives and different antihypertensive classes. There was a statistically significant increase in the proportion of physician visits by older people with dementia with a documented diagnosis of hypertension from 49.3% (95%CI: 41.3%–57.4%) in 2006 to 55.7% (95%CI: 50.2%–61.2%) in 2012. There were non-significant increases in overall antihypertensive use and the use of multiple antihypertensive classes. Male sex was associated with a higher prescribing of any antihypertensive (AOR 1.37, 95%CI 1.02–1.84) and multiple antihypertensive medications (AOR 1.52, 95%CI 1.14–2.04). Black race (AOR 2.04, 95%CI 1.12–3.71) and Midwest residence (AOR 2.03, 95%CI 1.46–2.82) were associated with a higher prescribing of multiple antihypertensive medications. In conclusion, there was an increase in documented hypertension in physician visits by older people with dementia from 2006 to 2012, but minimal increases in overall antihypertensive use. Various demographic and clinical factors were associated with the prescribing of antihypertensives in people with dementia.

POTENTIAL THERAPEUTIC BENEFITS OF DECREASING A β PRODUCTION THROUGH BACE INHIBITION

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Alzheimer's disease (AD) is a devastating global epidemic with economic and social burden. The amyloid hypothesis

proposes that toxic aggregation of A β peptides, produced via cleavage of Amyloid Precursor Protein by β -secretase (BACE1) followed by gamma-secretase, leads to neurodegeneration. Inhibition of BACE1 reduces A β production, and may slow progression of AD. Verubecestat, a potent BACE1 inhibitor, has been shown to lower CSF A β by as much as 80% in healthy controls and patients with AD after one week of once daily dosing. Based on these results, two ongoing phase 3 studies are evaluating the ability of verubecestat to safely delay disease progression in mild to moderate (EPOCH NCT01739348) and prodromal (APECS NCT01953601) AD populations. However, as amyloid deposition takes place years before AD diagnosis, administering an anti-amyloid therapy even earlier in the disease process, before clinical onset, may be necessary to exploit the full potential of this mechanism. Thus secondary prevention trials in individuals with biomarker evidence of A β pathology or genetic risk but no clinical symptoms, and primary prevention trials, intervening before the appearance of any pathology, have been proposed as important next steps in testing the amyloid hypothesis. A review of learnings from the ongoing verubecestat and other AD studies in the context of addressing the methodological issues and challenges of earlier intervention studies will be presented.

DEMENTIA DUE TO ALZHEIMER'S DISEASE AND BRAIN MORPHOMETRIC ALTERATIONS

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Introduction: Dementia due Alzheimer's disease (DAD) is a primary and progressive neurodegenerative disorder. There are atrophy in hippocampus and other basal areas. This work evaluated the brain morphometry of DAD patients in all disease stages, aiming at identifying the structural neurodegeneration profile in every phase. **Methods:** DAD patients above 60 years old (n=44) and age paired controls (n=16) were recruited. The brain images acquired in Achieva 3T magnetic resonance tomograph. Volumetric quantitative data and cortical thickness measurements were obtained by automatic segmentation using Freesurfer®. The volume of each region was normalized considering whole brain volume. **Results:** Brain regions targeted by the disease during the initial stages were found to be altered until in the later stages of the dementia. No correlation was observed between brain cortical volume or thickness, age and years of education. We found an association between cortical volume or thickness and cognitive indexes Mini Mental State Examination ($R^2 < 0.47$), Clinical Dementia Rating and disease duration in years ($R^2 < 0.52$). **Conclusion:** The most affected brain regions suffer atrophy in a linear fashion until the later stages of the disease, what seems contrary to the hypothesized models, which consider a faster degeneration in earlier stages. These regions are closely related to neuronal loss and gliosis. The cortical thickness measurements were less sensible in differentiating the groups than cortical volume, what may be due to the fact that cortical thickness is more dependent of segmentation quality. These findings favor a better understanding of the physiopathological process in the advanced diseases stages.

THERAPEUTIC EDUCATION IN ALZHEIMER'S DISEASE AND QUALITY OF LIFE: THERAD RANDOMIZED CONTROLLED TRIAL

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Therapeutic education is expanding in the management of Alzheimer's disease (AD) patients. However, to date, no study has evaluated its impact on the quality of life of the AD patient him/herself. The THERAD study is a monocentric 12-month randomized controlled trial undergoing since January 2013. 196 dyads (AD patient/ caregiver), have been enrolled (MMSE 11 to 26, living at home and receiving support from a family caregiver), 98 in each group. The two month length intervention was a therapeutic educational programme, addressed to both patients (individual session) and caregivers (group sessions) performed by a geriatric team (geriatrician, nurse, psychologist and social worker) specifically trained to patient education and counselling. The first visit (M0) included the educational diagnoses of the dyad. Between M0 and M2 the primary caregivers received one 3 hours group sessions per week, on the main AD topics (eg caregiver's exhaustion, crisis situations) and at M2, an assessment visit. The control group received routine care. Our primary outcome is the AD patient's quality of life assessed by Logsdon's Quality of Life in Alzheimer's Disease scale (QoL-AD) reported by the caregiver at two months. Secondary endpoints are caregiver's burden (ZBI), depression (GDS) and quality of life (NHP), patient's behavioural and psychological symptoms (NPI), autonomy (ADL, IADL) and self-reported quality of life (QoL-AD). Intention to treat analysis will be performed using linear mixed model. Final results, at the end of 2017, may indicate if such an approach needs to be implemented in the care of AD patients.

THE CHANGING FACE OF MCI A TWO-DECADE COMPARISON IN OVER-65S FROM THREE AREAS OF ENGLAND: CFAS I & II

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Much work on identifying individuals at high risk of dementia has focused on the clinical concept of mild cognitive impairment (MCI), which is considered to be an intermediate state between normal cognitive ageing and dementia. How the population with this intermediate state has changed over generations is unknown. This study aimed to estimate the prevalence of MCI in the UK now, as well as investigate any changes in MCI and mild dementia prevalence over two decades using the identical diagnostic criteria in the MRC Cognitive Function and Ageing Study I and II. In addition the incidence of dementia at two years by baseline cognitive status will also be estimated.

The aim was to define the complete population into groups based on their cognitive states. Including all individuals in

CFAS I and II into no cognitive impairment, amnesic-MCI, non-amnesic-MCI, multiple-MCI, other cognitive impairment no dementia, mild and moderate dementia. Cognitive domains from the MMSE and (in full) CAMCOG were used to define the cognitive impairment levels.

Prevalence of each condition was modelled using age, sex terms in logistic regression models. Many of the impairment definitions have reduced in prevalence, as found with dementia, however this was not seen consistently across all definitions.

The incidence of dementia over two years by baseline cognitive state in CFAS I and CFAS II will be estimated together with the change over 20 years to see whether the incidence of dementia has changed within baseline risk group. The impact of these changes on the health of the general population will be discussed.

SESSION 830 (POSTER)

DEPRESSION, ANXIETY, AND PERSONALITY II

WHAT CAUSES LATE-LIFE DEPRESSION?: A QUALITATIVE STUDY AMONG DEPRESSED IRANIAN SENIORS

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Depression is a major health problem in old age that is closely related to cultural and social context. Studies have shown higher prevalence of geriatric depression in Iran. This qualitative content analysis study aimed to explore psychosocial factors related to experience of late life depression in Iranian older people. This is a qualitative study with directed content analysis approach which took place in Tehran, 2015. First, a systematic search in major English and Persian data banks was performed to develop an analysis matrix. Then, participants with most variation in demographic characteristics were recruited from psychiatric clinics if they met inclusion criteria including 1) age 60 and over and 2) having depression in the previous 6 months. Six men and 6 women participated in this study. Semi structured interviews were performed, recorded, transcribed and analyzed according to the prepared matrix, up to reaching data saturation. Analysis of gathered data showed six main categories 1) transition of values system, 2) role changes, 3) life concerns, 4) inadequacy of social relations, 5) regrets and 6) impaired health and function. Considering recent changes in Iranian community and family structures and impaired social relations and inadequate support in the context of physical and social function decline, Iranian older adults have been more susceptible to geriatric depression. As population of Iran is graying very fast, some context-based interventions such as community alertness and providing more formal support may be helpful in preventing late life depression.

DEPRESSIVE SYMPTOMS, SELF-RATED HEALTH STATUS, AND RETIREMENT STATUS AMONG OLDER ADULTS IN THE U.S.

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This study investigated if the association between depressive symptoms and self-rated health status was moderated by the retirement status among older adults aged 65 and above in the United States and tested the following hypotheses: (1) the older adults who are depressed and retired will have worse health compared to individuals who are depressed and not retired (2) the effect of depressive symptoms on self-rated health status among older adults will depend on the retirement status of those individuals. Data was used from the 2012 wave of the Health and Retirement Study. Ordinal regression was conducted to assess the relationship between self-rated health status, depressive symptoms, and retirement status. Interaction terms between depressive symptoms and retirement status were included in the final model. Ordinal regression results revealed that the interactions between depressive symptoms and retirement status were significant in the model ($p < .0001$). The results of interaction effects revealed that having depressive symptoms and being completely retired decreased the odds of having better health compared to having depressive symptoms but not retired; which supported the first hypothesis. Similarly, the significant interaction between depressive symptoms and retirement status imply that the retirement status has a moderating effect on the relationship between self-rated health status and depressive symptoms; which supported the second hypothesis. The results of this study have implications for health policy makers to identify and address factors that lead to depressive symptoms.

A BEHAVIORAL AVOIDANCE TASK FOR HOARDING DISORDER IN OLDER ADULTS

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Hoarding disorder (HD) is functionally and cognitively debilitating, as well as socially isolating, particularly in older adults. There is strong avoidance to the distress of parting with personal possessions in HD. The current study explored the feasibility of a behavioral avoidance task (BAT) for HD by utilizing subjective and behavioral assessments of fear response during a sorting task administered to older adults.

The current study utilized data from 16 older adults (mean age 68, range 60–82) meeting DSM-5 criteria for HD. During the BAT, participants' subjective units of distress (SUDS) were recorded at regular intervals. The number of items sorted and the percent of items discarded were recorded as behavioral indicators of approach-orientation to the task.

Twelve of the 16 participants were able to engage in the task for a full five minutes. The average initial SUDS score was 21 out of 100 with 100 being the most amount of distress. The average peak SUDS score was 39. The average within-session habituation was 14 points. Participants were able to sort an average of 39 items and discard 49% of sorted items. The majority of participants (62%) reported that the task was at least "somewhat similar" to what they

experience when sorting objects in their homes. Participants with higher initial SUDS scores were able to sort more items ($r=.74$, $p=.001$) but did not discard a significantly higher percentage of items ($r=.39$, $p=.14$).

Clinicians treating geriatric HD should consider utilizing a BAT to monitor change in distress and avoidance of sorting/discarding.

IS THERE A RELATIONSHIP BETWEEN BODY POSTURE AND PSYCHOMOTOR RETARDATION IN DEPRESSED OLDER ADULTS?

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The current study supported the idea that postural control variables, particularly the center-of-pressure velocity-based parameters, could be a relevant hallmark of depression-related psychomotor retardation (PMR). The purposes were twofold: first, it aimed to clearly look at the interplay between the subjective PMR scores and the postural performance in patients with major depressive disorder (MDD), as compared to age-matched healthy controls; secondly, it focused on the impact of a repetitive Transcranial Magnetic Stimulation (rTMS) treatment on depression, PMR objective and subjective evaluations. Sixteen MDD patients (mean age 57.9 ± 13.9 years) were compared to 16 healthy controls adults (mean age 60.7 ± 9.6 years). All participants were asked to maintain standing position on a force platform during two trials of quiet standing balance with eyes open or eyes closed, and two "dual task" trials while backward counting by two from a random number around 100. During the 60-s trials, dependent variables computed from the analysis of center-of-pressure trajectories were recorded. Before and after the rTMS session, the depression level and the PMR were scored with the French Retardation Rating Scale for Depression (ERD). The present results contributed to a deeper understanding of the motor performance that characterizes objectively the depression-related PMR. In fact, significant partial correlations between body posture and ERD scores, and positive effects of rTMS treatment on postural instability in dual task, PMR and depression ($p < 0.05$) validated the view that the assessment of postural performance constitutes an objective marker of PMR in depressed patients.

CHILDLESSNESS AND DEPRESSION AMONG OLDER ADULTS IN LATIN AMERICA AND THE CARIBBEAN

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Rapid fertility declines within Latin American and Caribbean countries since the 1960s have contributed to smaller family sizes among the current cohorts of older adults, and increased the likelihood that future cohorts will not have children. This can have implications for mental health in later life in societies where the family unit is highly valued as a source of welfare. Drawing on data from

the 2000 Survey of Health, Well-Being and Aging in Latin America and the Caribbean (SABE), this study examines the association between parental status and the likelihood of experiencing depressive symptoms among older adults 60 years and over in seven cities of Latin America and the Caribbean ($N=9756$). Estimates from logistic regressions are provided for pooled data, and disaggregated by sex and city. Findings show that compared to the childless, older adults with two or more children had lower odds of experiencing moderate to severe depressive symptoms. Having multiple children was shown to be especially protective to older women in Buenos Aires and Havana, and to older men in Montevideo. Other significant covariates such as being unmarried, uneducated, having no access to independent income, experiencing disability and comorbidity were each positively associated with depression. While children may represent a critical component of the welfare mix for older adults, increasing longevity and changes in family structures that accompany population ageing require broader investments in education and health across the life course to improve individual psychological wellbeing, regardless of family status.

SUICIDAL IDEATION IN MEDICALLY ILL OLDER ADULTS: THE IMPORTANCE OF CONTROL STRATEGIES

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Suicide rates are elevated among older men globally. Suicides in this age group often reflect concerns about threats to the older adult's independence and sense of control. Physical illness and associated functional limitations are common in late life, but most individuals adapt by altering their strategies for exerting control (Heckhausen et al., 2010). Evidence suggests that those who do not adapt may be at risk for depression and suicidal thinking (Fiske et al., 2013). In this pilot study, $N = 7$ adults aged 50–85 with a heart attack or a new diagnosis of heart failure within the past six months were assessed for health-related limitations, control strategies, and affective states at baseline and 6-week follow up. The Wilcoxon sign rank test was used to test the hypothesis that more limited use of control strategies would be associated with greater risk of depressive symptoms, hopelessness and suicidal ideation. At baseline, 87% of participants endorsed clinically significant levels of depressive symptoms (CESDR) and 14% scored above the recommended cutoff on the Geriatric Suicide Ideation Scale. Results indicated that both Selective Primary Control (SPC) strategies and Compensatory Primary Control (CPC) strategies (e.g., getting help from others or modifying the task) were significantly linked to hopelessness and suicidal ideation at baseline. At the 6-week follow up, both SPC and CPC were associated with depressive symptoms and hopelessness. These findings suggest that it may be important to focus

on strategies older adults may use to cope with functional impairments.

OLDER VETERANS' PERCEPTIONS OF ANXIETY SYMPTOMS

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Although studies have examined anxiety in the general population, few studies examine anxiety among older veterans. To this end, we characterized anxiety in older veterans using mixed methods. We used quantitative measurements of geriatric anxiety (Geriatric Anxiety Scale; GAS) and depression (Patient Health Questionnaire 9-item), and qualitative information about perceptions of anxiety. Twenty veterans aged 60–85 years old participated ($M = 69.5$; $SD = 7.3$ years; 50% White). Veterans were characterized as high and low anxiety based on a median split of GAS scores. As expected, the high anxiety group ($M = 35.36$, $SD = 9.94$) had worse anxiety than the low anxiety group ($M = 6.33$, $SD = 4.38$; $t(18)$, 15.54, $p = .001$). The groups also differed on depression severity ($t(18)$, 15.94, $p = .001$), but not on age ($t(18)$, 1.28, $p = .27$). In the interviews, veterans described what anxiety means to them and identified thoughts, emotions and body sensations associated with anxiety. Responses were transcribed and coded using both inductively and deductively developed codes (Cohen's Kappa = 0.79 to 0.86). Thematic analysis revealed that most anxiety symptoms were universally experienced; however, the high and low anxiety groups differed in appraisals of anxiety and in perceived ability to deal with anxiety. The high anxiety group described being stuck and trapped by anxiety. These findings suggest that anxiety symptoms are dimensional and veterans' ability to cope and manage symptoms varies as a function of symptom severity. Implications for anxiety assessment and treatment in older veterans will be discussed.

SUPPORT IS COMPLICATED: HOW INCREASED SUPPORT AFTER CRITICAL ILLNESS CAN CREATE INCREASED ANXIETY

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This presentation summarizes a mixed methods study of 32 older adult ICU patients as they recovered from critical illness. These results are compared and contrasted to a qualitative study of 50 homebound patients who were recovering from less severe illness. The presentation will offer empirical research combined with practical practice guidance for the range of professionals who assist older adults. The authors are medical social workers who combine ongoing counseling practice with research in order to better understand older adults and their social support system in the home and community. The authors propose and describe a counterintuitive concept; patients who reported more sources of support experienced more anxiety during their recovery from illness. A brief history and literature review examines the difficulties in defining social support. There are many types of support and different patients may need different types of support.

Cultural perspectives will also be examined. For older adults in particular, the ageist stereotypes of Western society can make accessing social support difficult because asking for help is viewed as admitting weakness. In contrast, other cultures view older adults as respected sources of wisdom who are entitled to social support. Three types of support-induced anxiety are identified and described using case vignettes. The importance of informed intervention by all the professionals involved with older adults is highlighted and practical practice suggestions will be provided.

ANXIETY SYMPTOMS AND DRINKING TRAJECTORIES IN LATER LIFE: PROSPECTIVE EVIDENCE FROM THE MIUDS STUDY

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While literature suggests the higher prevalence of anxiety disorders among older alcohol users, few studies have examined the longitudinal relationship between anxiety symptoms and alcohol consumption in later life. The aim of this study was to determine the effects of late-life anxiety symptoms on their subsequent 18-year alcohol use trajectories. Data were drawn from three waves (wave1 [1995–1996], wave2 [2004–2006], and wave3 [2013–2015]) of the MacArthur Foundation Survey of Midlife Development in the United States ($n=7,108$; mean age= 46.8 at baseline). Symptoms of generalized anxiety disorder (GAD) within the previous 12 months were assessed by using the Composite International Diagnostic Interview–Short Form (CIDI-SF) scale. The amount of alcohol use was measured as the typical number of drinks that participants had on days on which they drank during the past month. Covariates (age, gender, race, income, education, and physical health) were assessed at baseline. Latent growth curve modeling was used to identify the association between anxiety symptoms and longitudinal changes in alcohol consumption adjusting for the covariates measured at baseline. We found that individuals with higher levels of anxiety symptoms tended to have an increase in alcohol consumption over time ($\beta=0.07$, $p<0.05$). The results highlight the role of anxiety symptoms in determining the use of alcohol in later life. Therefore, our findings indicate that on-going efforts to improve mental health, especially symptoms of anxiety, may help older adults to reduce hazardous alcohol consumption.

SESSION 835 (POSTER)

DISABILITIES II

DETERMINANTS OF THE NEED TO CARE FOR ELDERLY BRAZILIANS

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The presence of functional limitations in the elderly determines the need for care. This necessity represents challenging demands for the family and the health services as it presents a complex group. The objective of the study is to analyze

determinants of the need for care in elderly Brazilians. This was a longitudinal and analytical home-based study, which used the database of the SABE study (Health, Well-being and Aging) in the years 2006 and 2010. The sample consisted of 459 elderly individuals independents (≥ 60 years). It was considered as the need for care, the difficulty of the elderly in the performance of basic and instrumental activities of daily living according to aid demands in these activities. It was used in the analysis Multiple Multinomial regression. Among the independent elderly, the determining factors for minimum need were female (RRR=1.81, CI95%:1.05–3.13), aged 80 and over (RRR=2.84, CI95%:1.17–6.86), impaired physical mobility (RRR=2.94, CI95%:1.02–8.43); for moderate need, aged 80 years and over (RRR=5.58; CI 95%:1.55–20.00) and cognitive decline (RRR=7.83, 95% CI:1.60–38.24); and maximum need, age between 70 to 79 years (RRR=2.60; CI95%: 1.13–5.96) and 80 and over (RRR=5.59, CI95%:1.87–16.62), multimorbidity (RRR=3.50; CI95%:1.32–9.30). Identifying the factors determining the need for care will allow family members, caregivers and health professionals to develop strategies to prevent the establishment of the difficulties in daily activities. Public policies should be developed for caregivers, considering the health and social services as support for the providers of care.

MULTI-YEAR DISABILITY TRAJECTORIES AMONG SURVIVORS AND DECEDENTS

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Investigators have identified varying trajectories of disability before death, but it is unclear if disability trajectories among decedents and survivors differ among older adults.

We examined self-reported disability in walking a quarter mile at 6-month intervals beginning 3 years before death among 1020 decedents in the Health, Aging and Body Composition Study (Health ABC). Survivors matched for age and gender were identified and self-reports for each pair were tracked over the same 3-year period (total n=2040). Survivor and decedent reports of disability over the 6 assessments were compared using mixed models to calculate the odds of disability for each group adjusted for race, site (Memphis vs. Pittsburgh), and time. In a sensitivity analysis, we assumed that respondents missing self-report status were disabled.

Decedents increased in disability from 48.6% 3 years before death to 78.1% 6 months before death. Among survivors, disability increased from 32.3% to 43.6%. In a logistic regression model the odds of having disability showed a significant month by group (decedents vs. survivors) interaction ($p < .0001$). The monthly increase in odds of having disability was 6.3% among decedents compared to 2.6% among survivors. The two groups did not differ in volatility, that is, switching between disabled and non-disabled status; but African-American respondents showed greater volatility than whites ($p < .0001$).

Trajectories of self-reported disability differ between survivors and decedents. Older adults who died after 3 years were more disabled at the start of follow-up and also had a greater risk of increasing disability over each subsequent 6-month assessment.

CORRELATES OF DISABILITIES AMONG COMMUNITY-DWELLING ELDERLY INDIVIDUALS FROM BRAZIL

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Objective: Assess the prevalence of disability and evaluate its association with sociodemographic and general health factors among a representative sample of community-dwelling elderly individuals from Brazil. **Methods:** This was a cross-sectional, population based study, with a probabilistic household sample from Brazil. Sample comprised 11,177 individuals, representing 26,407,830 older adults aged 60 years or more. All participants answered a structured questionnaire informing on disabilities on basic activities of daily living (BADL) and covariates on sociodemographic, life style, general health and use of health services. Individuals reporting difficulty in one or more BADL (bathing, dressing, walking, using the toilet, feeding and moving in and out of bed) were considered disabled. Associations between variables were evaluated by means of prevalence ratios estimated by Poisson regression model. **Results:** The prevalence of disability in BADL was 6.1%. According to the adjusted analysis, the prevalence of disability increased with increasing age and was lower among individuals with more years of education. Elderly individuals with chronic diseases and hospitalization in the previous year had significantly higher prevalence of disability. The prevalence of disability was significantly lower among individuals reporting physical activities. **Conclusion:** There were socioeconomic inequalities in the prevalence of disability in BADL which was also significantly associated with factors related to life style, general health, use of health care.

GREATER PERI-AORTIC ADIPOSE TISSUE IS ASSOCIATED WITH INCREASED TRUNK MUSCLE FAT IN MEN AND WOMEN

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Age-related muscle fat accumulation and loss of muscle mass, contributors to mobility problems in older adults, may result from ectopic fat producing cytokines that promote satellite cell differentiation into adipocytes. Whether this occurs via systemic or local paracrine effects is unknown. We determined the association of peri-aortic adipose tissue (PAAT) volume with size and fat content of adjacent trunk muscles among 948 participants (56% women) in the community-based Framingham Study. Multidetector CT measured PAAT, and cross-sectional area and attenuation (marker of fat content) of trunk muscles (averaged left and right erector spinae, transversospinalis, and trapezius muscles at T7/T8 levels). Linear regression was used to calculate associations (β) of PAAT with cross-sectional area and attenuation, adjusting for sex, age, height, body mass index (BMI) and physical activity, and further adjustment for abdominal visceral (VAT)

and subcutaneous adipose tissue (SAT) volumes. Mean age was 58 years (range 45–81), mean BMI was 28 kg/m² (range 18–53). PAAT was not associated with cross-sectional area ($\beta = -0.96$, $P = 0.37$), but was inversely associated with attenuation ($\beta = -0.31$, $P < 0.01$), indicating higher muscle fat content with increasing PAAT. The association remained after adjustment for VAT and SAT. We found that increased fat surrounding the thoracic aorta was associated with greater fat content in nearby trunk muscles, independent of overall obesity and ectopic abdominal fat, suggesting that age-related skeletal muscle fat accumulation may result mainly from local paracrine effects of adjacent fat depots. Cross-talk between neighboring fat and muscle is a potential target for novel muscle function-promoting therapies in older adults.

SARA-OBS CLINICAL TRIAL: BASELINE CHARACTERISTICS OF SARCOPENIA/SARCOPENIC OBESITY IN THE ELDERLY

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Sarcopenia is a key underlying cause of physical frailty, a reversible condition in older subjects, which may lead to mobility disability and dependency. Sarcopenia is characterized by the loss of muscle mass and function. Sarcopenic obesity (SO), an emerging condition affecting older obese individuals, can be defined by fat mass increase associated with the loss of muscle mass and function.

SARA-OBS is a 6-month observational, multicenter, clinical trial aiming to enroll 300 community-dwelling persons aged ≥ 65 years at risk of mobility disability, within 8 investigational sites across Europe and USA. SARA-OBS main objective is to characterize sarcopenia including sarcopenic obesity, by using DXA, according to the criteria of the Foundation of NIH (Studenski et al., 2014) and of the Short Physical Performance Battery (SPPB; Guralnik J et al., 1994).

Patients with SPPB $\leq 8/12$ and DXA ALM/_{BMI} corresponding to FNIH criteria (< 0.789 in men and 0.512 in women) will be included. The primary endpoint will be the 6-minute distance or the 400 m walking test. Secondary endpoints include muscle strength, physical activity through an activity monitoring device; muscle mass and fat mass (measured by DXA). Patient-Reported Outcomes (PROs) will also be collected.

Patients' enrollment will start by the fourth quarter 2016 through a 7-month screening and recruitment phase followed by an observational phase with two visits at inclusion and at 6 months. SARA-OBS data (baseline characteristics, demographics, body composition and functional tests) will pave the way for SARA-INT, the interventional Phase2 trial for the candidate drug Sarconeos (BIO101).

COLLABORATION BY A HEALTHCARE TEAM TO IMPROVE MOBILITY IN HOSPITALIZED OLDER ADULTS—GET UP AND GO

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Older adults who are hospitalized are prone to multiple hazards such as falls, and significant functional mobility

decline often resulting in institutionalization, and readmission to the hospital after discharge. Patients are often mobilized late in their hospital stay due to Nursing Staff awaiting clearance from physical therapy. We sought to determine the effectiveness of an early mobilization protocol established to improve mobility and function in hospitalized older adults.

Project Setting was a 953 Bed academically affiliated safety net hospital.

Participants included older adults 75yrs and older or patients 65 years and older identified to have 1 or more geriatric syndromes admitted to the Acute Care for the Elderly Service.

All patients were evaluated by Nursing Staff on admission to determine their Get up and Go score ranging from a score of 1 (patient able to get up and go without assistance) to 9 (bed rest ordered). Patients were mobilized early by Nursing based on their Get up and Go scores following the protocol on amount of mobilization required. Physical Therapy and Occupational Therapy also saw the patient early in their hospital stay to evaluate for further functional and mobility needs and implement physical and occupational therapy as needed.

Initial data show a significant improvement in mobility scores for patients based on the Get Up and Go scores on admission and at the time of discharge with lower scores indicating improved mobility. Pre Intervention, the mobility scores on admission were 4.4 and increased to 4.53 at discharge. Post intervention, mobility scores were 4.37 on admission and 3.65 at discharge.

In conclusion, the Get up and Go protocol is a useful mobilization program to improve functional mobility in hospitalized older adults.

COMPARISON OF STATIC BALANCE BETWEEN INSTITUTIONALIZED AND COMMUNITY-DWELLING OLDER ADULTS

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Falls are common among older people and are a serious public health problem in this population. Studies indicate that about 30% of people over 65 years who live in the community fall annually. For individuals in nursing homes, 50–66% fall each year. One specific condition for risk of falling is the gait/balance disability. Often, institutionalized older patients have fewer opportunities to independently participate in activities and tasks of daily living, having higher deleterious effects in the physiological losses from aging, compromising gait and balance. There are fewer studies showing the balance by a force platform in institutionalized elderly. The aim of the study was compare the static balance between institutionalized and community-dwelling older. Forty two older volunteers participated in the study (21 community-dwelling and 21 institutionalized). The static balance was assessed using a force platform (eyes open and closed base). The parameters used to measure the subject's stability were: total path length (cm), mean velocity (cm/s) and 95% of the ellipse area (cm²). The age of participants was 75.4 ± 7.3 for institutionalized and 72.5 ± 7.1 for community-dwelling older ($p = 0.20$). The results showed a significant difference between institutionalized and community-dwelling older:

total path length (77.9 ± 25.05 and 52.7 ± 12.59 , $p=0.0002$), mean velocity (2.60 ± 0.84 and 1.88 ± 0.86 , $p=0.001$) and 95% of the ellipse area (6.5 ± 3.3 and 4.6 ± 2.4 , $p=0.04$). The results showed that the static balance assessed by a force platform of institutionalized older is significantly different of community-dwelling elderly, explaining the greater risk of falls of this population.

SIT TO STAND ACTIVITY: A LITERATURE REVIEW

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It is common for older adults to have many age related problems such as muscle weakness, slowed performance, fatigue and poor endurance. Focusing on exercises to improve older adults mobility is a potential mechanism to assist their physical capability and performance of activities of daily living. Using Arksey and O'Malley framework a scoping review was conducted to: (1) to explore the breadth of literature on the current state of knowledge about the sit-to-stand activity to improve mobility in the older adult population and (2) to identify gaps for future research. Of 1639 papers, 14 studies met the inclusion criteria, with study dates ranging from 1993 to 2015. The target population of the majority of studies was post-stroke patients. A range of sit-to-stand interventions were described with duration of interventions ranging from two to 24 weeks. The frequency of the sit-to-stand activity ranged from three to seven times/week lasting 15 to 45 minutes on each occasion. Also, the activity was prompted mostly by rehabilitation professionals. Three themes were identified in the studies: (1) positive impact of sit-to-stand activity on patient outcomes; (2) absence of long term follow up in study designs; and (3) gap of theoretical framework guiding the studies. Across most of the studies, participants showed significant improvements in performance of sit-to-stand and motor function, yet most studies lacked adequate methodological rigor and/or experimental design. There was an absence of explicit theoretical frameworks guiding the studies. More research is needed to assess whether the sit-to-stand could benefit groups beyond the post-stroke population.

AMBULATION OF HOSPITALIZED OLDER PATIENTS

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About 65% of older adults will experience functional decline or loss of independent ambulation during their hospital stay. Loss of independent ambulation has been identified as a hospital-associated disability (HAD). Patients at risk for HAD are those with decline in 1 or more ADLs, female, over the age of 75 and use of an assistive walking device. Limited ambulation has been identified as the most preventable cause of HAD. Older adults infrequently walk during their hospital stay. An exploratory study was conducted on an adult medical unit in a Midwest academic hospital. Thirty-seven older adults (mean age=80.73) consented to wear a research-grade accelerometer during their hospital stay (mean stay=61.46 hours). Growth mixture modeling identified the trajectories of cumulative number of steps into two classes, class I ($n=29$, mean growth slopes= 33.4) and class II ($n=8$, mean growth slope=130.1). T-test indicated lower body weight (BW) was statistically significant in the group with high slopes ($p=0.037$). Partial correlation test, controlling

for ambulation assistance, identified a negative correlation between the slope of cumulative number of steps with age ($r = -0.42$, $p = 0.013$), and male ($r_{pb} = -0.336$, $p = 0.026$). Pattern of ambulation within the sample identified 3 time periods of greatest activity, 10am-1pm, 4-6pm and 8-9pm. Decrease in ambulation activity occurred during shift change 3pm, 7pm and after 10pm. High BW, male and need for assistance were correlated with low levels of ambulation. Future intervention studies should target high risk patients who may be at greater risk for HAD.

MANAGING MOBILITY IN VULNERABLE SENIORS (MMOVES) WITH AN INDIVIDUALIZED, HOME-EXERCISE PROGRAM

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After hospitalization, further disability among seniors could be prevented through exercise. Nonetheless, a one-on-one rehabilitation is not realistic for the volume of seniors that are experiencing disability. Currently available educational material for improving disability is so vast and non-specific that passive dissemination may pose a barrier to behaviour change. The aim of this pilot study was to estimate the extent to which an individualized, exercise-focused, self-management program (MMOVES), in comparison to exercise information, is more effective in improving mobility after 6 months among seniors recently discharged from hospital.

The physiotherapy-facilitated intervention consisted of 1) evaluation of mobility capacity; 2) setting short and long term goals; 3) delineation of an exercise treatment plan. In addition, MMOVES participants received an educational booklet to enhance mobility self-management skills and were followed-up with monthly telephone calls. Control group received a booklet with information on exercises targeting mobility limitations in seniors.

Mobility, pain, and health status were assessed at baseline and at 6 months using multiple indicators drawn from DASH, LEFS, SF-36. After imputing missing data, generalised estimating equations (GEE) estimated the odds of response for people receiving the intervention in comparison to the odds of response in the control group. Each person was classified as having made a response, deterioration, or no change on each measure based on change of one level on the ordinal scale.

26 people were randomized to the intervention (mean age 81 ± 8 ; 39% women), 23 were randomized to the control (mean age 79 ± 7 ; 33% women). The OR for the mobility outcomes combined was 3.08 and the 95%CI excluded 1 (1.65 – 5.77). The ORs for pain and health perception favoured the MMOVeS group; but, the 95%CI included the null value. Our individualized, exercise-focused, self-management program was more effective than exercise information in improving mobility outcome for seniors.

THE SHORT VERSION OF THE ACTIVITIES-SPECIFIC BALANCE CONFIDENCE SCALE FOR OLDER ADULTS WITH DIABETES

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The Activities-specific Balance Confidence scale (ABC-6) is advantageous in busy clinical or research settings as it can be administered in significantly less time than the original 16-item ABC scale (ABC-16). The purpose of this study was to examine the convergent, discriminant and concurrent validity of the ABC-6 in older adults with diabetes mellitus (DM) with and without diagnosed diabetic peripheral neuropathy (DPN). Thirty older adults (aged ≥ 65) were age- and sex-matched in 3-groups: 10 with DM (DM-group), 10 with diagnosed DPN (DPN-group), and 10 without DM (noDM-group). Balance confidence was quantified with the ABC-16 which includes the six items of the ABC-6. Potential correlates were evaluated in physical and psychological domains. Our results indicated the ABC-6 and ABC-16 balance confidence scores were strongly correlated ($r=0.969$, $p<0.001$; convergent validity). The ABC-6 revealed significant differences in balance confidence between the noDM- and DM-groups ($p<0.001$; discriminant validity) whereas the ABC-16 did not ($p>0.05$). The ABC-6 was moderately but significantly correlated with physical activity level ($r=0.528$, $p=0.017$), mobility ($r=-0.520$, $p=0.027$), balance ($r=0.633$, $p=0.003$) and depressive symptoms ($r=-0.515$, $p=0.020$) in the DM study-groups (concurrent validity). In conclusion, the ABC-6 and ABC-16 had excellent convergent validity and both ABC-scales had similar concurrent validity. However, the ABC-6 was more sensitive to detect subtle differences in balance confidence in older adults with diabetes without diagnosed DPN than the ABC-16. Overall the ABC-6 is a valid assessment tool that may provide a means for early detection of balance and mobility-related declines in older adults with DM without diagnosed DPN.

IDENTIFICATION OF FACTORS THAT INFLUENCE INDEPENDENCE OF COSTA RICAN NONAGENARIANS AND CENTENNIALS

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Costa Rica is now dealing with a demographical transition in which it is common to see healthcare users aged 90+. The goal of this study is to document the sociodemographic characteristics, and the medical and functional condition of the ninety and hundred-year-old senior citizens within the sample, as well as to document the most important factors affecting their independence, both in their basic and instrumental activities. The information used was gathered from the CRELES (Costa Rica, Longevity and Healthy Aging Study, as per its Spanish acronym). In this study a survey was administered to a nationally representative sample of 8,000 senior citizens. This is a descriptive and analytical cross-sectional study. In total 278 people over ninety years of age were studied, representing 9.8% of the individuals included in the CRELES study. Among the most important findings was the fact that most participants are female and that 30.9% of them were illiterate. The most frequent pathologies were sleep disorders (51%) and hypertension (44%); 14% reported having no previous pathologies. 24.9% of the individuals had a

BMI of less than 20. 63% of them considered that they had a good to excellent health. Upon assessing their functional conditions, it is clear that 32% of them are completely independent in Basic Daily Activities. Their instrumental activities were positively affected by hypercholesterolemia, in that their degree of independence was higher when this condition was present ($p = 0.088$). These findings should allow better measures to be taken for the early detection of risk factors.

PROPHYLAXIS PROTOCOL FOR SURGICALLY TREATED HIP-FRACTURED ELDERLY IN REDUCING VENOUS-THROMBOEMBOLISM

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Venous-thromboembolism(VTE) risk is high in surgically treated hip-fractured patients and could still be 19% despite being on pharmacological prophylaxis. There was no routine practice of giving pharmacological prophylaxis in elderly due to the concern of bleeding risk and lower risk(8.6%) of VTE in Asian populations.

We developed a VTE prophylaxis protocol via inter-departmental collaboration for all hip-fractured elderly admitted to the Hip Fracture Unit. We studied 256 patients with surgically treated hip fractures (mean age 78.6 ± 8.9) who were admitted from November 1, 2014 till October 31, 2015. Mechanical calf-compressors and anti-embolism stockings were used as mechanical methods whereas low-molecular weight heparin or unfractionated heparin were used as pharmacological methods. Prophylaxis was started from the first day of admission except those with absolute contraindications. DVT and pulmonary embolism(PE) were confirmed by ultrasonography and CT pulmonary angiography respectively. We aimed to study the compliance of VTE protocol and VTE risk with appropriate prophylaxis.

All 256(100%) of the patients were given mechanical prophylaxis, with 238(88%) of them on concurrent pharmacological prophylaxis. Seven(2.7%) had DVT and two (0.8%) had PE. One(0.004%) mortality was associated with the VTE-positive group. No complications were reported from the mechanical methods. One(0.004%) heparin-induced thrombocytopenia and one(0.004%) rectal bleeding secondary to undiagnosed sigmoid tumour were reported. No bleeding complications of the wound.

VTE is a serious complication and often underestimated in Asian patients with hip fracture. VTE prophylaxis protocol could improve the compliance and safety of prophylaxis initiation and is effective in reducing VTE occurrence in hip fracture patients.

SELF-REPORTED HEALTH AS A PREDICTOR OF FUNCTIONAL DECLINE IN A COMMUNITY-DWELLING ELDERLY POPULATION

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Purpose: As elderly population is increasing, prediction and prevention of functional decline in the elderly are of great concern. This study aimed to evaluate whether poor self-reported health status (SRHS) could predict functional decline after two years in the elderly population.

Methods: Data from the KLoSA panel, a national representative sample of the aging Koreans, were used. Subjects of investigation were the elderly population aged 65 or more without disability in carrying out activities of daily living (ADL) at baseline. The survey asked respondents about their subjective health status. Setting the respondents who stated their health status 'very good' or 'good' as the reference group, multivariable logistic regression analysis was performed to compare functional decline according to the baseline SRHS.

Results: A total of 2,824 subjects were included in the analysis. Among them, 138 (4.9 %) reported functional decline of at least one of the 7 ADL components after two years. In multivariable logistic regression analysis, SRHS was significantly associated with subsequent functional decline in respondents who chose 'Bad' (odds ratio (OR), 3.32; 95 % confidence interval (CI), 1.71 – 6.44) or 'Very bad' (OR, 4.75; 95 % CI, 2.12 – 10.66). Moreover, poorer SRHS was significantly associated with subsequent impairment in each ADL components. Also, SRHS predicted overall subsequent impairment in the instrumental ADL.

Conclusions: SRHS predicted functional decline after two years in the elderly without baseline disabilities. SRHS can be a good predictor of future functional decline in the elderly population.

LOSS OF INDEPENDENCE IN ACTIVITIES OF DAILY LIVING IN OLDER ADULTS HOSPITALIZED

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Objectives: To describe the changes in activities of daily living (ADL) function occurring before, after hospital admission and discharge in inpatients elderly with medical illness and to assess the effect of frailty on loss of ADL function.

Design: Prospective observational study.

Setting: Brazilian university hospital.

Participants: One-hundred ninety-five patients (mean age 74 years, 59% men).

Measurements: At the time of hospital admission, patients were interviewed about their independence in ADLs (Katz index) 2 weeks before admission (M0), at admission (M1), discharge (M2) and 15 days after discharge (M3) and about frailty (M0) (Cardiovascular Health Study index). Outcome measures included functional decline between M0-M1, between M0-M2, between M0-M3 and between M2-M3.

Results: Eighteen percent of patients were dependent (Katz index < 3) and 38.4% were frailty in M0. The ADL function of 31% of the patients did not decline between M0-M2. Thirty-five percent declined between M0-M3. This included the 17.1% of patients who declined between M0-M1 and failed to recover to baseline function. Fifty-nine percent declined between M1-M2. Twenty-four percent recovered between M2-M3.

The frequency of ADL decline between M0-M3 varied markedly with frailty (OR=5.77, 95% confidence interval 2.23–14.96).

Conclusion: Many hospitalized older people are discharged with ADL function that is worse than their baseline function. Frailty was a risk for losses of ADL function during hospitalization in elderly patients

ARE STATIC AND DYNAMIC BALANCE ABILITIES CORRELATED WITH HANDGRIP STRENGTH IN HEALTHY ELDERLY?

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Several studies report that basic motor abilities, including muscular strength and static and dynamic balance influence the risk of falls in elderly people. However, the relationship between these features is not fully clear. In this study, we measured static posturography and TUG (performed using force platform and wearable inertial sensors) with handgrip strength (HSG) and determined the correlation between balance and HSG performances.

Twenty-two healthy individuals (10M, 12F, age 68.0 SD 8.3) underwent a 30 s static posturography and instrumented TUG using an inertial sensor attached at the lower lumbar level. The center-of-pressure (COP) time series acquired with the force platform were processed to calculate: sway area, COP path length, maximum COP displacements and velocities in AP and ML directions. For the TUG, acceleration data allows calculating: duration of the trial, duration of sit-to-stand, intermediate turning, final turning and stand-to-sit phases. HSG was measured using a validated dynamometer.

Pearson's product-moment correlations was calculated by setting the significance level at $p=0.05$. We found significant positive correlations of HSG with sway area ($r=0.462$), path length ($r=0.510$) COP displacements and velocities in AP and ML direction ($r=0.576$ and 0.422 for displacements, $r=0.563$ and 0.414 for velocities). Moreover HSG is negatively correlated with TUG duration ($r=-0.604$) and final rotation phase ($r=-0.509$). Such results suggest that HSG is a good predictor of static balance, while muscular strength seems to be less of an influence in dynamic balance tasks like TUG.

SESSION 840 (POSTER)

DISEASES OF AGING AS MEANS TO UNDERSTAND THE AGING PROCESS

PROTEIN MALNUTRITION AFFECTS CARTILAGE QUALITY AND COULD CONTRIBUTE TO OSTEOARTHRITIS DEVELOPMENT

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Elderly patients frequently suffer from protein malnutrition leading to major alteration of the somatotrophic axis as well as IGF-I local production. IGF-I is a major anabolic agent for cartilage homeostasis. Indeed a decrease of IGF-I induced by protein malnutrition could affect both cartilage and subchondral bone and may contribute to osteoarthritis

development. To address this question, 9 months old rats were pair fed a normal or an isocaloric low protein diet (LP) for 2 months (n=6/group). All animals were euthanized and femurs were collected. Micro-computed tomography allows determination of trabecular and cortical subchondral bone (SB) morphometric parameters as well as hyaline and calcified cartilage thickness, and proteoglycan content estimation. Bioindentation with Bioindenter equipment (CSM Instrument, Switzerland) allows determination of cartilage material level properties (indentation depth and Young's modulus). Systemic IGF-I was decreased in LP group (-18%, p<.001). As expected, in LP group, SB compartment was altered: trabecular SB mass was decreased (-10%, p<.01) as well as SB cortical plate thickness of the medial condyle (-12%, p<.05). Despite no morphologic changes of the cartilage of the medial condyle (thickness tended to decrease by 8% but not significantly), hyaline cartilage biomechanical properties (force, elastic modulus and working energy) were respectively decreased by -47, -58 and -41% (p<.01). We did not observed alterations of proteoglycan. These cartilage degradations are similar to what is observed in early osteoarthritis. We suggest that alteration of the somatotrophic axis induced by protein malnutrition could predispose to osteoarthritis. Since protein malnutrition is frequent in elderly this mechanism could be relevant in human.

REDUCTION OF NFAT1 EXPRESSION IN ARTICULAR CHONDROCYTES LINKS TO THE AGING OF ARTICULAR CARTILAGE

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Aging is an independent risk factor for osteoarthritis (OA), for which the biological mechanisms are poorly understood. NFAT1 (NFATc2) known to be expressed in cartilage is a member of nuclear factor of activated T cells (NFAT/Nfat) family of transcription factors. This study aimed to investigate the age-related NFAT1 expression pattern and the role of NFAT1 in regulating metabolic activities of articular cartilage in mice. *Nfat1* mRNA and protein were highly expressed in articular chondrocytes in young adult but were significantly reduced in aged mice. The decreased NFAT1 expression was associated with reduced proteoglycan staining, decreased expression of chondrocyte markers, and increased expression of interleukin-1 β in articular cartilage. Forced *Nfat1* expression in chondrocytes from aged mice significantly reversed the abnormal metabolic activities. Methylated DNA immunoprecipitation and chromatin immunoprecipitation assays revealed that reduced NFAT1 expression in articular chondrocytes of aged mice was regulated by epigenetic histone methylation at the promoter region and was correlated with increased DNA methylation at introns 1 and 10 of the *Nfat1* gene. The present study suggests that epigenetically regulated spontaneous reduction of NFAT1 expression results in imbalanced metabolic activities of articular chondrocytes of aged mice, leading to aging-like changes in articular cartilage. Articular cartilage of aged mice, therefore, is an abnormal joint tissue that may predispose the joint to OA under mechanical stress. These

findings may provide new insights into the mechanisms underlying the aging of articular cartilage.

UNDERSTANDING ROLE OF 9P21 GENE DESERT SNPS IN CANCER, AGING, DIABETES, AND CARDIOVASCULAR DISEASES

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Aging has been largely thought of as a manifestation of metabolic malfunctions and physical and psychological changes accumulating over time in the body. Recent years have seen seminal research that indicates that changing epigenetic landscape of individual cells is also one of the main contributors to the process of aging, that lead to the term "cellular aging". INK4/ARF locus on chromosome 9p21 has been implicated in aging, diabetes, heart diseases and multiple forms of cancer; making it an ideal model to study the basic rules of cellular aging. We identified 33 enhancers in the 9p21 locus, which have been associated to aging-related diseases in multiple GWAs studies. Using techniques like 5C and CRISPR, we have discovered an intricate network of interplay between some of the key enhancers in the locus. We observed that these enhancers make contacts with the INK4/ARF locus by looping and in turn regulate the expression of ANRIL, p14 and p16: important determinants of cellular aging. We also found out that this is a local effect spread over a few adjacent TADs, suggesting that multiple such "regulator domains" might be at work in the genome, to check the cellular aging. The findings of this study will shed light on how to develop new approaches to impact the architectural events and could provide targets to impede the aging process and development of diseases associated with aging, such as coronary artery disease, diabetes, and neurodegenerative disease.

GENOMIC AND FUNCTIONAL CELLULAR RESPONSES IN HEAVILY TUBERCULOSIS-EXPOSED OLDER ADULTS

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Little known about changes in immune responses to TB that occur with aging. We identified pulmonary TB index cases and enrolled their heavily TB exposed household contacts in Uganda. We studied 26 older (mean age 58, range 50–78) and 17 younger (mean age 23, range 18–30) household contacts. None had active TB. 11 Index cases with active TB were examined also. PBMC were studied at time 0 by RNA-seq transcriptomic analysis. Not surprisingly, pathway-based analysis of young subjects with active TB versus contacts showed upregulation of IL6, complement, and type I interferon response gene (IRGs such as OAS1/2, IFI6/27, IFIT2/3 and IRF7) pathways signifying a coordinated innate immune response. Interestingly, many of the same IRGs expressed in active TB in younger individuals were also upregulated in older highly exposed versus younger highly exposed.

However, this IRG expression was in the context of type II IRG (IFNG), IL12 and other proinflammatory cytokine signaling consistent with higher activation of the inflammasome upon TB exposure in the aged. PBMC were also stimulated with TB and CMV for study by multiparameter flow cytometry. Surprisingly the magnitude and polyfunctional quality of memory CD4+ T cells responding to TB antigens was similar between the age groups measuring TNF, IFN, and IL-2. The polyfunctional profile however was different between T cells responding to TB and CMV supporting a specific phenotype to TB responding cells. Several inhibitory receptors associated with exhaustion (CD160, 2B4, PD-1) have a trend or are higher in CD4+ T cell memory subsets with age.

ALTERED MITOCHONDRIAL QUALITY CONTROL IN MUSCLE OF OLD CACHECTIC PATIENTS WITH GASTRIC CANCER

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Mitochondrial dysfunction has been involved in muscle wasting associated with cancer cachexia (CC). Whether mitochondrial quality control (MQC) is altered in skeletal myocytes during CC is still unclear. The present investigation sought to preliminarily characterize MQC pathways in muscle of gastric cancer patients with cachexia. The study followed a case-control cross-sectional design. Intraoperative biopsies of the *rectus abdominis* muscle were obtained from 18 old patients with gastric adenocarcinoma (nine with CC and nine non-cachectic) and nine controls, and assayed for the expression of a set of MQC mediators. Mitofusin 2 (Mfn2) expression was reduced in cancer patients compared with controls, independent of CC, while fission protein 1 (Fis1) was up-regulated in CC patients relative to the other groups. As a result, the “fusion index” (Mfn2/Fis1 ratio) was lower in patients with CC. The mitophagy regulators PTEN-induced putative kinase 1 and Parkin were down-regulated in cancer patients compared with controls. The ratio between the protein content of the lipidated and non-lipidated forms of microtubule-associated protein 1 light chain 3B was lower in CC patients relative to controls and non-cachectic cancer patients. Finally, the expression of autophagy-associated protein 7, lysosome-associated membrane protein 2, peroxisome proliferator-activated receptor- γ coactivator-1 α , and mitochondrial transcription factor A was unvarying among groups. In gastric cancer patients, cachexia is associated with derangements of the muscular MQC axis at several checkpoints: mitochondrial dynamics, mitochondrial tagging for disposal, and mitophagy signaling. Further investigations are needed to corroborate these preliminary findings and determine whether MQC pathways they may be targeted for interventions.

ESTIMATION OF CAUSAL EFFECTS ON HAZARDS OF MAJOR AGE-RELATED DISEASES USING MENDELIAN RANDOMIZATION

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Elucidating the causal effects of common intermediate phenotypes on the onset of age-related diseases such

as cardiovascular diseases (CVD), diabetes mellitus (DM), Alzheimer's disease and cancer is indispensable for developing prevention and intervention procedures. We conducted a Mendelian randomization study to investigate the causal effects of cardiovascular risk factors including body mass index (BMI), systolic blood pressure (SBP), and lipids on the age-of-onset of various age-related diseases using three large-scale longitudinal cohorts (ARIC, CHS and MESA). We performed a two-stage time-to-event analyses using additive hazard models followed by a meta-analysis using a fixed-effects model, in which we constructed weighted polygenic scores based on genetic markers from previously reported genome-wide association studies as instrumental variables to estimate the causal effects. Our results show that elevated BMI at the baseline increases the hazard of stroke with a meta-analysis p-value of 1.82×10^{-2} ($\beta = 3.11 \times 10^{-4}$, i.e., one unit increase of BMI is associated with 0.311 extra cases per 1,000 person years). Raised SBP significantly increases the hazards of coronary heart diseases ($\beta = 3.66 \times 10^{-4}$, $p = 1.44 \times 10^{-3}$) and CVD ($\beta = 4.17 \times 10^{-4}$, $p = 2.51 \times 10^{-2}$). We confirm that the association between low-density lipoprotein cholesterol and onset of Alzheimer's disease is due to the pleiotropic effect in *APOE*. Surprisingly, we observe that triglycerides have a significant negative causal effect on the hazard of DM consistently across the three cohorts ($\beta = -1.88 \times 10^{-5}$, $p = 9.93 \times 10^{-3}$). These findings have important implications in guiding effective intervention strategies to reduce the incidence of these diseases.

INFLUENCE OF ACE INHIBITORS ON FRAILTY AND CARDIAC FUNCTION IN MIDDLE-AGED FEMALE C57BL/6 MICE

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ACE inhibitors improve exercise capacity in older adults without cardiovascular disease and in aged rodents. We hypothesized that chronic ACE inhibitor treatment may attenuate frailty through changes in cardiac function. Female C57BL/6 mice (12 months) were given enalapril (40 mg/kg/day; $n=10$) or control ($n=10$) for 3 months. Frailty was quantified with the mouse clinical frailty index (FI). Blood pressure (BP) was measured with a tail-cuff and *in vivo* cardiac function was measured using echocardiography. Cardiomyocytes were isolated for field-stimulation and voltage clamp experiments (2 Hz). FI scores were significantly lower in the enalapril group when compared to control mice (0.14 ± 0.01 vs 0.21 ± 0.03 , $p < 0.05$) after 3 months. BP, heart structure and contractile function were not significantly different between the enalapril and control groups. Field stimulation experiments showed that enalapril treatment increased cell shortening (1.6 ± 0.2 vs 3.0 ± 0.5 %, $p < 0.001$), velocity-to-peak contraction (0.068 ± 0.005 vs 0.133 ± 0.016 $\mu\text{m/ms}$, $p < 0.001$) and $\frac{1}{2}$ relaxation (0.044 ± 0.005 vs 0.100 ± 0.016 $\mu\text{m/ms}$, $p < 0.001$), with no change in underlying calcium transients. Under voltage clamp conditions both calcium transients (37.6 ± 3.2 vs 49.0 ± 3.9 nM, $p < 0.05$) and contractions (5.7 ± 0.7 vs 8.9 ± 0.9 %, $p < 0.05$) were increased by enalapril treatment. Calcium current and sarcoplasmic reticulum (SR) calcium content were unchanged. These results show that enalapril attenuates frailty in middle-aged animals, even in

the absence of cardiovascular disease, and suggest that ACE inhibitor treatment may increase calcium release from the SR.

SARCOPENIA AND MORTALITY IN COMMUNITY-DWELLING ELDERLY INDIVIDUALS IN RIO DE JANEIRO, BRAZIL

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Sarcopenia is a health problem related to aging and changes in body composition, and are associated with poor prognosis for several clinical outcomes. The European Working Group (EWGSOP) define sarcopenia as loss of muscle mass, plus low muscle strength and/or low physical performance. The aim of this study was to determine the association of sarcopenia and mortality in elderly. The sample was composed by 745 community-dwelling individuals, 65 years old and older, living in Rio de Janeiro, Brazil, who participated in FIBRA study. Their health habits, functional capacity, and anthropometric measures were analyzed. The present study diagnosed sarcopenia assessing usual gait speed, grip strength and muscle mass measured through anthropometry. Other covariates were assessed in order to test the independent association of sarcopenia with mortality. 70.3% were female, 61.9% Caucasian; average age: 76.6 (SD±6.9) years. In total, 222 individuals died during the seven years of follow-up (25.0%). Univariate analyses, Kaplan-Meier curves and log-rank test were significantly associated with mortality from sarcopenia ($p < 0.001$). However, in cox-regression multivariate model, after adjustment for other variables, only age, Instrumental Activities of Daily Living and health self-perception were associated with mortality [OR: 9.4 (CI95% 3.6–24.2; $p < 0.001$); 1.7 (CI95% 1.01–3.1; $p = 0.043$); 3.1 (CI95% 1.26–7.59; $p = 0.013$), respectively. In conclusion, in the present study sarcopenia was not associated with mortality.

METABOLIC BIOSIGNATURES OF FRAILTY IN AN ELDERLY SPANISH POPULATION

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Increase in life expectancy actually represent an increased burden of disability. Frailty involves a decreased capacity to respond to demands because of diminishing of functional reserves and precedes disability in most of the cases. Frailty encompasses changes associated with ageing, life styles, chronic diseases and the interactions among them. Recent findings suggest that changes associated with sarcopenia and with the balance between production and use of energy may be among the most relevant factors associated with frailty. Early detection of subclinical changes is key to preventing or delaying the development of frailty. Metabolomics is the systematic study of the unique chemical fingerprints that specific cellular processes leave behind. By measuring metabolic reagents and end products, metabolomics represents a unique molecular phenotype integrating the influence of genotypes, lifestyle and environment. In the present study, we present blood serum metabolomic biosignatures

of robustness, pre-frailty and frailty in a Spanish elderly population from Toledo cohort. Poly and mono unsaturated fatty acids, branched-chain amino acids, trimethylamine and derivatives, and total creatine contribute the most to these specific biosignatures. In addition, inter-metabolites correlations in the frailty subgroup show dramatic differences with respect robustness especially in mitochondrial metabolites and lipids. Our results suggest that metabolic changes, detectable by NMR metabolomics, precede the clinical onset of frailty. This represent a robust, cheap, reproducible and rapid approach that may help in early detection of frailty, better therapeutic and preventive strategies and personalized management of the patient.

THE ROLE OF SKELETAL MUSCLE MYOSTATIN IN SARCOPENIA IN OLDER ADULTS

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Myostatin is a key negative regulator of muscle mass in humans and animals, having direct and indirect influences on molecular regulators of atrophy and hypertrophy, thus may impact fitness and physical function. We have shown that myostatin is elevated in conditions of chronic disability (e.g. paretic limb of stroke). Our hypothesis is that myostatin would be elevated in older adults with sarcopenia. The purpose of this study was to examine the role of skeletal muscle myostatin in sarcopenia. Thirty-eight normal-weight to obese (BMI: 33 ± 5 kg/m², $X \pm SEM$, range 21–45 kg/m²) men ($n=21$) and women ($n=17$) aged 45–81 years underwent a VO₂max test, DXA scan to determine appendicular lean tissue (ALM), and *vastus lateralis* muscle biopsy. Quantitative real time PCR (Q-RT-PCR) was performed using Taqman probes with 36B4 as a reference to determine myostatin mRNA expression. Rates of sarcopenia were determined using (ALM/BMI) and sarcopenia was defined as < 0.789 in men and < 0.512 in women. Subjects had low fitness (VO₂max: 24 ± 1 ml/kg/min) and on average $41 \pm 1\%$ body fat. The prevalence of sarcopenia in this cohort was 16%. Myostatin mRNA expression tended to be lower (29%) in those without sarcopenia than those with sarcopenia (68 ± 6 vs. 96 ± 18 AU, $P=0.09$). Myostatin expression was not related to age or VO₂max. While myostatin may be important in muscle atrophy and sarcopenia, further work could address its implication in other aging cohorts of disability and chronic disease.

INCREASED CORTICAL POROSITY IN WOMEN WITH HIP FRACTURES

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Background: Hip fractures cause increased mortality and disability and consume enormous health care resources. Only 46% of hip fracture patients have osteoporosis at the total hip according to dual energy X-ray absorptiometry (DXA) measurement. Cortical porosity increases with ageing and is believed to be important for bone strength.

Objective: To investigate if older women with hip fracture have higher cortical porosity than controls and if this difference is independent of clinical risk factors and areal bone mineral density (aBMD).

Methods: From an ongoing population-based study, we identified 46 women with a prevalent x-ray verified hip fracture and 361 controls without any fracture. Areal BMD was measured with DXA. High-resolution peripheral quantitative computed tomography (HR-pQCT) was used to measure bone microstructure at the manufacturer's standard (ultradistal) site and at 14% (distal) of the tibia length.

Results: Women with a previous hip fracture had lower aBMD at the femoral neck (-11.8%) and total hip (-14.6%) as well as higher cortical porosity at the ultradistal (32.1%) and distal (29.3%) tibia than controls. In multivariable logistic regressions, with covariates (age, height, weight, smoking, physical activity, calcium intake, current treatment with bisphosphonates, oral glucocorticoids, rheumatoid arthritis, heredity for hip fracture, alcohol consumption and femoral neck aBMD), cortical porosity at the ultradistal (Odds Ratio per SD increase (95% confidence interval) 2.70 (1.84–3.95); $p < 0.001$) and distal (1.57 (1.13–2.17); $p = 0.01$) site was associated with prevalent hip fracture.

Conclusion: Cortical porosity was independently of femoral neck aBMD and clinical risk factors associated with prevalent hip fracture in older women.

AGING AGGRAVATES ALCOHOLIC LIVER INJURY AND FIBROSIS BY DOWNREGULATING HEPATIC SIRTUIN1 EXPRESSION

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Alcoholic liver disease (ALD) is one of the most prevalent liver disease worldwide. The spectrum of ALD includes fatty liver, steatohepatitis, fibrosis/cirrhosis and hepatocellular carcinoma. The role of chronic ethanol consumption and aging in ALD still remain unclear. We hypothesized that aging may have an interaction effect with ethanol exposure that may down-regulates hepatic SIRT1 protein expression, inducing liver fibrosis and ALD. For our studies, these mice were fed with control or Lieber DeCarli liquid diets containing 5% ethanol for 10 days, followed by a single ethanol binge or fed up to 8 weeks, which included multiple ethanol binges. Liver injury and fibrosis were measured using histology, protein and gene-expression levels. Hepatic stellate cells and hepatocytes were isolated for *in vitro* studies. Results from liver histology from multiple binges revealed that there was more steatosis and fibrosis in the livers from ethanol-fed old mice when compared to the single binge mouse model. Results showed that the chronic ethanol feeding plus one ethanol binge, levels of hepatic protein of SIRT1 were reduced in old mice. Chronic multiple binge ethanol exposed old mice demonstrated more steatosis, neutrophil infiltration and fibrosis when compared to young mice, correlating to the characteristics of ALD. The current results suggest that aging down-regulates hepatic SIRT1 protein expression in hepatocytes from old mice, consequently inducing alcoholic liver injury and fibrosis. These findings will help us to better understand the importance of how aging and alcohol greatly affects the elderly population, and develop ways to help prevent further injury.

AGEING AND DRUG-INDUCED LIVER INJURY: INSIGHTS FROM ANIMAL STUDIES

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Elders are thought to be at increased risk of drug induced liver injury (DILI), however there is little empirical evidence to prove it. We aimed to determine the effect of ageing on DILI in male Fischer 344 rats. Young and old rats were treated via intraperitoneal injection with toxic regimens of either acetaminophen (single dose of 800mg/kg) or isoniazid (4 doses daily; low dose regimen: 100, 70, 70, 70mg/kg or high dose regimen: 150, 105, 105, 105mg/kg (3 hours apart) over 2 days) or vehicle controls. After euthanasia, sera and livers were collected for testing. With acetaminophen treatment, higher serum drug levels were observed in old than in young animals, but conversely serum hepatotoxicity markers were elevated in young animals but not old. Hepatic DNA fragmentation was increased in old animals treated with acetaminophen when compared to all other groups. Similarly, with isoniazid treatment, higher levels of hepatotoxic metabolites were observed in old than in young animals, and serum hepatotoxicity markers were elevated in young animals but not in old. Compared to age-matched controls, with isoniazid treatment there was a trend towards increased necrosis in young rats and increased hepatic microvesicular steatosis in old. Toxic isoniazid insults did not cause hepatic DNA fragmentation. In both studies, the activity of hepatic CYP2E1, which generates toxic intermediates from acetaminophen and isoniazid, was significantly reduced in old animals compared to young. Old age affects the pattern and risk of DILI from acetaminophen and isoniazid differently and age-related changes in metabolism probably contribute.

SESSION 845 (POSTER)

ELDER ABUSE, NEGLECT, AND EXPLOITATION

EVALUATING OUTCOMES OF ADULT PROTECTIVE SERVICES IN THE UNITED STATES: WHAT DO WE KNOW?

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To provide baseline knowledge to aid in development of measurable outcomes and promote program evaluation in Adult Protective Services (APS), a review of quantitative and qualitative research published between 2005 and 2015 was conducted to examine outcomes of APS interventions in the United States. Balancing the need to protect clients with upholding their self-determination, APS investigates reports of abuse, neglect, exploitation, and self-neglect of vulnerable

older adults and adults with disabilities, assesses situations, and offers services to reduce risk for abuse, neglect, and exploitation. In spite of APS's vital role in protecting vulnerable adults, evaluation research that uses clearly defined and operationalized outcomes, which are necessary to examine program impact, is scarce. In addition to risk reduction and increased client safety, other possible outcomes of APS intervention include upholding self-determination for clients capable of making informed decisions. Thirteen published studies met the criteria. The majority were retrospective case reviews that relied on case records, data collected by APS workers, and case management systems. Eight studies used measures of risk reduction or continuation of abuse. Others identified outcomes related to case processes and included investigation outcomes (confirmed or not confirmed), recidivism, provision and refusal of services, and referral to the court or criminal justice system. Based on these findings and principles of program evaluation that encourage use of program theory and logic models, recommendations are provided that aim to encourage APS research that determines what works, for whom, and under what conditions.

ADVANCING POLICY AND PRACTICE IN ELDER ABUSE: MESSAGE FROM STAKEHOLDERS IN HONG KONG

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Elder abuse poses significant threats to older persons' well-being: physically, psychologically and socially, yet the phenomenon has received relatively little attention in Hong Kong despite its ageing population. Any measures intended to address this issue are more likely to be effective if they are informed by the perspectives of both older people and practitioners.

A constructivist grounded theory approach was adopted for this study involving personal interviews and 3 focus groups with seniors, community-nurses and social workers. Participants were initially selected purposively and then theoretical sampling was employed as categories emerged from the data analysis. Data collection ceased when saturation was reached.

Implications for policy and practice changes were derived: 1) The ways in which financial assistance and housing policies currently operate were found to be insensitive to older recipients' dignity and unresponsive to their concerns thereby potentially increasing their risk of being abused; 2) Filial piety appears to be declining and policy-makers need to seriously consider if legislation is needed to ensure that older peoples' needs are met; 3) New policies are needed that enhance the integration of seniors into society and family life; and 4) The older population, families and practitioners need more education and awareness about elder abuse if preventative measures are to be put in place.

The perspectives unearthed by the study are of potentially great value in the development of strategies to counter this problem, thereby helping older people to age with ever greater dignity.

PUBLIC HEALTH AND ELDER ABUSE

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A dynamic and multidimensional conceptualization of elder abuse--its causes, manifestations, and consequences--can be grounded in a public health framework. A public health model of elder mistreatment is proposed which includes elements of public awareness (including education, training, and media campaigns), detection (processes by which relevant authorities learn that an alleged incident has taken place), and the development of laws and regulations that support intervention and treatment strategies. This model is used as a framework for assessing progress in addressing and preventing elder abuse in selected countries in five regions around the world, according to information provided by key informants in each country. Informants provided detailed information on ongoing activities in identifying and reporting instances of abuse or neglect in their countries, how official entities learn about abuse when it occurs, laws and regulations, if any, and their enforcement. A finding of the study is that in these countries the primary focus has been on promoting public awareness, and to some extent in detecting abuse after it occurs. There has been limited attention to the development of laws and regulations to address elder abuse, and insufficient enforcement of regulations already on the books. The severe consequences for health and well being of elderly victims of abuse are outlined in a review of the literature on the impact of abuse on older adults, including mortality, physical or emotional harm, and institutionalization.

THE STRUGGLE AGAINST THE ABUSE AND MISTREATMENT OF THE ELDERLY IN ISRAEL IN 2016

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Surveys held in Israel in 2015 by the Central Bureau of Statistics and the Public Security Ministry found that the number of elderly Israelis – defined as age 65 and over – suffering from violence (by a third party), abuse and mistreatment (by relatives and individuals in their immediate environment) and neglect (by caregivers, service providers, and the public and governmental systems), was higher and graver than in previous years.

Some 830,000 people were included in this national survey and over 60% expressed concern for their physical safety: They said they were afraid to be out at night, and concerned they would be mugged when collecting their monthly social security benefits. The findings also showed a growing concern among the elderly that someone in their immediate surroundings would neglect, mistreat, or abuse them. This is a phenomenon no normative society should be willing to tolerate.

This essay explores this phenomenon, and tries to determine the nature of potential assailants, and where and when they are most likely to strike against the elderly; as well as introduce the "Inverted Focus" model, that seeks to counter this phenomenon on multiple levels, with the goal of eradicating elderly abuse.

ELDER ABUSE AMONG SEXUAL MINORITY OLDER ADULTS IN THE U.S.

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Elder abuse is a serious concern for global public health and for the health and well-being of victimized older adults. To date, there is a paucity of research on the experience of elder abuse among those who identify as lesbian, gay, or bisexual (LGB) or who have engaged in same-sex sexual relationships (SSSRs). Older sexual minorities have been subjected to high rates of lifecourse victimization due to their sexual orientation, and certain sexual minority groups are at heightened risk of intimate partner violence; however, concepts of elder abuse are rarely explored in this population. This paper uses a U.S.-based dataset from the National Social Life, Health, and Aging Project (NSHAP; $n=3,005$) to investigate this phenomenon. Although NSHAP does not ask participants about sexual orientation, it records whether they have ever engaged in SSSRs. While this group does not wholly encompass LGB individuals, it provides initial insights into the elder abuse experiences of a sexual minority population. In total, over 1 in 10 older adults in NSHAP were victims of verbal, financial, or physical abuse. The rates of abuse for those who had engaged in SSSRs, though not significantly different from the overall population, differed qualitatively from the rates of abuse in non-SSSR individuals, both at large and within subgroups. These differences point to populations that might be appropriate targets for elder abuse education and prevention efforts and highlight the importance of collecting information on both sexual minority status and elder abuse experiences in large aging surveys.

AGE EFFECTS ON CONSUMER'S EVALUATION OF RISK AND BENEFITS IN SWEEPSTAKES SCAMS

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Advance-fee fraud schemes are based on the concept that the victim will be promised a substantial benefit, such as a sweepstakes winning, but must pay a fee before the victim can receive the benefit. With the global population growing older, sweepstakes scammers have been targeting older adults' wealth, and the scam becomes one of the top 10 senior scams. A laboratory-based approach was developed to study the very initial steps of the advance fee scam with an emphasis on evaluation of risk and benefit assessment. Three-hundred-and-two adults (age range 18–83), recruited on Amazon's Mechanical Turk, were randomly assigned into one of the three conditions (low, medium, or high activation fee), informed to read a lottery-winning letter, then were asked to answer some questions about its content. Overall, we found 27.2% participants indicating willingness to contact the sweepstakes company in order to "activate" the winnings. Age and activation fee amount predicted contact likelihood in the same regression model, such that older adults were less likely to comply ($b=-.032$, $p=.001$), while high activation fee deterred participants from calling ($b=-.384$, $p=.010$). However, both effects disappeared when

quantitative ratings of risk and benefits were entered into the model. Assessment of higher risk discouraged contact ($b=-.583$, $p<.001$), but higher benefit assessment was associated with contact ($b=.407$, $p<.001$). Participants were often aware that many of these pitches are scams, but unaware that the main goal of the scammers is to obtain contact information for future requests.

SCREENING AND ASSESSMENT OF ELDER ABUSE: AN EVALUATION OF NICE TOOLS

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Elder abuse (EA) has various dimensions, including physical, sexual and psychological abuse, which make screening and assessment challenging. As part of a larger project, the National Initiative for the Care of the Elderly (NICE) developed evidence-based tools to address these challenges. However, as no formal evaluation of these instruments has been conducted, the current study examines and evaluates the impact of NICE EA tools. Participants with NICE membership were randomly sampled ($n = 438$: 79.7% practitioners; 7.5% students; 4.5% older adults/informal caregivers; and 8.2% other) and asked to complete a telephone survey to assess the instrumental impact (use of tools), conceptual impact (impact of knowledge in tools), and symbolic impact (whether the tools confirmed actions/decisions) of the tools. Of 438 participants, 74 reported using EA tools the most, with 46% of these users indicating that the tools had an instrumental impact (i.e., information in the EA tool changed their daily work practices and/or they adopted ideas/actions from the tool). Additionally, 31% indicated that the tools had a conceptual impact, as the tools increased their knowledge of EA and influenced their work practices. Finally, 45% reported the EA tools confirmed their actions at work and helped justify their decisions to co-workers and clients. These results suggest that NICE EA pocket tools have a conceptual, instrumental, and symbolic impact on improving knowledge and practices related to EA among multiple stakeholders. Screening tools, such as the ones developed by NICE, may help raise awareness to the possibility of elder abuse.

SYSTEMATIC REVIEW AND META-ANALYSIS OF ELDER ABUSE AMONG WOMEN

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Elder abuse among older women is a significant problem. Developing a better understanding of the extent of the problem is an important step to violence prevention. We conducted a systematic review and meta-analysis of all existing prevalence studies to determine the extent of the abuse against older women and to disentangle the wide variations in prevalence estimates by investigating the associations

between prevalence estimates and the studies' demographic and methodological characteristics. A total of 50 studies were included in the meta-analysis. The combined prevalence for overall elder abuse in the past year was 14.1% (95% CI: 11.0–18.0). Pooled prevalence for psychological abuse was 11.8% (95% CI: 9.2–14.9%), neglect was 4.1% (95% CI: 2.7–6.3%), financial abuse was 3.8% (95% CI: 2.5–5.5%), sexual abuse was 2.2% (95% CI: 1.6–3.0%), and physical abuse was 1.9% (95% CI: 1.2–3.1%). The studies included for meta-analysis for overall abuse were heterogeneous indicating that significant differences among the prevalence estimates do exist. Significant associations were found between prevalence estimates and the following covariates: WHO regions, countries' income classification and studies' sample size. Together, these covariates explained 37% of the variance. More work is needed to understand the variation in prevalence rates and implications for prevention.

RISK AND PROTECTIVE FACTORS FOR ELDER FINANCIAL EXPLOITATION BY FAMILY POWER OF ATTORNEY AGENTS

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Elder Financial Exploitation (EFE) by a family member POA agent is a form of elder mistreatment perpetrated by family members appointed by an older adult to manage health care, financial decisions, or both. Survey and interview data from 60 participants compared POA agent experiences from two types of families: those with successful POA experiences absent EFE and those experiencing EFE by a POA agent. Prior to the identification of EFE, the majority of older adults experienced declines in physical and cognitive functioning; many exhibited poor financial practices prior to invoking POA authority. The majority of exploiting POA agents were financially dependent upon the older adult and exhibited narcissistic behaviors. Experiences of participating family members (typically an adult child of elder/non-perpetrator) suggested risk factors for exploitation, including an elder's declining physical and cognitive health, POA agent's financial dependence on the older adult, heightened sense of entitlement to the elder's resources, geographic proximity to the elder, and low quality family relationships and functioning. Protective factors included the POA agent's integrity and accountability and communication with family members, high levels of family functioning, and positive family relationships. Findings suggest the importance of estate planning considering personality, values, and family relationships in selecting POA agents, and inclusion of accountability and checks and balances as early as possible as well as maintenance of clear communication to all family members pertaining to the appointment and accountability of the POA agent. These findings provide insight into factors to target in needed EFE prevention and intervention efforts.

SYSTEMATIC REVIEW AND META-ANALYSIS OF ELDER ABUSE PREVALENCE

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Background. Elder abuse is a public health problem and gaps remain in estimating its prevalence. We conducted a systematic review and meta-analysis with the aim to quantify the extent of the problem and to disentangle the variations in prevalence estimates by investigating the associations between prevalence estimates and the studies' demographic and methodological characteristics.

Methods. We employed a 4-step comprehensive search strategy including a 14 electronic database search to identify studies that reported elder abuse prevalence. For the analysis, we examined studies reporting abuse occurring within the past year.

Findings. Of the 38,544 studies initially identified, 52 were eligible for inclusion. These studies were geographically diverse in 28 countries. Prevalence rates for overall elder abuse were reported in 43 studies with the pooled prevalence of 15.9% (95% CI 12.8–19.5%). Pooled estimates for psychological abuse is 11.6% (95% CI: 8.1–16.3%), financial abuse was 6.8% (95% CI: 5.0–9.2%), neglect was 4.2% (95% CI: 2.1–8.1%), physical abuse was 2.6% (95% CI: 1.6–4.4%), and sexual abuse was 1.6% (95% CI: 1.1–2.2%). The studies included for meta-analysis on overall abuse were heterogeneous with significant associations between prevalence estimates and the following covariates: sample size, income classification and method of data collection. No gender difference was found in the prevalence estimates.

Interpretation. Findings showed that elder abuse is a major problem. Robust studies are absent for most regions of the world, particularly in low- and middle-income countries. Gender symmetry of abuse prevalence is discussed and intervention programs need to be focused on both genders.

FINANCIAL EXPLOITATION: LESSONS LEARNED FROM A STUDY OF PEOPLE HOLDING LASTING POWERS OF ATTORNEY

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Financial exploitation of older and vulnerable people appears to be increasing in the UK. The aim of this study was to investigate the nature and extent of financial abuse of individuals lacking mental capacity. There were three components to the study, (1) a case study of a London borough, (2) an online survey and (3) an analysis of cases referred to the Court of Protection in which people holding lasting powers of attorney were thought to have been financially exploiting the donor. This paper is concerned with the third component of the study. The Court of Protection cases were obtained from public records. Sixty three cases were analysed in relation to (a) Applicant to the Court, (b) Respondent to the case, (c) Grounds for making the application, (c) Object of the application – e.g. appointment of deputy; revocation,

(d) Evidence of possible financial abuse, (e) Evidence of intra-family dispute, (f) Outcome. Triggers for suspicion of financial abuse included care home fees arrears and failure to provide personal allowance, failure to submit account to the Office of the Public Guardian, and co-mingling of funds. This paper will, in addition, describe cases. For example, a son holding a lasting power of attorney not only gifted himself large sums of his mother's money, but charged her estate £400 every time he visited. The senior judge hearing the case made his view clear by describing this behaviour as 'repugnant'.

NEW FORMS OF ELDER ABUSE FROM RURAL AND URBAN ZAMBIA

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Aim: The aim of this paper is to add new forms of elder abuse to the existing scientific literature on elder abuse.

Philosophical foundation of the study: Social constructionism guided this study.

Methodology: The study utilized qualitative research that included 31 one-on-one in-depth interviews and 7 focus group discussions. This was undertaken for the period of five months (August to December, 2014) in two districts of Zambia – one rural and one urban with community leaders. The data were analyzed using a grounded theory methodology to determine recurring themes that were mentioned by the informants.

Results: The study results indicate that besides physical, financial/material, verbal and neglect abuses as widely shown in the available literature on elder abuse, two additional types of elder abuse are also taking place in Zambia. These are spiritual abuse and political abuse.

Conclusions: The study concludes that elder abuse does not exist in six many forms as widely reported in world reports such as those produced by World Health Organization. Rather, it exists in many forms which differ from society to society. On the basis of this, the study argues that besides the common typologies of elder abuse that have dominated existing literature, two typologies of elder abuse should be added to the existing literature. These are spiritual abuse and political abuse. This is because they suggest new ways of thinking about the problem of elder abuse.

RECENT DEVELOPMENT OF OMBUDSMAN PROGRAMMES FOR THE ELDERLY CARE FACILITIES IN KOREA

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Recently, the Ombudsman program has been introduced to prevent elder abuse in elderly care facilities. However, the program has no coercive powers in Korea. As a result, many care workers and elderly people witness and experience elder abuse cases (mainly verbal aggression, ignoring requests and threatening communication) in the long term care facilities. Thus, this study is to review the policy development of

Ombudsman programs in long term care facilities in East-Asia countries. Secondly, this paper investigates care workers' experiences of Ombudsman programmes and elder abuse cases where some elderly care facilities have already operated the program. Thirdly, the research examines the Ombudsman system in terms of official approval, mandatory implementation, the right of investigation, professionalism, and the functions of coordination, guidance and recommendation. To collect data to develop the Ombudsman programs we conducted FGIs, using the Delphi technique, with 45 experts in geriatric social work institutions and long term care facilities. Finally, this research suggests that 'Elderly Ombudsman Agency', as an state organization, should be established to investigate elder abuse screening affairs.

WHEN IT'S FAMILY: EXAMINING ENTITLEMENT AS A RISK FACTOR FOR ELDER FINANCIAL EXPLOITATION

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Elder family financial exploitation (EFFE) is widely recognized as the fastest growing and most common form of elder abuse internationally. A sense of entitlement to an elder's resources has been identified as a motivator for exploitation, but remains relatively unexplored. This study contributes needed conceptual and practical clarity and understanding of entitlement within the context of diverse intergenerational families and societies. An innovative three point spectrum of entitlement norms, beliefs, and behaviors is proposed integrating concepts from social exchange and interpersonal social justice theories, and findings from a systematic review of empirically based international EFFE literature (2000+). At one end of the spectrum, normative entitlement includes a range of intergenerational resource sharing and exchange obligations and expectations (money, time, housing). On the other end of the spectrum, exploitative entitlement includes identifiable financial exploitative behaviors, and narcissistic personality disorders. The middle of the spectrum includes justified entitlement, when entitlement beliefs serve as excuses for misuse of resources and inappropriate behaviors. Two common justification examples include feeling entitled to an inheritance (just taking what's mine now), and to compensation for caregiving or other types of support (it's only fair). The entitlement spectrum can be used to help conceptually inform EFFE research agendas, train practitioners, and develop family-focused prevention tools for assessing a range of entitlement norms and beliefs during estate planning processes. Policy implications include impacting entitlement social norms and practices (e.g. remove incentives for a sense of inheritance entitlement in United States Uniform Probate Code and state statutes).

ELDER FINANCIAL EXPLOITATION: PERSPECTIVE FROM THE FINANCIAL SERVICES INDUSTRY

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The Elder Client Initiatives (ECI) team at Wells Fargo Advisors (WFA) is dedicated to addressing suspected

financial abuse of WFA clients in all 50 states who are older adults (age 60+) and vulnerable adults (18–59). It is an interdisciplinary team with backgrounds in law, social work and risk management. The ECI team determines whether cases are appropriate for referral to Adult Protective Services and/or other authorities.

Much of the current research on elder financial abuse is based on self-reported measures. The nature of the ECI team has allowed for the collection of a unique dataset containing over 2,000 cases. Three Chi Square tests were conducted. The analysis of case type versus gender and case type versus assets under management yielded no statistically significant results. However, in the third analysis of case type and age, statistically significant results were found. Results revealed that those WFA clients referred to the team who were between the ages of 60–69, while less likely to be victims of exploitation by their family members, were more likely to be victims of scammers. Individuals between 70–79 were more likely to be referred concerns about diminished capacity, and those between 80–89 were more likely to be victims of exploitation by a family member.

These findings shed light on the complex issues facing the financial services industry. The findings of this research will inform further research efforts as ECI continues to engage in evidence-informed practice and to coordinate efforts with aging services providers.

A STUDY OF DIFFERENCES IN PERCEPTIONS OF ELDER ABUSE AMONG PROFESSIONAL STAFF MEMBERS

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The purpose of this study was to examine differences in perceptions of elder abuse among older couples between professional staff at the Community Comprehensive Support Centers (CGSCs) and DV counseling staff at DV Support Centers and Women's Support Centers and to identify effective supports for the victims of elder abuse. Two datasets collected in 2010 were merged and used for this study: (1) Data for professional staff were collected from nationwide survey of 4,042 CGSCs where a structured questionnaire survey was provided to a randomly selected 1,282 CGSCs (N=621). (2) Data for DV staff were collected from nationwide survey where a structured questionnaire survey was provided to all 358 DV Support and Women's Support Centers (N=237). The responses to the same 10 questions were analyzed. Preliminary analyses revealed statistically significant differences in perceived causes of elder abuse and important supports to solve elder abuse among the two different sets of staff. For example, elder abuse professional staff tend to see causes of elder abuse among older couples as "caregiving stress," "victims' personality," and "dementia of the victims," on the other hand, DV staff perceived causes of elder abuse as "abusers' tendency to control with power." Moreover, while 74.5% of the DV staff felt coordination among the two staff was important, 25.5% of DV support staff did so. Thus, it is imperative that both professional staff recognize differences in their perceptions and that their knowledge and resources through coordination be exchanged to solve elder abuse cases effectively and efficiently

SESSION 850 (POSTER)

END OF LIFE

CARE NEEDS BY END-OF-LIFE STAGE AMONG NON-CANCER PATIENTS AT HOME

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This study aimed to explore multidimensional care needs for non-cancer patients by end of life stage and palliative performance scale (PPS). A retrospective study design was used. Home care nurses were asked to review medical and nursing records and to respond structured questionnaire. 115 participants who were at the ages of 40 or over, continuously received home care nursing throughout stable (between the beginning stage and one week before the death) and near death (one week before to the death) at Seoul St. Mary Hospital in Korea, and died from September 1, 2014 to December 31, 2015 were analyzed. Care needs for 'coordination among family or relatives' and 'support for fundamental needs' areas were significantly more important in the stable stage than in the near death stage. The 'Loss, grief care' area was significantly more important in the near death stage than in the stable stage. As patient's initial PPS was lower, the level of importance for care needs was higher especially on 'management of physical symptoms' and 'psychological support' areas in the stable stage and 'coordination among family or relatives' area in both stages. Future palliative intervention need to develop based on patients-centered assessment of PPS and care needs to ensure quality of life for non-cancer patients who receive home care. Moreover health care professionals should focus on continuous and holistic tailoring end of life care through advance care planning for non-cancer patients.

PALLIATIVE CARE FOR TERMINALLY ILL OLDER PATIENTS IN NORTHEAST THAILAND

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Aim: The aim of this study was to explore the existing palliative care of terminally ill older patients in Northeast of Thailand.

Material and methods: The study consisted of a cross-sectional quantitative with questionnaire to survey in the government hospitals with over of 120 beds and qualitative interviews with a group of practitioners discussion to explore care model of terminally ill older patients. Include the review of current situation on terminal care of Thai elderly from the literatures.

Results: In quantitative interviews, the total number of completed and returned questionnaires showed 43% suffer from cancer, 57% suffer from non-cancer, 44% die in hospital and 56% discharge to home. Percentages and mean values were assessed using the Fisher's exact test to determine the correlation of variables. Participants in qualitative interviews using the content analysis, the work was in Northeast areas. In Northeast of Thailand, palliative care of

older patients are part of regular health care in the hospitals. Their services cover physical comfort, psychological wellbeing, social functioning and spiritual wellbeing. In community, the current results showed both formal and informal care of terminally ill older patients.

Conclusions: The findings from the present study showed difference types of palliative care for terminally ill older patients between hospital-based and home-based care. However, home care was proper in the elderly patients with end stage who were in strong community and had networking in each level of the hospital.

RESULTS FROM A SCOPING REVIEW ON END-OF-LIFE NEEDS OF LGBT OLDER ADULTS

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Lesbian, gay, bisexual, and transgender (LGBT) older adults face a number of challenges with respect to access to healthcare especially towards end-of-life. Using a systematic search and scoping review approach, the purpose of this review was to determine the healthcare needs of LGBT older adults nearing end-of-life as well as the factors that contribute to a good death experience among older adults who identify as LGBT. A systematic search of electronic databases for articles published between 2005 and 2016 as well as screening for relevance resulted in 25 results. The data were charted and grouped according to the themes of: social support and chosen family, intimacy, health status, fear of discrimination and lack of trust, lack of knowledge and preparedness, and cultural competence in the healthcare system. The results suggest a role for health and social service workers in contributing to a positive care experience for LGBT older adults by becoming knowledgeable about the unique needs of this population and being unassuming and accepting of individuals' sexuality.

STATUS OF IMPLEMENTING GRIEF CARE IN NURSING HOMES IN JAPAN

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The purpose of this research was to clarify the implementation status of grief care in nursing homes in Japan.

The subjects of this research were nurses who work in nursing home in Japan. It was investigated using a questionnaire. The question items included sex, age, years of nursing experience, participation in grief care study sessions, and implementation status of the grief care.

Responses were obtained from 120 nurses. The breakdown of subjects' sexes was 5.0% men and 95.0% women. Those in their 40s and 50s comprised 67.5%. Those with 10 to 20 years of nursing experience comprised 33.3%.

Of respondents, 54.2% of nurses had participated in grief care study sessions. Regarding implementation of grief care, respondents answered in the following ways: "The mental process of mourning is explained to the family of the person who passed away" 50.0%, "When the family of the deceased person leaves the nursing home, words of consolation are offered" 96.4%, "I attend the funeral" 37.8%, "Spiritual care is given to the family thought to have elevated need for it" 11.9%, "I feel a sense of achievement in the current status of grief care" 67.0%, and "It is necessary to perform a family's mental care as an organization" 76.9%.

The result of the analysis shows that "The mental process of mourning is explained to the family" was related to age ($p < 0.01$), and "I feel a sense of achievement in the current status of grief care" was related to participation in grief care study sessions ($p < 0.05$).

AGREEMENT ON SEVERITY OF DEMENTIA AND PRESENCE OF ADVANCE CARE PLAN IN NURSING HOME RESIDENTS

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Background: Dementia and especially the stage of dementia is often underdiagnosed. The white paper on dementia of the European Association on Palliative Care identified the recognition of severe dementia as a pitfall for high quality palliative care.

Methodology: Data from a retrospective cross-sectional study at 241 deceased residents in a random clustered sample of 134 NH in Flanders. Clinical judgment of nurses ($n=228$) and physicians ($n=127$) as well as the Global Deterioration Scale (GDS) and Cognitive Performance Scale (CPS) was investigated. Analyses were made using SPSS version 21.

Results: Nurses were more aware of the diagnosis of dementia than physicians (OR = 5.39; CI: 1.89–15.30). There was a significant correlation between the GDS stage 7 and clinical judgement of the nurse ($r=0.76$, CI: 0.69–0.83) and the physician ($r=0.64$, CI: 0.51–0.76). The correlation between nurses and physicians regarding the stage of dementia was 0.42 ($p < 0.001$) at admission and 0.23 ($p < 0.050$) at death. Care planning was done with 18.7% of the residents and with 70.1% of the relatives. There was no significant correlation between the agreement on the stage of dementia and the presence of an advance care plan.

Conclusion: The stage of dementia is not always recognized by physicians visiting nursing home residents resulting in a low agreement between nurses and physicians on the stage of dementia. The agreement on the stage of dementia seems not to be related with the presence of a care plan at the end of life.

SPEECH-LANGUAGE PATHOLOGISTS' VIEWS ABOUT ASPIRATION RISK AND FEEDING IN ADVANCED DEMENTIA

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Recent dementia practice guidelines recommend against feeding tubes and use of thickened liquids in patients with

advanced dementia. Speech-language pathologists (SLPs) often evaluate swallowing problems in such patients. The study aim was to characterize circumstances under which SLPs recommend continued oral feeding in patients with advanced dementia at high risk of aspiration. A national probability sample ($n=731$) completed a mail survey. Participants who responded there were circumstances in which they recommend oral feeding despite high aspiration risk ($N=509$, 70.0%) were asked to describe the circumstances under which they do this. Two main categories of reasons were given: 1) patient or family wishes; and 2) SLP judgment. Reasons in the first category were: patient previously expressed preference to continue eating; patient has advance directive opposing tube feeding; family opposes tube feeding and/or wants to feed patient; family understands risks involved and/or is willing to be educated about safe diet and swallow guidelines. Reasons in the second category included: patient's medical status makes him/her a good candidate for oral feeding; patient is at the end of life and safety is not a major concern; reasonable risk if specified protocol is followed and staff are trained in safe feeding; pleasure of feeding maximizes quality of life; family understands risks of feeding; patient is a poor candidate for feeding tube; consulting physician approves. Continued education about palliative approaches, including comfort feeding, avoidance of long-term use of thickened liquids and tube feeding in advanced dementia is needed to increase use of evidence-based practices by SLPs.

THE MEANING OF EXISTENTIAL LONELINESS AS NARRATED BY FRAIL OLDER PEOPLE

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Aging often bring about several losses, such as loss of bodily functions but also losses of significant others who pass away. Older people being in the last period in life are particularly vulnerable as they often live with complex symptoms and problems and are dependent on others. Existential loneliness, a deeper sense of loneliness, seems to occur in relation to threatening life events and losses, but there is still limited knowledge about frail old people's experience of existential loneliness. The aim of the study was to illuminate the lived experience of existential loneliness as narrated by frail old people. The study had a qualitative descriptive design based on 21 interviews with persons 75 years and older receiving long-term care and service, using a phenomenological hermeneutical analysis. The interviews were rich of narratives about situations that was connected with a deep feeling of loneliness. The findings showed that existential loneliness meant Being trapped in the own body, Not being able to share, Being invisible, Lacking purpose and meaning and a Longing for serenity. The findings are important in order to highlight older people's existential needs and to guide health professionals to discover and encounter existential loneliness among their patients.

ADVANCE CARE PLANNING: PSYCHOSOCIAL TRAINING TARGETS TO ENHANCE END-OF-LIFE COMMUNICATION

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The urgent need to improve the quality of death and dying in America is well documented. Historically, physicians have "learned" how to approach these topics on their own, often as senior medical students or interns. Advance care planning (ACP) has been offered as a potential solution but related physician communication is not yet standard in terms of frequency or optimal in terms of quality. While the Centers for Medicare and Medicaid have recently approved financial reimbursement of ACP discussion, related training remains rare, highly variable, and institution-specific, causing some to warn the nation has put the proverbial *cart before the horse*.

To evaluate ACP training needs, 3rd year medical students and 1st year medical residents completed a survey measuring their personal experiences, comfort level, and self-efficacy—all psychosocial factors—relevant to ACP communication. Data from 120 surveys (49 medical students, 71 interns) were analyzed. Student and intern responses were similar. Less than half ($n = 51$) of respondents knew whether their parents had advance directives and only 8 reported completing their own. 87 believed physicians must *always* inform patients of limited prognoses (< 6 months) but only 14 believed this occurs. Frequency of prior experience delivering bad news to patients was significantly correlated with their comfort level doing so ($r = .48$, $p < .001$) and their confidence in discussing end-of-life (EOL) care preferences ($r = .37$, $p < .001$). Results suggest experience discussing ACP and EOL increases learners' comfort and confidence, and thus may enhance their skill in such communication. Related biopsychosocial training is imperative.

MEDICAL INTERVENTIONS AND PALLIATIVE CARE: WHAT TO DECIDE IN ADVANCED DEMENTIA?

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About two-thirds of people with dementia die from pneumonia and one-third from dehydration. The DemFACTS study aimed to develop and test decision supports called fact boxes, in order to inform decision-makers, who have to make burdensome treatment decisions at the end-of-life of people with dementia and either pneumonia or insufficient fluid intake.

The study employed a randomized, controlled, pre-/post-intervention design. Relatives of people with dementia ($n = 103$), professional proxies ($n = 77$) and physicians ($n = 74$) evaluated the newly developed fact boxes. At pre-test, participants were asked to make two fictional decisions concerning burdensome medical interventions in advanced dementia based on case vignettes. Four weeks later, at post-test, the intervention group received two fact boxes in addition to the two case vignettes, whereas the control group

only received the case vignettes. The fact boxes' effect on decisional conflicts (primary outcome), additional decision outcomes, knowledge transfer, and the appropriateness of the fact boxes (secondary outcomes) were assessed. Notably, an expected pre-post reduction in decisional conflicts constituted the central hypothesis of this study.

The fact boxes could reduce the decision-makers' decisional conflicts and enable them to better understand the treatment decisions. Improving knowledge transfer in palliative care decision-making could have a major impact on how decision-making aids in this field will be shaped in the future.

ASSOCIATIONS BETWEEN TIMING OF PALLIATIVE CARE CONSULTS AND FAMILY EVALUATION OF CARE AMONG VETERANS

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Palliative care consultations (PCC) improve end-of-life (EOL) care but often occur late in an illness trajectory. There is limited evidence about the optimal timing of PCC to enhance patient outcomes. The purpose of this analysis was to examine the associations between PCC timing and bereaved families' evaluation of care in the last 30 days of life. The retrospective, observational analysis included 5,592 patients whose first PCC occurred before admission to and death in a Veterans Administration (VA) inpatient hospice unit. Data were collected between October 2011 and September 2014. Outcomes included an overall rating of care and three factor scores (Respectful Care and Communication, Emotional/Spiritual Support, Information about Death Benefits) from the Bereaved Family Survey (BFS), a national, validated quality improvement measure used in the VA. We used multi-variate logistic regression models clustered by facility and controlled for potential confounding variables found to be associated with the outcomes. Family members of Veterans whose first PCC occurred 31–180 days prior to death were more likely to rate overall care as excellent compared with those whose PCC occurred 0–3 days prior to death (AOR=1.56; 95%CI, 1.25–1.95). Respectful Care and Communication and Emotional/Spiritual Support also were significantly higher when the first PCC occurred 31–180 days prior to the Veteran's death ($\beta = 0.53$; 95%CI, 0.29–0.76 and $\beta = 0.31$; 95%CI, 0.04–0.57, respectively). Earlier PCC is associated with greater family satisfaction with EOL care. Strategies aimed at conducting PCC earlier in life limiting illness are needed.

TIL DEATH DO US PART: THE INFLUENCE OF ONE SPOUSE'S DEATH ON THE SECOND SPOUSE'S DEATH

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It is unknown how the medical intensity of a spouse's death impacts the widowed spouse's preparation for and intensity

of death. We examined the end-of-life experiences of spousal pairs in the Health and Retirement Study, a nationally representative (US) longitudinal survey. Measures of medical intensity were: (1) low medical intensity death (hospice for 3+ days before death); (2) high medical intensity death (ICU hospitalization during last 30 days of life); and (3) preparation for death (engagement in advance care planning [ACP]). We examined how the medical intensity of the first spouse's death affected the medical intensity of the widowed spouse's death using multivariable logistic regression, adjusted for age at death, months between spouse's deaths, year of death, gender, race/ethnicity, comorbidities, ADL dependence, education, and net worth. There were 2126 spousal pairs. Hospice use in the first spouse increased the odds of hospice use (aOR 1.63, 95% CI 1.20–2.20) and decreased the odds of ICU use (aOR 0.69, 95% CI 0.51–0.92) in the widowed spouse. However, ICU use in the first spouse increased the odds of ICU use in the widowed spouse (aOR 1.78, 95% CI 1.29–2.46) but had no effect on the widowed spouse's use of hospice. The first spouse's engagement in ACP, and not manner of death, increased the widowed spouse's odds of engaging in ACP (aOR 2.94, 95% CI 2.08–4.15). Widowed spouses tend to experience deaths with similar medical intensity to their spouses. Physician engagement in ACP and end-of-life decision-making may have impact beyond that of individual patients.

A LITERATURE REVIEW ON THE DECISION-MAKING PROCESS OF OLDER ADULTS FOR END-OF-LIFE CARE

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The increasing number of chronically-ill older adults makes it mandatory to understand how personal values and preferences interplay in the patient's decision-making for end-of-life (EOL) care. Therefore, a systematic literature review was conducted on the process of how older adults navigate through their internal preferences and external influences in EOL decisions.

Method: The following search engines were used: ABI, CINAHL, PsycINFO, PubMed, and SocINDEX. Search terms included "terminal care", "terminally ill patients", "decision-making", "choice behavior", "process", "mechanism", and "communication". Age group 65 and above was used as a search filter. Overall, 1,324 articles were selected, of which 256 articles were duplicates. After review of titles and abstracts, 15 articles were finally selected: 4 review papers, 10 qualitative studies, and 1 pilot study.

Findings: Selected articles described the factors affecting EOL decision-making rather than the process. Studies focused on varied terminal diseases as well as aspects in EOL care such as physical, psychological, or religious support. Studies have also defined decision-making in varied ways. Majority of the studies identified concepts to describe the complexity of EOL decision-making such as "double effect of ethic principle", "moral responsibility", "cascade of decisions". The wide variability in the definition of decision-making, management preferences in EOL care, and terminal diseases in the articles reviewed made it difficult to synthesize the process in EOL decision-making for older adults.

Conclusion: Further studies are needed to explore how varied factors interplay in the decision-making process of older adults in EOL care.

MEASURING STAFF PERCEPTION OF END-OF-LIFE EXPERIENCE OF OLDER ADULTS IN LONG-TERM CARE

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Background: Quality of dying and death receive far less attention than quality of life. Measuring the quality of care at end-of-life (EOL) in long-term care (LTC) is essential, to ensure high standards.

Methods: A questionnaire measuring Staff Perception of their patient's End of Life Experience (SPELE) was developed. Content Validity (CVI) was assessed by a panel of experts and piloting was conducted with dyads of healthcare assistants (n=15) and nurses (n=15).

Results: The SPELE captures facets of the quality of the death and dying experience from healthcare staff's perspective. Good group inter-rater reliability was observed among subscales. One exception was the pain and symptom experience scale. Kappa values showed little agreement between nurses and healthcare assistants for certain symptoms, including pain.

Conclusion: Further testing of the questionnaire is underway in a large multi-centre randomised control trial in Ireland. To date the tool is described as a useful mechanism to enable researchers and clinicians to explore quality of care at EOL.

SESSION 855 (POSTER)

FALLS I

SLEEP APNEA, FALLS AND SARCOPENIA IN OLDER ADULTS: PRELIMINARY RESULTS FROM FALL-AGING- SLEEP STUDY

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Objectives: Sleep disturbances increase the risk of falls among older people. We aimed to examine prevalence of falls and sarcopenia among older patients with and without sleep apnea (SA).

Methods: Acute care setting patients aged ≥ 75 were proposed to participate to the FALL-A-SLEEP Study since March 2015. Subjective sleep questionnaires (e.g Epworth Sleepiness Scale (ESS)), nocturnal polygraphy (SA defined by AHI >15 /hr), handgrip strength and short physical

performance battery (SPPB), Dual Energy X-ray absorptiometry (skeletal muscle mass (SMI)), were performed in a stabilized medical situation.

Results: Complete evaluation was available for 45 patients (mean age 81.9 years, 33 women). Between SA (n=28, mean AHI=39.7/hr) and non-SA (n=17, mean AHI=4.6/hr) patients, nap was more frequent among SA patients (65.51% vs 29.41%, p-value=0.023) but ESS (5.9 vs 4.9, p-value=0.275) was not different. ADL (5.56 vs 5.71, p=0.883), Charlson score (1.7 vs 2.47, p=0.301), and Rockwood score (4.37 vs 4.29, p=0.861) were not different. Falls (77.7% vs 56.25%, p-value = 0.137), mean SPPB score (5.3/12 vs 7.3/12, p-value=0.0771), SMI (7.03kg/m² vs 6.17, p-value = 0.603), mean handgrip (17.83kg vs 17.97, p-value = 0.799) and sarcopenia defined by EWGSOP (60.9% vs 61.5%, p-value = 0.96) were not statistically different between SA and non-SA patients. CRP level at the entrance to the hospital (47.44 vs 31.53, p-value= 0.016), duration to get up and sit down 5 times (21.15s vs 12.73s, p-value= 0.05), were statistically different.

Conclusions: These preliminary data showed that older SA patients do not present more falls and sarcopenia. Inclusion is ongoing.

FALLS AND SUBSEQUENT ADVERSE DRUG EVENTS AMONG ELDERLY—A REGISTER-BASED MATCHED CASE-CONTROL STUDY

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Epidemiological studies on the association between geriatric conditions like falls and subsequent adverse drug events (ADE) remain scarce among unselected community dwelling populations. This study investigates the sequential association between serious injurious falls and ADEs among older people, considering co-morbidity and prescribed medications.

A matched case-control study of Swedish residents 60 years and older was conducted. Cases with ADE were extracted from the National Patient and Death Registers from January 2006 to December 2009. Each case was matched with four controls by sex, age and residential area. Episodes of injurious falls were extracted from the NPR and information on dispensed medications during the four month period prior to index date from the Swedish Prescribed Drug Register. Effects were estimated with odds ratios (OR) and 95% confidence intervals (CI) using conditional logistic regression and adjusting for confounders, including comorbidity.

We found a three-fold increased risk of a new ADE in the six-month period after an injurious fall (OR 3.03; 95 % CI, 2.54 – 3.74). This increased risk was highest in the one to three week period after the fall injury, but remained high over the whole period. The risk was higher among the 60–79 year olds than 80+ year olds. Those with an ADE one

to three weeks following a fall injury tended to be more comorbid and have a higher number of medications.

Severe injurious falls increase the future risk of new ADEs among older people, marking injurious falls as potential point for the prevention of ADEs.

FLUID SHIFTS IN OLDER WOMEN AT HIGH ALTITUDE PROMOTE HYDRATION AND MAINTAIN POSTURAL BLOOD PRESSURE

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Worldwide, approximately 32 million older adults live at high altitude, placing them at risk for dehydration that can dangerously lower blood pressure and increase risk for falls. To evaluate this risk, 17 older women living at high altitude (≥ 1800 m) were pair matched with 17 women living at low altitude (≤ 75 m). Hydration, body composition, and postural blood pressure (lying, sitting, standing) were measured midday on Day 1 (well hydrated) and early morning on Day 2 (fasting). There were no differences between HA and LA in age, weight, BMI, body composition, and total body water. However, the relative amount of water in the intramuscular compartment was greater in HA compared to LA on Day 1 ($26.5 \pm 0.4\%$ vs. $24.8 \pm 0.3\%$, $p \leq 0.01$), and again on Day 2 ($26.2 \pm 0.3\%$ vs. $24.7 \pm 0.3\%$, $p \leq 0.01$). Furthermore, overnight changes in total water and relative intramuscular water were greater for HA compared to LA ($-0.9 \pm 0.2L$ vs. $-0.5 \pm 0.8L$; $-0.3 \pm 0.08\%$ vs. $-0.08 \pm 0.06\%$; $p \leq 0.05$). On Day 2, postural systolic and diastolic blood pressures were higher in HA compared to LA in the sitting (SBP: 137.18 ± 5.5 mmHg vs. 123.19 ± 5.0 mmHg, $p \leq 0.07$; DBP: 78.5 ± 2.8 vs. 69.4 ± 2.4 mmHg, $p \leq 0.05$) and standing (SBP: 130.4 ± 4.9 mmHg vs. 111.3 ± 4.3 mmHg, $p \leq 0.01$; DBP: 79.7 ± 2.6 mmHg vs. 67.9 ± 2.4 mmHg, $p \leq 0.01$) positions. In this group of older women, those living at high altitude conserved greater amounts of body water within muscle. This intramuscular water may serve as a reservoir that provides a physiologic buffer to maintain hydration and blood pressure when intake is restricted and risk for dehydration is elevated.

COMBINED ASSOCIATION OF PHYSICAL FRAILTY AND SOCIAL ISOLATION WITH FALLING IN OLDER ADULTS

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The aim of this study was to examine the association of the combination of physical frailty and social isolation with falling in community-dwelling older people. The study used baseline data on participants in the Toyota Prevention Intervention Cognitive decline and Sarcopenia (TOPICS). Participants in this cross-sectional study were 408 older adults (52% male, mean age = 72.3 ± 4.7 years). Physical frailty status was categorized as non-frail and pre-frail/frail based on the Fried frailty criteria (slow walking speed, muscle weakness, exhaustion, low activity, and weight loss). Social isolation was examined using the

Lubben Social Network Scale (LSNS-6), and scores of less than 12 points indicated social isolation. Participants were divided into 4 groups depending on pre-frail/frail status and social isolation, and experiences of multiple falls over the past year were compared between the groups. Participants were classified into control ($n = 202$), physical frailty (PF; $n = 122$), social isolation (SI; $n = 45$), and PF with SI (PF+SI; $n = 39$) groups. A total of 46 (11.3%) participants reported multiple falls. Logistic regression analysis showed that PF and SI were not independently associated with falling (PF: OR 1.91, 95% CI 0.82–4.45, SI: OR 2.45, 95% CI 0.89–6.75), and PF+SI had a significant association with falling compared with the control group (OR 2.94, 95% CI 1.03–8.41) after controlling for confounding factors. Our findings support the assertion that physical frailty and social isolation are concurrently associated with falling.

COACHING TO REDUCE SEDENTARY TIME IN OLDER PEOPLE WITH FALLS: RANDOMIZED CONTROLLED STUDY PROTOCOL

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Sedentary behavior, assessed by self-reporting, has been associated with increased risk of falls. Studies have shown that among the oldest old, they are more likely to be sedentary (>10 hours/day). Standardized supervised exercise interventions do not necessarily reduce the level of sedentary behavior in daily life. The aim is to evaluate an individualized coaching intervention based on accelerometer feedback to reduce sedentary behavior in older people (age ≥ 65 years) living in the community who had a recent fall. Participants will be randomized to either the intervention or control groups in a 12-week feasibility study. In both groups, ActivPAL® accelerometer (35x53x7mm, 15g) will be attached to the mid-thigh of the participants (dominant side) for 7-days at week 0, 6 and 12. To reduce sedentary time, the intervention group will be: (a) presented with the objective information regarding their physical activity levels based on the ActivPAL® accelerometer recordings, (b) educated about the benefits of exercise (using Choose Health: Be Active booklet), (c) face-to-face goal-setting sessions (at weeks 1 and 6) and (d) fortnightly follow-up phone calls. The intervention is based on self-determination theory, which addresses psychological needs in order to modify behavior. The control group will be given the Choose Health: Be Active booklet. Primary outcome is change in sedentary duration. Secondary outcomes assessed include gait speed, Short Physical Performance Battery and Falls Efficacy Scale. The effect of the intervention on sedentary duration and secondary outcomes will be assessed by 2-sided *t*-test. Primary analyses will be performed by intention-to-treat principle.

ASSOCIATION BETWEEN DEPRESSIVE SYMPTOMS, RECURRENT, AND SINGLE FALLS FROM PREVQUEDAS BRAZIL

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Introduction: Depressive symptoms are associated with falls in a variety of studies in developed countries. **Objectives:** 1) To examine the association between abnormal 15-item GDS score, single and recurrent falls in community-dwelling older adults in a developing country. 2) To check if recurrent fallers have greater scores in 15-item GDS, examining if it has any association with age, ethnicity, genre, and numbers of medications used.

Methods: Transversal data analyzed was extracted from Prevquedas Brasil, a Multicenter parallel-group randomized controlled trial that evaluates the effectiveness of a multifactorial falls prevention program in reducing the rate of falls in community-dwelling older people. **Statistical Analysis:** Pearson Chi-square test used to compare positive screening for depressive symptoms (GDS >5) and fall events (single or recurrent). Sociodemographic variables were analyzed by logistic regression. Stata® software was used.

Results: 402 participants (mean age 73.8 ± 7.1 years; 88.1% women; 59.8% white). Recurrent falls have association with GDS >5 (92 vs. 28, $p=0.008$). The mean GDS score is greater for recurrent fallers than to non-recurrent fallers ($p<0.001$). After logistic regression for sociodemographic variables and medications, elderly with GDS >5 had twice more chance to be a recurrent faller (OR 2.0, 95%IC 1.2–3.3; $p=0.007$), compared to GDS ≤ 5 .

Conclusions: Abnormal 15-item GDS and its greater scores are associated with recurrent fallers in elderly from a developing country.

30-SECOND SITTING PAUSE IMPROVES BALANCE

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Background and Purpose: Falls in older adults are common and often take place in the home when getting up at night to use the restroom. Longer sitting pause times, prior to standing, might improve postural stability after standing from a supine position. The purpose of this investigation was to measure the effects of sitting pause times on standing postural sway velocity immediately following a supine-to-standing transfer in a dimly lit room in older adult females.

Methods: Eighteen females aged 65–75 participated in the study. On each of 2 consecutive days, study participants lay on a mat table with their eyes closed for 45 minutes prior to performing a supine-to-standing transfer in a dimly lit room. Randomly assigned sitting pause times of 2 seconds and 30 seconds preceded the transfers. **Results:** Mean standing postural sway velocity was significantly less after a 30 second pause time compared to a 2 second pause time ($p=.001$).

Conclusions: Total mean standing postural sway velocity was less when study participants performed a sitting pause of 30 seconds prior to standing in a dimly lit room. These results support our previous pilot study findings published in the *Journal of Geriatric Physical Therapy* and provides evidence that longer sitting pause times improve standing

postural stability and may contribute to reduced fall risk after waking at night in older adults.

INTERDISCIPLINARY APPROACH TO FALL PREVENTION—RESEARCH, PRACTICE, AND POLICY

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Research demonstrates that falls are multifactorial and require an interdisciplinary treatment approach. Interdisciplinary evidence-based fall prevention (EBFP) programs are effective with a great return in investment. This presentation will educate the participants about the evidence in interdisciplinary EBFP, how to implement it in your practice, and what policy changes are needed to ensure that our older adults are supported to successfully age-in-place. We will examine interdisciplinary EBFP around the United States and identify strengths and opportunities for improvements in each. Success is reflected in reducing fall risk, falls, fall injuries, and assuring sustainability of the clinic through financing options. Organizational structure, payer systems and public policy will be reviewed and an outline provided to assist the professional with developing an action plan.

CHARACTERISTICS OF LIFT-ASSISTS PROVIDED TO OLDER ADULTS BY PARAMEDIC SERVICES

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Lift-assist is defined as a paramedic response to an emergency (9-1-1) call that resulted in patient's refusal of transportation to the hospital. Lift-assists represent 5% of all EMS calls and often involve recurrent fallers requiring additional paramedic care within 30 days. The purpose of this study was to determine characteristics of lift-assists provided by paramedics to older adults. Anonymized data was extracted from the Ambulance Call Reports database for a Regional Paramedic Centre in Ontario, Canada for one year (2015). Inclusion criteria were: refusal of services, lift-assists, patients ≥ 65 years, and multiple choice responses only; paramedics' written comments were excluded. Data was analyzed using descriptive statistics, regression and cluster analysis. A total of 798 lift-assists were identified (50% male). We found that: The greatest number of calls occurred on Friday (18%), Saturday (15%) and Monday (15%); Two thirds (68%) of lift-assists happened during the day (06:00-21:00) and 32% at night (21:00-06:00); Most frequent locations were 'apartment/condo' (46%) and 'house/townhouse' (45%), while 5% of calls came from nursing homes; On average, paramedics spent 32 minutes on scene. In 2015, paramedics spent almost 24 days responding only to lift-assists. Four clusters with seven attributes best described the sample. These results suggest that paramedic lift-assists are used equally by both genders, in specific areas of the city, and during peak activity hours. Alternative models of care, such as "community paramedicine" should be considered for the management of non-urgent, low-acuity illnesses and injuries to minimize non-essential health care spending.

RELIABILITY AND VALIDITY OF HEALTH IN MOTION® FALLS SCREENING TOOL

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Falls are costly, affect independence, and are a leading cause of injury in adults over the age of 65. Awareness of fall risk and engaging with healthcare systems prior to the first fall, annual visit, or hospital stay could have a significant impact on quality of life and healthcare costs. Clinicians use the FRQ, 30STST, and OLST to measure balance and lower extremity strength, predict falls and increase fall risk awareness. This randomized trial design study measured the validity and reliability of the FRQ, 30STST and OLST when performed by a clinician using standard methods and by using self-report and sensor tracking versions of Health In Motion® (Blue Marble Game Co, Altadena, CA) a guided software program for fall prevention. Fifteen community-dwelling adults aged 63–80 completed the study. Compared with clinician 1) the self-report and sensor FRQ, 30STST and OLST had statistically significant moderate to excellent concurrent validity; 2) the self-report PHQ2 had statistically significant excellent concurrent validity; 3) the self-report and sensor FRQ, 30STST and OLST were statistically significantly reliable. Health in Motion was found to be a reliable and valid screening tool for identifying falls risk and could provide early detection of fall risk if used in the home prior to a fall.

GAIT SPEED, COGNITIVE IMPAIRMENT, AND DUAL TASK CONDITIONS IN FALLERS AND NON-FALL CONTROLS

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Abnormal gait is an established falls risk factor and gait speed (GS) of <0.6m/s is associated with falls (Quach, JAGS, 2011). Cognitive impairment (CI) and dual task conditions (DT) have been linked to impaired gait. This case-controlled study in women explored the relationship between GS, CI and DT in a group of fallers recruited from a falls clinic [FALLCLIN] (n=114) and from age matched faller (FALLCON) (n=97) and non-faller [NOFALL] (n=90) community controls.

The overall median age (range) was 80 years (75–86) and 74/301 (24.6%) had CI. In the cognitively normal women (MMSE≥25) the median (IQR) GS (m/s over 4m) in the FALLCLIN, FALLCON and NOFALL groups were 0.86 (0.63–1.06), 1.11 (0.87–1.33) and 1.30 (1.06–1.58) [$p \leq 0.001$], and under DT conditions (counting backwards) were 0.67 (0.46–0.80), 0.79 (0.63–0.98) and 1.04 (0.82–1.28) [$p \leq 0.001$] respectively. In the CI women (MMSE<25) the median GS in the FALLCLIN, FALLCON and NOFALL groups were 0.66 (0.56–0.79), 0.68 (0.62–1.04), 1.12 (0.85–1.35) [$p \leq 0.001$]; and under DT conditions were

0.46 (0.38–0.65), 0.49 (0.36–0.79) and 0.72 (0.53–0.89) [$p=0.006$] respectively.

In conclusion, GS was slower in the faller groups, in those with CI and when DT conditions were present. In the presence of both CI and DT conditions, the GS in the faller groups were very low and in the range known to be associated with increased falls risk. GS in normal and under DT conditions may be useful biomarkers for falls risk in cognitively impaired older people and further research is needed to explore if DT training can improve GS.

EXERGAME TECHNOLOGY AND INTERACTIVE INTERVENTIONS FOR ELDERLY FALL PREVENTION: A LITERATURE REVIEW

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Falls and fall related injuries present a substantial health problem among the older population. Training balance and promoting physical activities in the elderly can contribute to fall-prevention. Due to the low adherence of conventional physical therapy, fall interventions through exergame (exercise+game) technologies are emerging. This study synthesizes the available research reported on exergame technology and interactive interventions for fall prevention in the elderly population. Twenty-five relevant publications identified from five major electronic databases (Scopus, ScienceDirect, PubMed, Web of Science and Proquest) were critically reviewed and analyzed. Results showed that the most common exergaming device for fall intervention was the Nintendo Wii, followed by Xbox Kinect. Even though the exergame intervention protocols and outcome measures for assessing the intervention effects varied, the most frequently used outcome measures were the score of Berg Balance Scale for the postural balance performance, the time to complete Timed Up and Go Test for human gait and mobility performance, and the rating of Falls Efficacy Scale for self-perceived risk of falling. This study revealed that the interactive exergame interventions improved physical or cognitive functioning in the elderly. However, it remains inconclusive whether or not the exergame-based intervention for elderly fall prevention is superior to conventional physical therapy. The effect mechanism of the exergaming on elderly's balance ability is still unclear. Further studies are needed to establish a standardized test protocol, to define the optimal intervention treatment, and to design tailored exergame interventions to the elderly for enhanced intervention effectiveness, enjoyment, and safety.

NUTRITIONAL STATUS AND MOBILITY IN ELDERLY FALLERS FROM PREVQUEDAS, BRAZIL

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Introduction: Obesity has recently been thought as a risk factor for falls in elderly. The relative risk of fall is 1.4 times greater in obese elderly. This is partly explained by the negative influence of obesity in mobility. Objective: To check whether the obese elderly fallers have worse mobility in

comparison with non obese ones and find the probability of obese elderly fallers have worse mobility than the non obese ones after analysis of covariance. Methods: Transversal data was extracted from Prevquedas Brasil which is a Multicenter parallel-group randomized controlled trial that evaluates the effectiveness of a multifactorial falls prevention program in reducing the rate of falls in community-dwelling older people. Obesity was determined using Body Mass Index (BMI) formula. All those with BMI $>27\text{kg/m}^2$ were considered obese. Mobility was checked by Gait Speed Test (GST) and Timed up and go Test (TUGT). Statistical Analysis: Obese and non-obese mobility were compared using Test t- logistic regression as used to measure association between obesity and mobility, adjusted for gender, age and depression, using STATA 14, P-value < 0.05 was considered statistical relevant. Results: Transversal Analysis of 403 people, 355 women and 48 men, mean age 73.59 ± 7.14 and 75 ± 6.85 , respectively. Prevalence found was 3.14 falls/person/year. BMI $39.08 \pm 10.30\text{kg/m}^2$, 61.1% were obese. The score time to the TUGT was higher in obese ($p=0.018$) and the probability of being obese elderly slowest is 70% (OR 1.77 , $95\% \text{IC}$; $p=0.031$).

Conclusion: There is correlation between obesity and functional impairment and worse mobility.

SESSION 860 (POSTER)

FAMILY AND INTERGENERATIONAL RELATIONSHIPS II

IMPACT OF CARING FOR GRANDCHILD ON DEPRESSION FOR KOREAN OLDER ADULTS: HEALTH AND INCOME AS MODERATOR

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This study considers role enhancement and role strain theory as complementarity hypotheses and hypothesizes that the effect of caring for grandchildren on depression for older adults depends by the level of health and income.

Analyses were based on data from the 2010(Time 1, T1) and 2012(Time 2, T2) waves of Korean Longitudinal Study of Ageing(KLoSA). This study used an analytic sample of 5,018 older adults who are aged 49 through 85 and had one or more grandchild, in order to examine how (1) caring for grandchildren at an earlier time point(T2, 2011 October 2012 September) affects older adults' depression at a later time point(T2, 2012 September), controlling for the outcomes at T1. Also This study investigated (2) whether the level of health (perceived health status, the number of chronic health conditions) and income moderated the effect of caring for grandchildren on older adults' depression. This study used multivariate regression models (lagged effect models) controlling for older adults' depression at time 1(T1), including interaction terms.

The results showed that the effect of caring for grandchildren on older adults' depression was not significant. Whereas the effect of taking care of grandchildren on depression level of grandparents was significantly moderated by perceived health status and the number of chronic health conditions,

that was not significantly moderated by income level of older adults.

These findings enhance our understanding of older adults caring for grandchildren. The results of this study indicate that older adults caring for grandchildren are not one group. They differ by level of health, but not by income level of them. So there should be support for older adults taking care of grandchildren with weak health conditions to prevent their depression.

VERY OLD ADULTS AND THEIR CHILDREN: QUALITATIVE FINDINGS ON SUPPORT EXCHANGES

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The number of very old people is increasing dramatically in most industrialized countries. The possibility to stay at home is of key importance for this population, and their children often make this possible. However, little is known about the nature of the relationship between very old parents and their old children, and the implication of the quality of this relationship. The present study drew on data from a Swiss sample of 20 of dyads, composed of very old people (aged above 95 years) and the child involved in their care. To examine the quality of the relationship and the support the members of the dyads provide to one another, they were asked to participate in an interaction task (e.g., Suhr, Cutrona, Krebs, & Jensen, 2013). Specifically, the very old parent had to describe a difficult everyday life situation and to discuss it with the child for 10 minutes. Then roles were reversed. The videotaped dyadic interaction was analysed using the Social Support Behavior Code (SSBC; Suhr et al., 2013), which assesses 25 individual support behaviors. The results indicate various support types, ranging from positive (e.g., emotional, information) to negative (e.g., criticism). We also found that dyads ranged in the amount to which the support was reciprocal; yet, with poorer health and increasing age, support exchange became more unbalanced. Findings suggest the usefulness of the chosen task for the assessment/coding of dyadic interactions in very advanced age. Future studies should investigate the relationship between support exchange and well-being/mental health outcomes.

MARITAL ATTACHMENT AND SPOUSAL SUPPORT AMONG OLDER COUPLES

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This longitudinal study mainly explored the relationship between marital attachment and spousal support experience among older couples. There were 95 older couples from communities of Beijing, with age ranging from 60 to 83 years old at the first time of investigation, who were assessed twice across two years. At the first wave (T1), the participants completed the demographic information sheet, Older Adults' Marital Attachment Scale and some screening scales including the Geriatric Depression Scale and Clock Drawing Test. At the second wave (T2), besides T1 measures, the participants reported the life events happened during the two-year interval and various aspects of spousal

support while confronting those events. Results of Actor-Partner Interdependence Model Analysis indicated that an individual's spousal supports were affected by both the individual's and his/her partner's attachment at T1. Both husbands and wives' spousal support benefited from their own attachment security or were harmed by their own insecurity. Furthermore, the spousal supports reported by wives were mainly affected by their own attachment, while those of husbands were mainly affected by their wives' attachment. In addition, the change of attachment across the interval was affected by both the individual's and his/her partner's spousal support. Effective support of both sides could contribute to individual's attachment security and vice versa. These results provide evidence that marital attachment and spousal support are influenced by each other, thus forming a dynamic cycle.

PARENTS' PSYCHOLOGICAL PROCESS OF CAREGIVER-RECIPIENT ROLE REVERSAL FROM CHILDREN'S PERSPECTIVES

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The magnitude of intergenerational ambivalence tends to increase when the expected roles of parents as a caregiver and children as a care recipient become reversed as parents age (Lüscher, 2002). However, little is known about the psychological process of this role reversal, particularly the negotiation of parents' autonomy and adult children's authority over parents' autonomy. This pilot study explored the process of parents' information control about their everyday life to maintain their autonomy. Sixteen adult children were invited to focus groups ($M_{age} = 53$, $SD = 6.1$, Males = 3) through local churches. Content analysis (Weber, 1990) revealed that participants believed that their parents were unwilling to disclose six kinds of issues: use of medication, new physical symptoms, financial aids to own children, the content of their living wills, death preparation, and presence of debts. For reasons for parents' unwillingness to talk about these issues, participants provided several points. First, their parents wanted to maintain autonomy by strategically managing information on their medication use and property management to maintain autonomy. Second, parents did not want to disclose their new disease symptoms until the symptoms got serious to avoid being caregiving burden of their children and/or disliked to go through extra-medical exams. Third, because of death anxiety, certain topics were taboo for adult children to talk about (e.g., death preparation). These findings suggest that parents' psychological process during role reversal between aging parents and adult children include not only parents' information control but also parents' anxiety of aging and death.

MIGRATION AND INTERGENERATIONAL RELATIONSHIPS IN CHINESE FAMILIES

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Objectives: Internal and international migration influences family relations momentarily by increasing geographic distance and reshaping interactions between migrants and their families in sending areas. This study examined how geographic distance (co-residence, in the same city, in different cities, and in different countries) between older parents and adult children is associated with intergenerational relationships in Chinese families.

Methods: Data were derived from a cross-sectional survey of 330 elders in Beijing who had child(ren) living in another city or country. Information of 708 children was reported by the respondents. Intergenerational support (physical care provided by children for parents, monetary support between parents and children, babysitting assistance from parents for children) and emotional relationships (closeness and conflict) between the respondents and each child they had were assessed. Socio-demographic characteristics of both older adults and their children and elders' health status were controlled for in the two-level regression models.

Results: Transnational livelihood was associated with lower probabilities of receiving both family care and monetary support from children. Older parents perceived lower levels of emotional closeness and conflict relationships with the children migrated to other cities or countries than that with proximate (co-residence and in the same city) offspring. Physical care provided by children for parents and monetary support from parents to children were related to higher level of emotional closeness.

Conclusion: This study showed that geographic distance across countries may weaken intergenerational support and emotional bonds, indicating the needs of programs and interventions to empower migrant families in both sending and receiving areas.

PREVALENCE AND PROFILE OF GRANDPARENTS PROVIDING OCCASIONAL GRANDCHILD CARE IN THE U.S.

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Objectives. This research draws from social contingency theory to explain the relationship between women's labor force participation and the prevalence of grandchild care among grandparents with at least one grandchild in the U.S.. Particular attention is given to grandparent gender by child gender interactions.

Methods. The data was collected from the Health and Retirement (HRS) Study 2008 (wave 9). The source of the data was both the University of Michigan HRS and RAND HRS files. The analysis is based on the total number of 11,981 grandparents and 23,106 adult-children.

Results. Supporting the hypothesis, daughters receive the most grandchild care from grandparents then sons, and more grandmothers provide grandchild care to daughters than to sons.

Discussion. The results highlight the important influence of women's labor force participation on the occasional grandchild care prevalence and profile in the U.S.. In conclusion, contingency can influence grandparents, even in this individualistic country, provide intergenerational support

when family's needs arise due to economic conditions or employment.

LIVING ARRANGEMENTS AND SUBJECTIVE WELL-BEING AMONG OLDER ADULTS IN CHINA

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As a result of demographic transition and society revolution, living arrangements of older adults in China showed new characteristics. The research investigated the relationship between living arrangements of the elderly and their subjective well-being. Data came from the Sampling Survey on the Living Conditions of the Elderly in Urban and Rural Areas in Beijing, China (2015), a representative sample of those 60 and older. The analytic sample size was 3289. The subjective well-being was measured by a 5-point scale consisting of the following responses: very happy, happy, so-so, unhappy, very unhappy. We used ordered logistic regression. 78.43% of the older adults felt happy or very happy with their life. Most of the elderly only lived with spouse (44.01%), followed by those lived in three-generation families (20.92%) and those lived in two-generation families (18.31%). After controlling the demographic and socioeconomic variables, compared to living in two-generation families with adult children, older adults only living with spouse or living in three-generation families with grandchildren tended to have better subjective well-being. In the study, three-generation families could be a better choice for the elderly, which is in line with Chinese traditional value. But the elderly living only with spouse may experience more privacy and independence that are more highly valued in the aging process nowadays. Ongoing research could explore more evidence of the variation trend of living arrangements and how to build better household context for the elderly.

IT'S AN INTIMACY CRITERION: RELATIONSHIPS IN LATE LIFE FROM A PERSONAL COMMUNITIES APPROACH

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The literature on social capital, social support and social networks usually describes the resources available in the network of the older person. Although some of that literature includes the concept of emotional support or measures to recognize emotional closeness, the studies rarely recognize the emotional nuances and the subjective meaning of those relationships. This paper seeks to explore the diversity of ties that form older people's emotionally close network of relationships or personal communities, as defined by Pahl and Spencer (2010), and the meanings and more subtle functions of these personal relationships in late life. I draw upon 40 qualitative interviews conducted with Chilean men and women between 60 and 74 years old to examine how they define and identify personal ties considered important to them. The interviews were aided by a method of mapping personal relationships that was suitable to elicit the identification of people who were relevant for reasons beyond the help exchanged. The interviews were analyzed using a thematic analysis and the

personal communities were classified using a typology proposed by Spencer and Pahl (2006). The personal communities approach proved useful to analyze the composition of older people's network of close relationships and to recognize the different manners in which family members and friends are relevant in late life. A particular contribution of this paper is a proposed complementary typology based on the distinction between 'clustered' and 'hierarchical' personal communities. This distinction gives additional information to depict and define emotional closeness and represent suffusion of personal relationships.

LIVING ARRANGEMENTS, CARING FOR GRANDCHILDREN, AND DEPRESSIVE SYMPTOMS AMONG GRANDPARENTS IN CHINA

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This paper investigated the relationship between living arrangements, caring for grandchildren and depressive symptoms among grandparents. Data came from the Chinese Health and Retirement Longitudinal Study (CHARLS, 2011–2012) baseline data, a sample of those 45 and older. The analytic sample contained 5,473 grandparents with grandchildren aged under 16. The CESD-10 was used to measure depressive symptoms with a score from 10 to 40. We used Multiple Linear Regression. 42.69% rural and 48.01% urban grandparents provided care for their grandchildren. More grandparents provided care of high intensity (≥ 48 weeks/year). After controlling demographic and socioeconomic variables, rural grandparents co-residing with grandchildren tended to have less depressive symptoms compared to rural grandparents not co-residing with grandchildren. And rural grandparents providing care tended to have less depressive symptoms compared to rural grandparents providing no care. But when co-residing with grandchildren and providing care of high intensity, rural grandparents were likely to have more depressive symptoms. For urban grandparents, co-residing with grandchildren compared to not co-residing with grandchildren contributed to their less depressive symptoms. But after controlling frequency of visiting from adult children and some other variables, the association between caregiving intensity, interaction term for caregiving intensity and co-residing living arrangements and depressive symptoms among grandparents were not statistically significant. But urban grandparents living in skipped generation households had more depressive symptoms. Grandchildren could be a critical emotion support to their grandparents. However, grandparents co-residing with grandchildren and providing care of high intensity or living in skipped generation households tend to have negative mental health.

UNION FORM IN LATE-LIFE INTIMATE RELATIONSHIPS

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Family theory has suggested a radical transformation of intimacy in large parts of the Western world over the last 50 years. Given this development, how can we best explain union form in older people's relationships: In terms of the traditional values they were brought up

with (cohort)? In terms of the historical context in which the relationships were initiated (period)? Or in terms of the life-phase in which the relationships were initiated (age)? All of these hypothesis have been suggested by prior research. The purpose of the paper is to test these hypotheses empirically. The study is based on a quantitative survey of 60–90 year old Swedes (response rate 42%), focusing a subset of respondents ($n=702$) who are currently either married, cohabiting or LAT. The data are analyzed using logistic regressions. The results showed no significant support for the cohort hypothesis. The analysis gave strong support for the historical hypothesis – union form was significantly correlated with the year the relationship was initiated. It also gave significant support for the life phase hypothesis – older people tend to prefer LAT relationships – but only after they were allowed by the normative historical context. The results are discussed in relation to explanations suggested by earlier research regarding union form in older couples.

GENERATIONAL SOLIDARITY IN EUROPE

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This study explored various dimensions of generational relationships between older parents and their adult children using the latest waves of SHARE (Survey of Health, Ageing and Retirement in Europe). Intergenerational solidarity model served as the main conceptual framework. Analyses yielded four family relationship types present in all countries, albeit with different frequencies. Around half of the respondents in the comparing countries were identified with close ties and flow of support. Four conclusions were drawn: (1) importance of personal resources; (2) cultural differences and meanings for families; (3) highlighting within-country difference; and (4) strength of intergenerational solidarity. Using a cross-sectional and longitudinal analysis among parents and their adult children revealed the importance of understanding generational relationships in the current era, characterized with higher longevity and changing family structures. Implications for theory, research and policy are discussed.

CHANGES IN LIVING ARRANGEMENTS OF VIETNAMESE OLDER ADULTS

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The living arrangements of older adults, which are central to intergenerational support systems in Vietnam, are changing as a result of rapid population ageing and evolving family structure, social norms and values, and socio-economic development. This paper reports on the determinants and consequences of changes in living arrangements of Vietnamese people aged 60 and older using data from the Vietnam National Ageing Survey 2011 and Regional Ageing Surveys 1997 ($n=4,559$). The results indicate that a majority are living in multigenerational households but this has declined from 56% to 45% between 1997 and 2011. There have been increases of those living only with a spouse (7.5%

to 18%) and living alone (4.3% to 9.4%). Those at more advanced ages were more likely to live alone or in multigenerational households in 1997 but they tended to live with a spouse or adult child in 2011. Having paid work was associated with living alone only in 2011. Additionally, having a son increased the likelihood of living in a multigenerational household, with a spouse, and/or with children in 1997. Other significant influences were health status and urban versus rural residence. The changes indicate overall stability of households but a trend towards Western patterns of modified extended families. This has significant implications on patterns of intergenerational support exchange as well as living standards and subjective well-being. While the family remains crucial for older adults in Vietnam, the evolving responsibilities of social welfare and care for them, especially those living alone, will be increasingly challenging.

REASONS FOR LIVING WITH AND WITHOUT CHILDREN AND LIFE SATISFACTION AMONG KOREAN OLDER ADULTS

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Living arrangements of Korean older adults have rapidly changed, from 81% living with children in 1966 to 34% in 2010 and from 7% living without children in 1966 to 60% in 2010. Using the 2013 Social Statistics Survey conducted by the Korea National Statistical Office ($N=7,020$), we examine how the reasons for living with or without children may influence older adults' life satisfaction. For those living with children, their reasons include difficult health and economic situations (47%) their children's difficult health and economic situation (25%), providing childcare and housework (11%), preference (14%), and their children being students (1%). On the other hand, those who live without children listed the following reasons: comfort (33%), feasibility of living independently (26%), avoiding being a burden to their children (23%), children's work or studies (16%), and conflict with their children (1%). Using logistic regression, of those who live with their children, those with reasons other than preference and their children being students are less likely to be satisfied. Of those who live without children, compared to those who find it comfortable to live alone, those who responded as being economically and physically able to live independently are more likely to be satisfied, but those who are avoiding burdening their children are less likely to be satisfied. Our findings suggest the importance of reasons for living arrangements, not living arrangements itself on life satisfaction of older adults.

TIES WITH ADULT CHILDREN AND LONGITUDINAL PARENT-CHILD RELATIONSHIP SATISFACTION OF KOREAN RETIREES

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Transition into retirement opens up an opportunity to focus more on family relationships, and relationships with adult children is considered an important contributor of

well-being after retirement. However, not many studies have looked at the longitudinal association between ties with children and well-being among the retirees. Therefore, using four waves (2006, 2008, 2010, and 2012) of the Korean Longitudinal Study of Aging (KLoSA), this study examined how parent-child relationship satisfaction changes over time after retirement and how ties with adult children are associated with the longitudinal change in relationship satisfaction. The sample included in this study were Korean adults aged 45 years or older who retired between 2005 and 2006 before the baseline survey ($N = 233$).

The results showed that parent-child relationship satisfaction decreases over 6 years after retirement, and that receiving support from children and having frequent contact with children measured at Wave 1 have positive associations with the initial level of parent-child relationship satisfaction. Interestingly, the results also showed that income level moderates the relationship between ties with children and parent-child relationship satisfaction. For low-income retirees, those with higher levels of contact and support had higher level of parent-child relationship satisfaction across time. However, for high-income retirees, the level of parent-child relationship satisfaction did not differ by the levels of contact and support. These results show that having strong ties with adult children is important for Korean retirees' parent-child relationship satisfaction soon after retirement, especially for low-income retirees.

INTERGENERATIONAL SOLIDARITY AND PARENT-CHILD DISCUSSION ON END-OF-LIFE CARE IN JAPAN

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In Japan, because of the familistic climate surrounding the institutionalized practices of end-of-life care, adult children are expected to know about their parents' wishes regarding the end of their lives so as to fulfill the role of surrogate decision maker for parents. Guided by the intergenerational solidarity model, our aim in this study was to identify arrays of the attributes of parent-child relationship, or dimensions of solidarity, that might lead Japanese adult children to engage in discussions with their aging parents about end-of-life issues. Our data were from an online survey using a sample of Japanese adult children who had at least one living parent aged 65 or older. Of these, we focused on adult children whose parents were not in need of care ($N = 849$). A latent class analysis revealed four types of parent-child relationships that varied in six dimensions of solidarity, and likelihood of end-of-life discussion differed significantly across relationship types. In sum, results suggest that combination of these dimensions, rather than isolated aspects of relationships, matters for parent-child discussion on end-of-life issues. For example, residing with parents (i.e., greater structural solidarity) made it likely for adult children to engage in such discussions only when they had a confidant relationship with parents (i.e., a high level of affectional solidarity). Our findings point to the need for a holistic approach to parent-child relationships; that is, to understand how relationship attributes *combine* to differentiate Japanese adult children's motivation to converse with their aging parents on end-of-life issues.

DIFFERENCES IN HEALTH OUTCOME AMONG MARRIED, NEVER-MARRIED, AND SEPARATED OR DIVORCED ELDERLY IN JAPAN

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The proportion of people who are never-married and separated/widowed is rapidly increasing in Japan, and it will increase to 42% of the total population by 2030. The purpose of this study is to examine whether there are any differences in the probability of decline in IADL among married, never-married, and separated/widowed elderly, in relations with demographic characteristics, physical and cognitive health status, and social networks.

We used survey data from a 4-year longitudinal study of elderly aged 65 years and older living in A city, located in a suburb of Tokyo, Japan. A sample of 1686 subjects who answered both a baseline study (T1) conducted in 2008 and a follow-up study (T2) conducted in 2012 were divided into three groups: "married" (55%), "never-married" (13%), and "separated/widowed" (32%).

One-way ANOVA showed that there were no differences in IADL among the three groups at T1. Separated/widowed subjects tended to have higher scores in intellectual activities ($F=7.67$, $p<.01$) and more frequent non-face-to-face and face-to-face contacts with friends than the other two groups ($F=7.95$, $p<.01$; 19.46 , $p<.01$ respectively). A logistic regression analysis revealed that separated/widowed subjects were more likely to reduce IADL compared with never-married persons (OR: 2.29; 95%CI: 1.31–4.01).

Previous studies have reported poorer health among unmarried persons compare with married persons. The result indicates that never-married persons may be able to maintain IADL through managing their daily chores. On the other hand, separated/widowed persons have higher risks for reducing IADL despite their higher ability in intellectual activity and larger social networks.

INDIVIDUALS, FAMILIES, OR THE STATE: WHO SHOULD PROVIDE SINGAPOREANS' LATER LIFE INCOMES?

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New challenges for individuals, families and the state are emerging in Singapore's rapidly changing and ageing population. Who should be responsible for meeting the needs of future older Singaporeans? What roles will individuals, families and the government play? Using data ($N=421$) from a survey of purposively sampled Singaporeans aged 30–64 in multivariate statistical models, we analyze factors shaping working aged Singaporeans' expectations about financial support in old age. Our models indicate that working aged Singaporeans with traditional orientations/"Asian values" are significantly more likely to expect future financial support from their families, while optimism about social mobility prospects and preferences for private living arrangements are significantly associated with expectations of self-reliance. Finally, Singaporeans pessimistic about prospects for social mobility and who worry that retirement will never

be possible are significantly more likely to respond that the government should provide more support for future elderly Singaporeans. Our findings show that both material and cultural factors such as social mobility, individualism, and Asian values that are responsive to the rapid social, cultural, and economic changes in which they are embedded influence which social entity—individual, family, or state—working Singaporeans believe should be most responsible for providing financial security in old age.

SATISFACTION WITH FAMILY RELATIONS AND EXCHANGES OF SUPPORT OF ELDERLY THAT ARE CARING FOR OTHER ELDERLY

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This study aimed to investigate relationships between Satisfaction with family relations, household arrangements and exchanges of support, as evaluation of elderly caregivers of other elderly people. A convenience sample of 148 caregivers elderly were selected in health services (public and private), 77% women, mean age 69.8 ± 7.1 , spouses, 62.2% and 85.8% lived together. The sample with the target of care was submitted to APGAR of family, questionnaire on exchanges of support material, instrumental and emotional, and items that assessed sufficiency of support received and the ability to offer them. We used the chi-square test, Fisher's exact test and multivariate logistic regression, with discretion of stepwise selection of variables. Among those who scored higher in satisfaction with family relations, the majority were women and spouses of the targets of care. Low emotional support was associated significantly with low satisfaction with family relations. Higher rates of reciprocity occurred in emotional support and the smaller ones in support instruments. The caregivers who consider that were able to provide support instrumental, but with burden, they pointed down liens with the family relationships than those who thought they could do it without burden. Those who only offered and don't received emotional support were four times more likely to score for low satisfaction than those offered and received emotional support. The results showed that the effectiveness in the exchanges of support, especially the emotional support, influences the satisfaction with family relationships and the act of caring. We use the convoy model to describe the factors.

SESSION 865 (POSTER)

FRAILTY II

CLINICAL FACTORS ASSOCIATED WITH PHYSICAL FRAILTY IN THE COMMUNITY-DWELLING OLDEST OLD

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This is a cross-sectional study that aimed to present a predictive model of physical frailty in the oldest old and investigate the association between this syndrome and the clinical characteristics of this group. The research was conducted

with 243 Brazilians aged 80 and older living in the local community with the cognitive ability to participate in the study. For those with cognitive impairment, we invited the family caregiver to participate. Physical frailty was assessed using structured forms, scales, and physical tests. Descriptive statistics, and univariate and multivariate logistic regression (forward stepwise) were used to create prediction models of physical frailty for those living in the community. We evaluated each model using deviance analysis, predictive value, specificity and sensitivity, and presented the most parsimonious model. Of the 243 oldest old, 14.81% were frail, 63.79% pre-frail and 21.40% not frail. There was a significant association between physical frailty and the variables hospitalization ($p=0.045$) and antidiabetic drugs ($p=0.024$). Relationships were found between fatigue/exhaustion and number of diseases ($p=0.056$), fatigue/exhaustion and falls ($p=0.038$), gait speed and falls ($p=0.023$), and hand grip strength to hospitalization ($p=0.023$). The predictive model of frailty elected for this study was composed of the following variables: cardiovascular diseases, metabolic diseases, musculoskeletal diseases, dyslipidemia, ear diseases, other diseases, hospitalization, falls, medication use and number of medications. It is inferred that clinical variables interfere in the development of physical frailty syndrome in the oldest old community.

PREDICTIVE ACCURACY OF FRAILTY MEASURES: OVERVIEW OF REVIEWS

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Frailty is an age-related state of high vulnerability to adverse health outcomes after a stressor event, predisposing individuals to progressive decline in different functional domains. A scoping search identified a large number of relevant systematic reviews (SRs) on predictive ability of frailty measures in older adults. Aiming to summarise this set of evidence an overview of reviews, based on the Joanna Briggs Institute (JBI) methodology, was conducted. This project "664367/FOCUS" was funded under the European Union's Health Programme (2014–2020). The studies considered as eligible for inclusion were quantitative SRs including older adults aged 60 years or more, recruited from any type of setting. Timeframe for searching was from January 2001 to October 2015. Of 420 records identified through searching in databases, 20 full-texts were assessed for inclusion criteria and 10 were included. Then 10 were assessed for risk of bias, using JBI critical appraisal checklist for systematic reviews and research synthesis. From those, three SRs conducted in

community and emergency department settings and describing eight screening tools and eight frailty indicators were included. Between frailty measures applied to community dwelling older people, Frailty Index, gait speed and physical activity were shown to be the most powerful predictors of future adverse health outcomes. No suitable tool for assessing frailty appropriately in emergency departments was identified. Future research is required to investigate whether psychometric properties of available frailty measures are generalizable to health care settings other than primary care. There is a need for tools for use in emergency departments.

VALIDATING A MEDICARE CLAIMS-BASED MODEL TO CLASSIFY PHENOTYPIC FRAILTY IN OLDER ADULTS

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Medicare claims are increasingly used for epidemiologic studies in older adults. Claims capture longitudinal healthcare utilization (diagnoses, procedures, and medication dispensing), but lack clinical measures including frailty, which may confound or modify observed associations. Researchers previously developed a Medicare claims-based model (MCBM, 20 diagnoses, procedures, and durable medical equipment indicators) to predict severe dependence in activities of daily living as a proxy for frailty. Using Medicare claims linked with clinical data from Atherosclerosis Risk in Communities (ARIC) cohort participants (2011–2013), we assessed the validity of the MCBM to predict phenotypic frailty (PF), derived from cohort data. We described the prevalence of MCBM indicators (e.g., skin ulcer) among participants classified as frail, pre-frail, or robust and computed measures of model discrimination (c-statistic), calibration (Hosmer-Lemeshow test), and predictive validity (mortality using Cox proportional hazards models). Of 3,146 participants (median age: 75, 60% women, 22% Black), 7% were frail. The prevalence of MCBM indicators was highest among frail participants. The mean predicted probability of MCBM-derived frailty was 6.9% (range: 0.4%–78.4%). Model discrimination for prediction of PF was fair (c-statistic=0.744), while calibration was good (p-value=0.51). The crude hazard ratio (HR) for mortality (n=71, maximum follow-up=18 months) comparing older adults with high (>20%) versus low (<5%) predicted probability of MCBM-derived frailty was HR=8.9 (95% CI: 4.1, 18.9) and was independent of age, sex, and race (adjusted HR=8.9 (95% CI: 3.4, 23.1). The existing MCBM classifies PF with reasonable accuracy. Efforts to improve PF classification using Medicare claims will enhance their validity for use in epidemiologic studies of older adults.

A MULTIFACTORIAL INTERVENTION FOR IMPROVING FRAILTY STATUS: EXPLORING SHORT- AND LONG-TERM EFFECTS

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This study examined the short- and long-term effects of a multifactorial intervention on frailty using a randomized, crossover trial with a follow-up survey within the Hatoyama Cohort Study. Seventy-seven pre-frail or frail older adults were randomly allocated to an immediate intervention group (IIG, n=38) or a delayed intervention group (DIG, n=39). The IIG participated in the twice-weekly multifactorial intervention class consisting of resistance exercise, nutritional, and psychosocial programs. The DIG was provided no intervention for the initial 3-month period, and both groups were crossed over for the latter 3-month period. Pre-frail and frailty were determined by the Check-List 15 (CL15) score, which was validated against Fried's frailty criteria. Intervention effects on the CL15 score and frailty status were examined for the two 3-month periods (Analysis 1). A propensity score-matched analysis was performed to balance the baseline characteristics between the participants (IIG and DIG) and non-participants of the intervention within the same cohort, and follow-up was conducted 6 and 16 months after the intervention (Analysis 2). As compared with DIG, IIG exhibited significant reductions in the CL15 score (-0.36; 95% confidence interval: -0.74, -0.03) and prevalence of frailty (-23.5%; -40.4%, -6.7%), but not in pre-frailty at 3 months, which persisted at 6 months. The DIG exhibited almost similar intervention effects in the latter 3-month period. Analysis 2 showed that CL15 scores further reduced significantly in participants who received the multifactorial intervention, with a significant group-by-time interaction (P=0.036). In summary, this multifactorial intervention was effective in improving frailty status on a short- and long-term basis.

SOCIAL FRAILTY: A MOST IMPORTANT RISK FACTOR OF FRAILTY AND SARCOPENIA IN COMMUNITY-DWELLING ELDERLY

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Aim: To examine the association between social frailty and new onset of frailty and sarcopenia, which are defined by Cardiovascular Health Study index and Asian working group of sarcopenia, respectively, in Japanese community-dwelling older adults.

Methods: Large-scale longitudinal surveys were performed in annually from 2012 to 2014. The inclusion criteria consisted of randomly selected community-dwelling older adults aged ≥65 years who were non eligible for long-term care and were robust group at baseline assessment. 1,211 elderly were included in this study. Social frailty were operationally defined using a deficit accumulation model referred to previous study in Japan. Cox proportional hazard modeling were used to identify the associations between social frailty and onset of frailty and of sarcopenia.

Results: 9.7% of participants experienced having frailty, and 5.5% experienced having sarcopenia during the follow-up period. Baseline prevalence of social prefrailty (1/5score)

was 31% and it of social frailty ($\geq 2/5$) was 20%. Although there were no significant association with social prefrailty, those who with social frailty were found to be significantly at risk of future frailty and sarcopenia (hazard ratio 2.25, 95% confidence interval 1.3–3.9 for frailty; hazard ratio 1.55, 95% confidence interval 1.1–2.8 for sarcopenia, respectively), although adjusted by confounding factors (such as age, instrumental activity of daily living).

Conclusion: Our research showed strong impact of social frailty on the risk of new onset of frailty and sarcopenia in disability-free community-dwelling older adults. Therefore, to prevent physical frailty in community setting, early interventions for social frailty via multi-dimensional approaches may be indispensable.

LOW BODY MASS INDEX IS ASSOCIATED WITH HIGHER COMPLEXITY OF CARE IN OLDEST OLD MEN WITH DYNAPENIA

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The association between BMI and health outcomes are still controversial in oldest old people. However, there are more evidence for the relationship between physical performance or dynapenia and poor outcomes. We recruited 344 men aged over 80 years old from a Veterans home in Taiwan to examine the interrelationship between BMI, dynapenia and complexity of care needs. Complexity of care was evaluated by the Resident Assessment Protocol (RAP) triggers derived from MDS. All subjects were classified into high or low complexity of care needs groups based on our previous study (high complexity of care needs: ≥ 4 RAP triggers; lower: < 4 RAP triggers). Dynapenia defined by the dynapenic components of EWGSOP (DEWGSOP) using the variables of lower handgrip or slower gait speed (Cutoff point defined by Asian Working Group for Sarcopenia) without muscle mass. Triggers of risk of delirium ($P=0.042$), cognitive loss ($P=0.032$), poor communication ($P=0.002$), poor psychosocial well-being ($P=0.007$), low mood states ($P=0.017$), and use of psychotropic drug use ($P=0.013$) had lower mean BMI. Lower BMI is significantly associated with higher mean of MDS-based triggers (residents with BMI < 18.5 : 5.4 ± 2.4 ; with $18.5 \leq \text{BMI} < 25.0$: 4.8 ± 2.3 ; with ≥ 25.0 : 4.1 ± 2.1 ; $P=0.022$) among oldest old men with dynapenia. Comparing to the residents with BMI ≥ 25.0 , the residents with BMI between 18.5 and 25, and lower than 18.5 had higher complexity of care needs (OR 1.793, 95% CI 1.041 – 3.091, $P=0.035$ and OR 4.182, 95% CI 1.291 – 13.543, $P=0.017$) after adjusting for age, educational group and CCI.

SLEEP DISORDERS ARE ASSOCIATED WITH THE PRESENCE OF FRAILITY IN OLDER ADULTS

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Frailty is a geriatric syndrome characterized by reduced functional reserve, which results in adverse health outcomes such as disability and premature death. Meanwhile, sleep disorders are frequent in the elderly, and their presence is associated with poor physical health. The quality of sleep is important for normal functioning of metabolism and hormonal processes. The aim of this study was to evaluate whether a low quality of sleep is associated with the presence of frailty in a sample of older adults living in rural areas. For this study, the follow-up measurement (2013) of the longitudinal *Rural Frailty Study* in Mexico was used. The analytical sample was composed of 591 older adults aged 70 and plus. Frailty was assessed using the criteria of the Cardiovascular Health Study, and the variable of sleep disorder was built through the scale of Pittsburgh. Logistic regression model, adjusted for demographic and health covariates, in which an interaction term was included between sleep disorder and sex, was used. Prevalences of sleep disorders were 20% (16.8 in men and 21.8 in women) and 11% for frailty. Sleep disorder was significantly associated with the presence of frailty in women (OR = 3.24, $p < 0.01$) but not in men (OR = 0.76, $p = 0.66$), after controlling for covariates. Sleep disorder is an important risk factor to the presence of frailty. These results highlight the need to consider sleep problems in comprehensive geriatric assessment of the elderly. More studies are needed to understand the mechanisms of this association.

ASSOCIATION BETWEEN THE RISK OF VIOLENCE AGAINST THE ELDERLY PERSON AND THE FRAILITY SYNDROME

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This study had the objective of checking the association between the risk of violence against the elderly person and the frailty syndrome. This is a population-based study, with a cross-sectional design, carried out with 705 Brazilian elderly citizens living in Uberaba, Minas Gerais. We used a structured questionnaire to characterize the socioeconomic, clinical and health data, besides the Fried frailty phenotype and the Conflict Tactics Scale. Data were submitted to descriptive analysis, chi-square test and logistic regression ($p < 0.05$). Project was approved by the Research Ethics Committee. We have found that 15.9% of the elderly were frail, 52.2% pre-frail and 31.9% non-frail. In relation to violence, 20.9% reported episodes of verbal aggression, 7.9% physical aggression and 21.1% physical and/or verbal aggression. Regardless of the type of aggression, there was a prevalence of pre-frails; regardless of the type of aggression, the proportion of frail elderly was greater than the one that did not report aggression. The frailty condition was associated with higher odds ratios for physical and/or verbal (OR=1.82; 95%CI:1.08–3.07; $p=0.024$), physical (OR=2.52; 95%CI:1.22–5.20; $p=0.013$) and verbal aggressions (OR=1.85; 95%CI:1.10–3.12; $p=0.021$), even after adjusting the variables related to age, gender, diseases, medicines, and functional disability

in basic and instrumental activities of daily living. The outcomes of this study add knowledge to this issue, taking into account the analysis of some variables poorly explored in the scientific literature, frailty and violence against elderly people, in addition to being able to support the proposition of preventive interventions and behaviors directed for both conditions.

FRAILITY AND ITS RELATION TO MORTALITY IN ELDERLY WHO LIVED IN A BRAZILIAN COMMUNITY

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Frailty is a geriatric syndrome caused by multiple factors and is associated with hospitalization, institutionalization and death. **Objective:** to analyze the evolution of frailty and its relationship with mortality in an elderly Brazilian community. **Methods:** Prospective study with a sample of 515 elderly living in the community were evaluated at two moments, with a mean follow-up period of 5.6 years. **Results:** During the first moment, in 2007/2008, the prevalence of frailty was 17.6%, during the second moment, 50.4%. In this period, 24.7% died during follow-up and of these, 45.7% were frail according to Edmonton Frail Scale (EFS). In survival analysis we observed that the frail elderly had lower survival rate. In the adjusted analysis the risk of death was significantly higher among the elderly (HR=2.34, 95% CI 1.62–3.38) and frail elderly (HR=2.21, 95% CI 1.37–3.58). **Conclusion:** Frailty evaluated in 2007/2008 showed a significant predictive value for death.

PREVALENCE OF FRAILITY IN OLDER ADULTS FROM CURITIBA, PARANÁ, BRAZIL: COMPARISON OF TWO INSTRUMENTS

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Older adult's frailty is marked by individual's vulnerability to increase dependence and/or mortality when exposed to stressors. The aim was to analyze the prevalence of frailty in older adults from Curitiba, Parana, Brazil and to compare two frailty assessment methods. This cross-sectional study included 815 elderly (157 men 70.9±7.6 years-old; 27.6±4.4 kg/m² and 658 women 70.8±7.0 years-old; 28.4±5.3 kg/m²). Frailty was assessed by the Fried Phenotype: unintentional weight loss; exhaustion; low activity; slowness; weakness; score ≥3 frail; 1 or 2 prefrail and 0 not frail; and by the Clinical-Functional Vulnerability Index (CFVI-20): age; health self-perception; activities of daily living; cognition; mood/behavior; mobility; communication and presence of multiple comorbidities; maximum score 40 points; being 0–6 low vulnerability; 7–14 moderate vulnerability and ≥15 high vulnerability. The prevalence (absolute and relative) and the correlation of Spearman was used to determine between

the methods (p<0.05). The frailty's prevalence from Fried Phenotype method was frail 6% (n=49); prefrail 55.8% (n=455) and not frail 38.25% (n=311). Frailty's prevalence from CFVI-20 method was: high vulnerability 14.8% (n=121); moderate vulnerability 34.75% (n=283) and low vulnerability 50.4% (n=411). The correlation between the methods was: frail and high vulnerability (r=0.2; p=0.0001); pre-frail and moderate vulnerability (r=0.12; p=0.0001) and not frail and low vulnerability (r=0.28, p=0.0001). Prevalence of frailty observed was similar to the international literature, although differences between methods were almost two-fold. Frailty's assessment obtained from different methods showed low correlation. Thus, caution is required while comparing results derived from these approaches.

CHALLENGES OF MEASURING FRAILITY IN EMERGENCY DEPARTMENTS AND PROPOSED SOLUTIONS

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Frailty is associated with longer length of stay and adverse outcomes in elderly hospitalized patients, including early re-hospitalization and 12-month mortality. Identifying these risk levels on presentation at emergency departments is crucial to deliver family education, plan care, arrange referrals, and anticipate complications. Many instruments are available covering objective and subjective parameters. Our multicenter cohort study of 2,749 elderly patients in Australia, Denmark and Ireland used Fried's, Rockwood's, SUHB's and Rylance's frailty scores to predict outcomes at hospital discharge and 3-months. The exacerbation of chronic illness, poor recall, different timeframes for the estimates before presentation, absence of an informant for incompetent patients, organizational limitations and stresses of the emergency environment, and hospital policies about stretcher use on transfer impacted on our ability to reliably measure some of the parameters. Analysis showed substantial inconsistencies in the classification into pre-frail, frail or robust by different instruments on admission. Telephone administration of the frailty instruments at follow-up yielded incomplete or inexact scores due to reliance on self-report or proxy-report rather than direct observation. We concluded that doctors would have limited time to accurately assess all objective parameters during routine care. Emergency/aged care nurses and physiotherapists are best placed to conduct these measurements given their familiarity with the frailty components, training in recognizing physical abilities of patients, ongoing opportunity at the bedside, frequent visual assessment, and communication with patients/ caregivers. Fried's and Rylance's instruments were affected by many practical limitations. Telephone assessment on follow-up is not recommended to document decline or improvement over time.

ANTHROPOMETRIC MEASUREMENTS OF APPENDICULAR SKELETAL MUSCLE MASS IN OLDER PEOPLE: A SCOPING REVIEW

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Sarcopenia is an age-related loss of muscle mass and strength, a highly prevalent issue for older people and constitutes a major health problem. The measurement of appendicular skeletal muscle mass (ASM) in diagnosing sarcopenia can be challenging. Despite a clinical need to identify sarcopenia, there is still a lack of bedside clinical tools to screen for low appendicular skeletal muscle mass (ASM). The gold standard tools used to determine ASM are expensive, invasive, and complex requiring highly trained staff, therefore, anthropometric prediction equations (PEs) were developed for usage in a clinical and community environments, to estimate ASM.

Thus the objectives of this scoping review were as follows:

1) To map the disparate international literature on the diverse anthropometric variable parameters included in predictive equations for estimating ASM.

2) To map the development of the anthropometric prediction equations for used in estimating ASM.

This scoping review was undertaken in accordance with the Joanna Briggs Institute's methodology. Ten studies were included. Eight studies involved community dwelling healthy older people and two studies focused on hospitalized older patients. The most common anthropometric variable parameters included in PEs for ASM were body weight, height and BMI. Regression analysis was used to determine predictive equations for DEXA derived ASM. Included studies reported the use of Bland-Altman analysis for measurement agreement. It was concluded that it is possible to define the range of anthropometric parameters used in estimating ASM and to identify parameters that can be used with ease in clinical practice.

SELF-REPORTED FRAILTY AT DISCHARGE IS ASSOCIATED WITH READMISSION AND MORTALITY IN OLDER PATIENTS

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Frailty in elderly is associated with higher risk of rehospitalization and death. The objective of this study was to assess whether self-reported frailty at hospital discharge in acutely admitted older medical patients, using a multidimensional questionnaire, was associated with unplanned readmission or death within six months after discharge. Secondly, to assess whether physical function was similarly associated.

A cohort study was conducted in seven medical departments and two acute medical units at Aalborg University Hospital, Denmark, including acutely admitted patients aged 65+. The Tilburg Frailty Indicator (0–15 points), Timed-Up-and-Go and grip strength were measured. Associations were assessed by Cox Regression, with first unplanned readmission or death as outcome and frailty as primary exposure variable, including the covariates gender, age and comorbidity.

Of the 1,328 included patients, 50% were readmitted or died within six months. When adjusted for gender, age and comorbidity there was a 72% higher risk of readmission or death if Tilburg Frailty Indicator scores were 8–13 points compared to 0–1 points (Hazard ratio 1.72, CI 1.25;2.35). A Timed-Up-and-Go score between 12.0 and 23.9 seconds compared to 4.0 to 7.9 seconds was associated with a 83% higher risk of readmission or death (Hazard ratio 1.83, CI 1.35;2.49). Grip strength was inversely associated with the outcomes.

Self-reported frailty assessed by The Tilburg Frailty Indicator at hospital discharge was directly associated with risk of readmission or death within six months. Similarly, higher Timed-Up-and-Go and lower grip strength scores were associated with higher risk of readmission or death.

ESTIMATION OF PREVALENCE OF SARCOPENIA BY USING BIA IN CHINESE COMMUNITY-DWELLING ELDERLY PEOPLE

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Sarcopenia is the loss of muscle mass as well as muscle function (defined by muscle strength or physical performance) with aging, but one of the major challenges in research is the accurate measurement of body composition, such as appendicular skeletal muscle (ASM). Although Asian Working Group for Sarcopenia (AWGS) also established the consensus on sarcopenia diagnosis, there has been no epidemiological survey that used AWGS definition to estimate the prevalence of sarcopenia in China. A total of 944 community-dwelling elderly adults aged 60 years or older were recruited in the cross-sectional study. The appendicular skeletal muscle (ASM) was measured by using DXA as a criterion method to validate a standing octapolar multifrequency BIA (InBody 720), followed by a further estimation on the prevalence of sarcopenia according to the AWGS definition. There was no significant difference between DXA and BIA measured ASM by Bland-Altman analysis. Therefore, BIA is suitable for body composition monitoring (ASM) in elderly Chinese as a fast, non-invasive and convenient way; it may be a better choice in large epidemiological studies in Chinese population. The prevalence of AWGS-defined sarcopenia was 12.5% in elderly women and 8.2% in elderly men, and increases with age in a sample of Chinese community-dwelling elderly.

PREVALENCE OF FRAILITY IN TAIWANESE ELDERLY: A COMPARISON OF TAIWAN URBAN AND RURAL AREAS

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Background: Frailty has begun to draw attention in recent years because it predicts adverse health outcomes for aging populations. However, the prevalence of frailty in Taiwan is not yet completely confirmed. This study aimed to compare the different prevalence of frailty among Taiwanese older adults in two areas: urban and rural. **Methods:** Data were obtained from Taiwan Longitudinal Study in Aging (TLSA) 2003. After excluding those who living in long-term care institutions and unknown living area, a total of 2,653 older adults (aged ≥ 65 years, 48% female, 41% urban residents) was recruited as the study sample. Frailty index (FI) was constructed by Rockwood's multiple-deficits approach, and the presence of 36 criteria from 3 dimensions was used: 16 of chronic disease history, 5 of functional assessment, and 15 of geriatric syndromes. The FI was calculated as the proportion of the number of deficits, and a cut point of ≥ 0.25 will be defined as frail. **Results:** Among all the participants, 1,109 (42%) were classified as frail; over a half were female and 43% were from rural area. Without doubt, prevalence of frailty increased with age in two areas. Compared with genders, female always had higher prevalence than male in three age strata, and the highest was over 85-year female rural population ($n = 108$, 83.72%, FI mean = 0.27). **Conclusions:** This comparison illustrated the different frailty and severity among gender, age, and area in Taiwan.

ADHERENCE TO THE MEDITERRANEAN DIET AND FRAILITY STATUS IN SPAIN. DATA FROM THE TSHA STUDY

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Nutrition is one of the main factors related to frailty, but very few studies have assessed the association between Mediterranean Diet-MD and frailty, although MD is discussed as one of the healthiest eating patterns and the adherence to this type of diet is related to the prevention or treatment of several diseases. The present study assesses the potential association between adherence to MD and frailty in a cohort composed by community-dwelling older adults, the Toledo Study of Healthy Aging, Spain, whose characteristics have been broadly described elsewhere. The sample consists of 2327 participant (mean age 76 years). The incidence of frailty was assessed using three different criteria: Fried (9.88%), Frailty Index (10.07%) and Frailty Trait Scale (10.23%). Adherence to the Mediterranean diet was determined by the Predimed questionnaire (0–6 points non-adherence, 7–14 points adherence). The results show low adherence to the Mediterranean Diet (91% of the sample got a score between 2–4). Food pattern varied by: gender, being men those with greater adherence (P -value < 0.05), and age, where adherence to Mediterranean Diet declines with age (P -value < 0.01). Overall the frail population had a different nutritional pattern (P -value < 0.01) with a lower adherence to Mediterranean Diet (P -value < 0.01), and a lower consumption of foods rich in antioxidant in frail people. These differences were independent of tool used to assess frailty.

Accordingly, Mediterranean Diet is associated to frailty, with an outstanding role for some of their components.

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PREVALENCE OF FRAILITY IN CHINESE OLDER PEOPLE: A CROSS-CULTURAL STUDY

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Methods: Data were derived from two population-based studies, the Mr Os and Ms Os (Hong Kong) studies ($n=4000$) and the Taiwan Longitudinal Study on Aging (TISA, $n=2653$). Older people aged 65 years and older living in the community were invited to respond to a structured questionnaire. Frailty Index (FI) was constructed from 36 variables covering medical and drug histories, geriatric syndromes, assessment of physical and cognitive functioning, psychological wellbeing, and nutritional status. Frailty was defined as the index ≥ 0.25 . The ratio of FI to life expectancy at birth (LE) was used as an indicator of compression of morbidity.

Results: The weighted average prevalence rate of frailty was 41.8% and the rates were more prevalent in Taiwan urban and Taiwan rural areas (40.5% and 42.7% respectively) compared to Hong Kong (15.2%, $P<0.05$). Frailty increased with age: 65–74 years 9.6%–30.4%; 75–84 years 19.4%–48.8%; older than 85 years 24.7%–77.0% ($P<0.05$). Prevalence of frailty were statistically higher in women (ranged from 21.1%–54.3%) than in men (ranged from 9.4%–31.7%, $P<0.05$) and the differences were found in all age groups ($P<0.05$). The ratios of FI/LE were higher in Taiwan urban and Taiwan rural areas (both 0.25) compared to Hong Kong (0.17, $P<0.05$).

Conclusion: This comparison provides better understanding of levels in the health of older people and provides useful data to inform government policies. Further analyses are needed to compare the role of personal, environmental, and health and social care systems in contributing to frailty across the study populations.

SESSION 870 (POSTER)

GERONTOLOGY AND GERIATRICS EDUCATION II

THE EFFECT OF A KOREAN FUNCTION-FOCUSED CARE PROGRAM AMONG OLDER ADULTS IN LONG-TERM CARE FACILITIES

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The purpose of this study was to develop Korean Function-Focused Care Program (K-FFCP) to manage older adults' functions in restorative care, ultimately, evaluate the

program's effectiveness. The study design was pretest-posttest design with nonequivalent control group were assigned. Two nursing facilities located in Seoul as a treatment group and as a control group, respectively. The number of participants in the experimental group was 23 and control group had 20 participants with a total 43 participants enrolled in the study. The K-FFCP consisted of education for nurse and care workers and self-training for older adults for 6 weeks. The details about the developed K-FFCP include six components such as eating, dressing, bladder training, walking, using adaptive equipment, and exercise. The data of cognition (K-MMSE), physical function (K-ADL), physical capability (PCS), depression (CSDD), anxiety (RAID), grip strength, fear fall were collected. The K-FFCP effects for older adults were measured a total of 3 times (before intervention, after intervention, 6 weeks after intervention). The collected data were analyzed using Statistical Analysis System (SAS version 9.3 TS Level 1M0) program, which utilized Generalized estimating equations (GEE). According to the results, the K-ADL and PCS in experimental group showed significant increase group-time interaction. Thus, the K-FFCP showed its effectiveness in managing and improving older adults' physical function. Ultimately, the results of this program can work as a corner stone in increasing quality of life for older adults.

CAN MATURE-AGE NONTRADITIONAL STUDENTS SUCCEED IN AN ONLINE BACHELOR OF DEMENTIA CARE PROGRAM?

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An important strategy to increase knowledge, skills, and confidence of the workforce providing a range of care to people with dementia is access to contemporary evidence-based education. This paper outlines the innovative, fully online Bachelor of Dementia Care degree offered by the Wicking Dementia Research and Education Centre at the University of Tasmania (Australia). It presents an exploratory single-case study of 65 students in the first degree cohort: 31 students had previous university-level experience, 34 did not. All passed the units in which they had enrolled. Students with previous university-level experience showed significantly superior performance ($p < .05$) in only 3 of the 15 units all students had completed to date. Further, the average across-unit grade for students in both groups was no lower than a Credit (60–70%). As judged from comments on University surveys, discussion boards, and requests for help, students with no previous university-level experience needed time to adapt to the culture of university-level study, understand the nuances of ethical academic writing, and learn how to balance the intensity of studying over consecutive semesters with work and family responsibilities. These differences highlight the importance of scaffolding learning and providing step-by-step guidance for all students, but particularly those with no previous university-level experience. Findings give credence to the institutional and student support, curriculum planning, unit structure, and methods of presentation that are integral to this online degree to provide a successful online learning experience for mature-age non-traditional students.

FRAILITY STATUS AND ITS ASSOCIATED FACTORS AMONG INDONESIAN ELDERLY PEOPLE

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Frailty puts the elderly in risk of getting adverse health outcomes. Genetic factors, aging, life style, and comorbidities are important risk factors of frailty. It is important to know other related risk factors of frailty in elderly, especially in outpatient setting in order to prevent incidence of frailty. Unfortunately, study about frailty among elderly population in Indonesia is limited. The aim of this study is to obtain prevalence of frailty status and its associated factors among Indonesian elderly population.

This multicenter cross-sectional study was conducted at Geriatric Clinic of several hospitals in Indonesia (Jakarta, Malang, Surabaya, Bali, and Bandung) among 448 elderly patients aged 60 years old and above. Frailty was diagnosed using questionnaire of Frailty Index-40 item. Data on social demographic, functional status (ADL Barthel index), nutritional status (MNA questionnaire), and polypharmacy of each subject were collected. Logistic regression was used to obtain factors associated with frailty status.

Frailty status of subjects were 13.2% robust, 61.6% pre-frail, and 25.2% frail. Bivariate analysis showed that age (OR 2.83; 95% CI 1.69 – 4.73), nutritional status (4.55; 95% CI 2.88–7.20), functional status (OR 3.97; 95% CI 2.54–6.20), and polypharmacy (OR 1.82; 95% CI 1.05–3.15) were associated with frailty status. Logistic regression analysis showed that age (OR 2.72; 95% CI 1.58 – 4.76), functional status (OR 2.89; 95% CI 1.79–4.67), and nutritional status (OR 3.75; 95% CI 2.29–6.13) were associated factors of frailty status.

The conclusion of this study is that the factors associated with frailty status were age, functional status, and nutritional status.

FUNCTIONAL FITNESS, ANTHROPOMETRICS, AND PHYSICAL ACTIVITY IN OLDER ADULTS FROM AMAZONAS, BRAZIL

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This study aimed to describe the variation of functional fitness (FF), external morphology and body composition (BC) according to gender, age, and level of physical activity

(PA) in older adults from the city of Borba, Amazonas, Brazil. The sample consisted of 233 participants (97 men and 136 women) distributed across 5 age cohorts (60–64, 65–69, 70–74, 75–79 and >80 years). The FF was assessed using Senior Fitness Test. PA was estimated by the modified Baecke questionnaire. Anthropometric measures followed the ISAK protocol. Independent sample t-test showed no statistically significant differences in FF between men and women, except in upper limbs strength (favoring men) and shoulder flexibility (favoring women). Men were higher, heavier and had higher bone diameters, circumferences, and fat-free mass than women. Opposite results were found for fat mass (FM). One-way between-groups ANOVA revealed in both sexes, age cohorts differences in all FF components, favoring the younger cohorts, except for flexibility. Similar results were seen for anthropometric measures and FFM. No statistically significant differences were seen in FF components, neither in the anthropometric measures nor BC, between PA groups (low, medium and high), with one exception: flexibility in women. These results can be used as a general health index for this group/sub-population from a specific environment. Longitudinal studies, as well as, more objective measures, are badly needed to achieve a deeper understanding of these relationships in this specific population.

FEASIBILITY, SAFETY, AND OUTCOMES OF PLAYING KINECT ADVENTURES GAMES FOR ELDERLY: A PILOT STUDY

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Objective: To evaluate the feasibility, safety and outcomes of a training based on Kinect Adventures games in community dwelling elderly. **Methods:** We selected 18 community dwelling elderly, mean age 70.41 (5.43) years. Participants underwent 14 training sessions of training of one hour of duration, twice a week, in which they played four Kinect Adventures games. The subjects were assessed before and after training. The feasibility was assessed through a satisfaction questionnaire. Security was evaluated by recording adverse events during interventions. The outcomes of postural control and gait were the Mini-Balance Evaluation Systems Test (Mini BESTest) and the Dynamic Gait Index (DGI), respectively. **Results:** All participants scored the higher level of the satisfaction questionnaire. There were no adverse events during interventions. The intervention promoted improvement on postural control (Mini BESTest median before training = 28 and after training = 30.5; Wilcoxon test, $p = 0.013$) and gait (DGI median before training = 23 and after training = 24; Wilcoxon test, $p = 0.033$). **Conclusion:** The training based on Kinect Adventures Games was feasible, safe and promoted improvement on postural control and gait of community dwelling elderly.

RELATIONSHIP OF NUTRITIONAL STATUS AND FUNCTIONAL CAPACITY IN ELDERLY PATIENTS

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Rising elderly population poses a great challenge in terms of the health care burden due to various social and biological

influence so our older individuals is at risk of malnutrition and subsequently impairment in their functional activity and affects quality of life.

This was analytical cross-sectional conducted from January-July 2015. We evaluated functional and nutritional status by using KATZ scoring and MNA Scale in elderly >60 years in sample size of $n=200$. Individuals presented to Family medicine clinics of Aga Khan University hospital Karachi, were recruited via non probability consecutive sampling. Data double entered in SPSS 19. To assess the correlation between nutritional status and functional status Spearman's rank Correlation Coefficient was applied.

Mean age was $(68.3 \text{ years} \pm 7.0 \text{ SD})$ male proportion was $(54\%) n=109$. According to checklist 33.5% ($n=67$) were at risk of malnutrition, and 35.5% were functionally impaired ($n=71$). Spearman correlation between functional and nutritional status was found to be $\rho=0.65$ with $p\text{-value}=0.039$. Both are also significantly associated with variables like age and educational status $p\text{-value}=0.000$ and $p=0.049$ respectively. Hypertension 67% ($n=134$) and diabetes 50% were found to be most prevalent diseases in elderly. Polypharmacy was prevalent in 37.5% ($n=75$).

Our study indicates that there is a significant positive correlation between nutritional and functional status. This needs to be addressed in a developing country like Pakistan, however this is a small cross-sectional study in one setting, further large studies will be required to assess the relationship.

EDUCATIONAL NEEDS OF HEALTHCARE PROFESSIONALS IN THE FIELD OF GERONTOLOGY IN BULGARIA

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Challenges for geriatric care in Bulgaria are significant. Our country is the second most rapidly aging nation in the Eastern region of Europe. In this connection, the logical question is: are the health professionals prepared to meet the demographic challenges of aging? In search of answers to these questions was done a large study. *The aim of the study* was to explore the specific problems of occupational health professionals in providing medical and social assistance for old people and clarify their educational needs in the gerontology and geriatric practice. *Object of Study and Methods:* Respondents are 1875 people in 10 cities across Bulgaria: 940 healthcare professionals and 935 persons over 60 years, consumers of health care, of which 385 people from their homes for the elderly. The following methods were used: documentary method; inquiry method; Delphi method; statistical methods. *Research Results:* Determined are the main reasons for the difficulties of health professionals in taking care for their patients. There were missing or insufficient knowledge of gerontology and geriatric care in half of the respondents. Educational needs in medical gerontology are in the following areas: specific manifestations of disease in old patients, age changes in mentality and behavior, communication skills for working with elderly, training in health care for chronically ill and their families, aging prophylaxis. Based on the survey data, recommendations for adapting the education of health professionals in the field of gerontology and geriatric practice were prepared.

KEYWORDS: aging, geriatric care, health professionals, educational needs, medical gerontology

PREPARING A CULTURALLY SENSITIVE HEALTHCARE WORKFORCE: OUTCOMES AND BENEFITS OF GERIATRIC COURSES

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The World Health Organization predicts that persons aged 60 years and older will total 2 billion, an increase from 900 million in 2015 (WHO, 2015). In the U.S., there were 44.7 million persons who were 65 and older who accounted for 14.1% of the total population in 2013. (U.S. Census Bureau, Population Estimates, 2014). Also notable are demographic shifts related to migration. Over 1 billion people are migrants and this includes 244 million persons residing in a country other than their country of birth (2016, International Organization for Migration).

Given this information it is imperative that healthcare professionals are educationally prepared to provide effective and culturally sensitive care to older adults. Older adults nonetheless, continue to experience healthcare disparities including access to care and quality of care. Disparities in care continue to persist in Asian Pacific Islanders, Alaskan/Native Americans, African Americans, Hispanics, and LGBT populations (AHRQ, 2015). Social determinants of health, limited English proficiency and health literacy, inadequate healthcare provider knowledge and skills contribute to disparities in minority populations.

California is one of the most diverse states in the nation, yet few undergraduate programs have dedicated curriculum in geriatric nursing. A private independent university has required a foundational course in geriatric nursing for eight years. The objectives of this study are to: (1) identify the practice patterns of geriatric nursing competencies among its nursing program graduates (AACN, 2010), and (2) examine the impact of practice competencies on care outcomes of the older adult in respective healthcare settings through facility databases.

ASSOCIATION BETWEEN FRAILTY AND PAIN: A TIME BOMB

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Chronic pain is a common, frequently undervalued symptom in elderly patients. Frailty is a common geriatric syndrome in elderly, but frequently unquantified in medical practice. Pain and frailty are independent risk factors for high dependency in elderly and when associated they increase disability and lower the quality of life

Objectives: The aim of this paper was to study the association between persistent pain and frailty in two groups: robust and frail elderly and the impact on functional capacity.

Material and Methods: We conducted an observational study on 97 elderly patients selected from 678 patients, age

between 65 and 93 year. We excluded oncological patients, those dependent with advanced stages of somatic and psychiatric diseases. We split the patients in two groups: robust and frail. We used the Frailty Index to assess frailty, Brief Pain Inventory to assess pain and IADL and ADL scales to measure functional capacity.

Results: There was a high incidence of pain in the two groups (60%), highest being in the frail group (77.7%) and with a higher analgesic consumption (NSAID and Acetaminophen being most used). The association of pain and frailty increases the level of dependency, represented by ADL and IADL (mean score 4 compared to 6 for robust).

Conclusion: A thorough assessment of elderly patients that have persistent pain associated with frailty is a challenge, but with positive effects on quality of life. Frailty rises the difficulty of pain management which requires a complex approach: pharmacological and non-pharmacological, monitoring the side effects and drug interactions.

A 15-YEAR RETROSPECTIVE STUDY EXAMINING THE EXERCISE HABITS OF COMMUNITY-DWELLING OLDER ADULTS

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Routine exercise habits have been shown to reduce modifiable health risks associated with aging. Studies examining the exercise habits of older adults over a 15 year period are limited. The purpose of this study is to better understand the exercise habits of males (M) and females (F) in their 50's, 60's, 70's and those ≥ 80 years old(y/o). By examining mean age, sex, and number of lifetime visits(NLV), clinicians may improve targeted wellness education, reducing modifiable health risks associated with aging. The age, sex, and NLV of 1,988 community-dwelling older adults enrolled in a hospital-based wellness center from 9/1/2000 to 1/1/2016 were examined. Groups included: Grp1(50-59y/o; F;n=372,M;n=125), Grp2(60-69y/o; F;n=353, M;n=226), Grp3(70-79 y/o; F;n=258,M;n=192) and Grp4(80 y/o+; F;n=222,M;n=240). Statistical significance was accepted at $p < 0.05$. Overall mean age was 55.0 ± 2.8 ($F = 55.1 \pm 2.8, M = 54.9 \pm 2.7$) for Grp1, 64.4 ± 2.9 ($F = 63.9 \pm 3.0, M = 65.1 \pm 2.8$) for Grp2, 74.4 ± 2.9 ($F = 74.5 \pm 2.9, M = 74.5 \pm 2.9$) for Grp3, and 86.9 ± 5.2 ($F = 86.8 \pm 5.3, M = 86.9 \pm 5.1$) for Grp4. Overall mean NLV was 57.9 ± 123 ($F = 52.5 \pm 108, M = 74.0 \pm 160$) for Grp1, 115 ± 262 ($F = 115 \pm 268, M = 115 \pm 253$) for Grp2, 198 ± 427 ($F = 173 \pm 403, M = 233 \pm 455$) for Grp3, and 323 ± 497 ($F = 301 \pm 501, M = 343 \pm 494$) for Grp4. A significant main effect for age ($f = 46; p < 0.001$) on NLV was observed. A strong trend for sex ($f = 3.5; p = 0.06$) on NLV was seen. No age by sex interaction ($f = 0.68; p = 0.57$) existed. Significant differences in NLV at each successive age group over age 60 were present. This study demonstrated that age had a significant impact on NLV. Also, a strong trend ($p = 0.06$) suggests that men participated in more NLV than women. This reinforces that clinicians may benefit from considering a client's age and sex to improve targeted wellness education, increasing exercise participation and reducing modifiable age related health risks.

THE ASILA PROGRAM: IMPROVED CARE IN NURSING HOMES FOR FRAIL SENIORS

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The Applied Simulated and Integrated Learning Approach (ASILA) aimed to advance targeted clinical outcomes for seniors through the use of evidence-informed case simulations of conditions among frail seniors with cognitive and physical challenges. The ASILA program is based on the use of the Minimum Data Set as a comprehensive geriatric assessment (CGA) and quality improvement framework to facilitate care planning.

A mixed method, repeated-measures design was used to assess changes in nursing assistants' (NA) knowledge and perceptions of CGAs and resident clinical outcomes.

Quantitative data indicated meaningful improvements in key knowledge areas. Qualitative data provided a description of the impact of the ASILA program on staff knowledge and role perceptions and how that translated to care practices.

The ASILA program successfully enhanced NAs' knowledge and perceptions of CGAs, and improved resident outcomes, while emphasizing quality of life and promoting best practices within a financial framework of accountability.

MASTER ON GERONTOLOGY: A PERSPECTIVE IN GERONTOLOGY EDUCATION IN MEXICO

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In order to prepare high-quality human resources in Gerontology able to face the challenges of our aging society, the University of Guadalajara (Mexico) had offered the Master of Gerontology degree since 1994. Based on this program, it has been developed a new program evaluated and accepted in 2016, in the National Quality Graduate Program of the National Council of Science and Technology (CONACYT).

For this Master degree, gerontology is understood as a field of the scientific knowledge inter-multi-transdisciplinary, dedicated to the study of the process of aging, the old stage and the older persons as individuals; from bio-psycho-social perspectives.

From a Public Health approach, and based in solid ethical values and attitudes, the gerontologist profile includes the knowledge to: 1) describe understand and explain the life-span from a bio-psycho-social perspective, 2) differentiate successful, active and healthy aging from pathological, 3) use methods and techniques for the generation of knowledge and intervention in the aging process, 4) understand the administrative process of institutions in gerontology, 5) analyze social policy and legislation, 6) analyze the importance of social perception of the older persons, 7) analyze the importance of the family and social network, as well as social support in gerontology interventions.

Is a competence-based program, and in a review, it was found that its approach applies the gerontology competencies for undergraduate and graduate education published by AGHE in November 2014.

HIGHER-LEVEL FUNCTIONAL CAPACITY AMONG THE COMMUNITY-DWELLING ELDERLY IN JAPAN

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Objective: Japan is a rapidly aging society, and thus nursing approaches that enable the elderly to lead longer and more independent lives are needed. Therefore, the purpose of this study was to gain a better understanding of higher-level functional capacity among community-dwelling elderly.

Methods: A questionnaire survey was conducted at a Japanese community center for the elderly in October 2015. The questionnaire was designed to identify the characteristics of the elderly and assess higher-level functional capacity according to the following four aspects: "using a new instrument"; "collecting information"; "life management"; and "social involvement".

Results: A total of 135 elderly individuals (42 men, 93 women; mean age, 74.6 years; range, 65–90 years) completed the questionnaire. Fifty-nine (43.7%) respondents were living in a married household, 86 (63.7%) had a chronic disease, 111 (82.2%) were pursuing a hobby, and 67 (49.6%) frequently participated in activities. The mean ($\pm$ standard deviation) higher-level functional capacity score was 10.5 ± 3.8 points out of a possible total of 16. The mean scores for "using a new instrument", "collecting information", "life management", and "social involvement" were 2.5 ± 1.3 , 3.1 ± 1.1 , 2.8 ± 1.1 , and 2.0 ± 1.6 , respectively.

Conclusions: According to a previous study, the mean higher-level functional capacity score for a nationally representative sample of community-dwelling elderly was 9.7 ± 4.2 ; that of this study was higher in comparison, indicating that the elderly individuals in this study had excellent functional capacity. In the future, nursing approaches that help rejuvenate the community by enabling the elderly to lead even longer and more independent lives are expected.

TRAINING AND MOTIVATION OF MEDICAL PROFESSIONALS FOR WORK WITH OLDER PEOPLE IN BULGARIA

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Introduction: In the recent decades, in Bulgaria and in Europe there is a steady trend of increase of the aging population and as a result of this raising of the proportion of older people.

One of the main tasks of our society is to provide appropriate conditions and satisfactory levels of care in order to achieve good quality of life for older people. It is especially important to take actions to provide a dignified aging of the elderly.

The training of nurses in Bulgaria in the curricula is included a course "Nursing care for elderly" which meets the increased needs for specialists ready to work with old people.

The aim of the study is to examine the need for specialized training, the readiness of medical specialists to work

with older people and to contribute for the motivation of these professionals to provide quality health care.

Methods applied: Conducted was an anonymous survey among 62 medical professionals trained in a part time form of training in the undergraduate program of the specialty “Management of health care”. The survey was conducted during the training internship of the students of third year who work in health institutions throughout the country.

The results show that the work with old people is not preferred by nurses. Working with the elderly is burdening them mentally and physically and sometimes this hampers the performance of professional activities. In order to motivate the medical professionals to work with older people they need more additional stimuli and specific knowledge and training to make them be able to contribute successfully for the better quality of life of the elderly.

SESSION 875 (POSTER)

HEALTH CARE

TRAJECTORIES OF MOTOR FUNCTION AND COGNITION IN RELATION TO HOSPITALIZATION

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Background: Hospitalization among older people is common and associated with adverse outcomes. However, knowledge about long-term effects on motor functions and cognitive abilities in relation to hospitalization is scarce. In order to explore development of motor functions and cognition after hospitalization, a longitudinal study among middle-aged and older adults with up to 25 years of follow-up was conducted.

Methods: Overall, 828 participants from the Swedish Adoption/Twin Study of Ageing (SATSA) were linked to the Swedish National Inpatient Register, which contains information on participants’ hospital admissions. Up to 8 assessments of cognitive performance and 7 assessments of motor functions i.e. fine motor, balance/upper strength, and flexibility, from 1986 to 2010 were available. Latent growth curve modelling was used to assess the association between hospitalization and subsequent motor function and cognitive performance.

Results: A total of 735 (89 %) persons had at least one hospital admission during the follow-up. The mean age at first hospitalization was 70.2 ($\pm$ 9.3) years. Persons who were hospitalized exhibited a lower mean level of cognitive performance in all domains and in motor functions compared with those who were not hospitalized. A significantly steeper decline was observed in motor function abilities as well as in processing speed, spatial/fluid, and general cognitive ability performance of hospitalized participants. These patterns remained even after comorbidities and dementia prevalence were controlled for.

Discussion: We are the first to show that hospitalization is associated with steeper decline in both motor function and

cognitive abilities across more than two decades of post-hospitalization follow-up.

IMPROVING PATIENT-PROVIDER PARTNERSHIPS ACROSS THE HEALTHCARE SYSTEM

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Many older patients and their caregivers wish to be engaged in decisions around their care, but this is often not well accommodated in existing practice models. We synthesized available theories and evidence around engagement of older adults in healthcare decision-making into our previously developed “CHOICE” Patient Engagement Framework (Stolee et al., 2015; Elliott et al., 2016) and developed strategies to support meaningful partnerships of older patients and caregivers with their healthcare providers. In partnership with patients, caregivers and health care providers, this current project aimed to answer the following questions: 1) How do the CHOICE principles and strategies correspond with actual experiences of engagement? 2) What factors currently facilitate or hinder patient engagement? and 3) What resources, materials and implementation strategies are needed to support patient engagement in each health setting? We conducted observations and interviews in two healthcare settings (primary care and community care) with providers, patients, and families to understand current perspectives, practices, and facilitating/hindering factors related to patient engagement. Observation and interview data were analyzed using emergent coding as well as directed coding guided by the CHOICE framework. Using the information that emerged from the interviews and observations, resources and materials for patient/caregiver engagement have been co-created by patients, caregivers and healthcare providers, for use in multiple care settings.

ATTITUDES TOWARD AGING AND CHANGE IN PHYSICAL FUNCTION AMONG OLDER ADULTS IN TAIWAN

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Attitudes are known to exert a powerful influence upon physical performance in later life, include ADL and IADL dependency, with variable impact. Aim of this study was to investigate the impact of attitudes toward one’s own aging on functional outcomes in a national-wide representative sample of community-dwelling older adults in Taiwan. Data on participants (N=3778) aged 65 and over who participated in the 2003 and 2007 Taiwan Longitudinal Study on Aging (TLISA) were analyzed. Physical disability, including mobility limitations, IADLs and ADLs were regressed on an individual’s attitude toward aging in 2003, with control of their physical function and other covariates in 2003. Results show that positive attitude toward aging was associated with higher levels of physical function four years later. Specifically, negative attitude on “Will you raise grandchildren in

retired-years” was associated with higher ADL limitations during follow-up (OR:1.75, 95% CI 1.26–2.42, $p<0.001$). Negative attitude on “Do you agree that government had provided welfare in accordance with demand” was associated with lower IADL limitations (OR:0.82, 95% CI 0.68–0.99, $p<0.05$). Besides, negative thought against actively instruction for intimate relationship maintenance was associated with higher limitations in mobility (OR:1.31, 95% CI 1.04–1.64, $p=0.02$) and ADLs (OR:1.40, 95% CI 1.01–1.94, $p<0.05$). Findings from this study suggest that having positive attitudes toward aging may contribute to better physical outcomes in older adults despite other well known risk. Helping older adults overcoming negative thought of aging at societal and individual level may help to achieve successful aging with positive physical outcomes.

GERIATRIC COLORECTAL SURGERY CO-MANAGEMENT PROGRAM: IMPACT ON PATIENT OUTCOMES

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In elderly surgical patients, multiple comorbidities and diminished reserve lead to increased post-operative complications and higher cost. We developed a Geriatric Surgery Co-management (GSC) program, as an innovative partnership between geriatrics and colorectal surgery, to improve patient care for elderly colorectal surgery patients in the post-operative setting. This retrospective study analyzed colorectal surgery patients aged 70 or older admitted to a community hospital before GSC program implementation. Historical control (HC) was compared to patients admitted after implementation of the GSC program. GSC patients received a post-operative comprehensive geriatric assessment, identification of risk factors for and prevention of geriatric syndromes, management of comorbidities and optimization of pain management. The data was collected via National Surgical Quality Improvement Program and chart review. The HC ($n=104$) and GSC ($n=44$) groups were comparable at baseline. The most common type of surgery was colectomy in both groups (59% of all cases). The mean length of stay (LOS) was 5% shorter (-0.6 days) in GSC (p -value=0.74); more pronounced in older and sicker patients: 15% shorter (-1.5 days) in patients ≥ 80 years old, 22% shorter (-1.7 days) in patients with Charlson comorbidity index ≥ 3 (p -values=0.47 and 0.25, respectively). Postoperative cardiac arrhythmia was markedly diminished from 12/104 (11%) in HC compared to 0/44 (0%) in GSC (p -value=0.02). The mean total hospital charge was \$9,500 (18%) less per patient in GSC (p -value=0.1). Our results suggest that a multidisciplinary approach to postoperative care for geriatric colorectal surgery could decrease LOS, improve patient outcomes while decreasing hospital costs.

AWARENESS AND BEHAVIOR ON THE PERIODIC HEALTH EXAMINATION IN KOREAN ELDERLY SUBJECTS

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To evaluate awareness and behavior on the periodic health examination (PHE) in Korean elderly person, we enrolled 899 subjects who visited the health promotion center of a university or the clinic for any kind of a health problem in the same hospital from February to May 2016. Thirty-two questionnaires about awareness, knowledge, and usefulness of early detection and behavior on PHE were administered. We compared the responses between elderly (≥ 65 years) and middle-aged (<65 years) group using Student's t -test or χ^2 test. The mean ages (standard deviation) of the two groups were 50.1(10.6) and 68.7(3.5) years ($P<0.001$). The elderly subjects perceived the awareness, knowledge and usefulness on PHE, similar with middle-aged subjects ($P>0.05$). Also, they wanted to take a PHE continuously without upper limit of age (52.4%) than middle-aged group (49.7%, $P=0.007$), despite a doctor's advice to stop PHE without further benefit. Although the elderly subjects started PHE later than the middle-aged group (≥ 50 years (66.4%), vs. 40–49 years (39.4%), $P<0.001$), they has been doing regularly (annual: 54.0% vs. 49.3%, $P=0.006$). Conclusively, Korean elderly subjects perceived the awareness of PHE and showed proactive behaviors. Therefore, it is needed to understand their awareness and behavior on PHE to prepare the individualized PHE.

ANALYSES OF HEALTH OUTCOMES FOR OLDER COPD PATIENTS WITH ICS USE IN TAIWAN

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Inhaled corticosteroids (ICS) are commonly prescribed to patients with chronic obstructive pulmonary disease (COPD). Studies indicated that ICS use may lead to adverse effects for COPD patients. Nevertheless, the effects of increased risk of adverse events are inconclusive. What are the effects of related treatments for the COPD patients are critical research questions to be examined. However, limited study had explored such issues in Taiwan. This study aims to investigate the health care outcomes for older COPD patients under medication treatments. This study applied National Health Insurance database for analyses from year 2009 to 2012. COPD patients were grouped as case group or control group based on whether they use ICS or not. Meanwhile, this study conducted propensity score matching method to reduce potential sample selection bias. Health care outcomes include probability of having pneumonia, emergency department use, and hospital admission. There are 1237 cases and 3711 control observations in the final analyses. The mean age is 76 years old. Multivariate logistic regressions indicated that case group had significantly higher probability of getting pneumonia (OR=1.85, 95%CI=1.61, 2.13), higher probability of emergency department use (OR=1.57, 95%CI=1.35, 1.82), and higher probability of hospital admission due to pneumonia (OR=1.73, 95%CI=1.48, 2.01). The study results from nationally represented dataset provide empirical evidence that ICS use for older COPD patients in Taiwan may increase the probabilities of adverse events. Cautions of treatment influences on care processes for older COPD patients are in great needs in Taiwan.

CHRONIC KIDNEY FAILURE AND CONSERVATIVE (NON-DIALYSIS) CARE AMONG OLDER ADULTS

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Conservative (non-dialysis) management of adults with stage 5 chronic kidney disease (CKD, eGFR <15ml/min/1.73m²) is increasingly being provided in the primary care setting. We aimed to examine the prevalence of barriers and facilitators to conservative management of older adults by primary care physicians. We conducted a cross-sectional population-based survey of all primary care physicians in Alberta, Canada. Eligible participants had experience caring for adults aged ≥75 years with stage 5 CKD not planning on initiating dialysis. Questionnaire items were derived from a qualitative descriptive study, informed by the Behavior Change Wheel, and tested for face and content validity. Physicians were contacted via postal mail and/or fax, based on a modified Dillman method. Four hundred and nine eligible physicians completed the questionnaire (9.6% response rate). The majority of respondents were male (61.6%), aged 40 to 60 years (62.6%), and practiced in a large/medium population centre (68.0%). The most common barrier to providing conservative care in the primary care setting was the inability to access support to maintain patients in the home setting (39.1% of respondents). The second most common barrier was working with non-physician providers with limited kidney-specific clinical expertise (32.3% of respondents). Primary care physicians indicated that the two most common strategies that would enhance their ability to provide conservative management would be the ability to use the telephone to contact a nephrologist or clinical staff (86.9% and 85.6% of respondents respectively). Important areas were identified to inform clinical programs for supporting primary care physicians' provision of kidney conservative care.

SYSTEMIC INFLAMMATORY RESPONSE IN SENILE PATIENTS AFTER SINGLE-INCISION LAPAROSCOPIC CHOLECYSTECTOMY

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The aim of the study was to compare blood levels of tumor necrosis factor- α (TNF- α), interleukin-1 β (IL-1 β), α 1-antitrypsin and C-reactive protein (CRP) during acute phase of systemic inflammatory response in twenty-eight patients who suffered from chronic calculous cholecystitis and underwent single-incision laparoscopic cholecystectomy (SILC).

Patients were divided into two equal age groups. Youth group included patients aged up to forty-five years old and senile group included patients elder than seventy-eight years. Blood samples were taken from peripheral vein two hours before the surgery and six, twenty-four and forty-eight hours after the surgery.

It was found that the acute phase of systemic inflammatory response after SILC in senile group is differed from the youth group, as it had hyperactivity and delayed ending. TNF- α and IL-1 β increased after surgery if compared to the initial levels in both young and senile patients. The same

results were observed for α 1-antitrypsin and CRP. The study revealed the highest rates of pro-inflammatory cytokines in senile patients comparing to patients from the young group of control after surgery.

PREDICTING HEALTH LITERACY AMONG DISABLED ELDERLY IN KOREA: IMPLICATIONS FOR HEALTH JUSTICE

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Background: Low health literacy is significantly linked to health disparity, and this link is particularly true for the disabled elderly. Despite 90% of the elderly population in Korea have chronic disease, there is limited research investigating health literacy in this population. This study aims to investigate (1) the level of health literacy and (2) factors associated with it among disabled elderly.

Methods: A convenience community dwelling sample of disabled elderly aged 60 and over (N=212) was recruited from Busan, Korea. Health literacy was measured by using 16 items from Chew et al.'s self-reported measure (2004) and Andersen's behavioral model theoretically guided this study (Andersen, 1995).

Results: The participants' average level of health literacy was 3.03 from 1 to 5 Likert scale. About 67% of the participants reported that they had difficulty to understand written health information, while about 71.2% were not confident when filling out medical forms. About 34.9% of the participants reported that they almost always (10.8%) and often (24.1%) had someone help them to read hospital materials. The participants' education, literacy, income, and health care cost were positively associated with health literacy.

Implications: Overall, disabled elderly in Korea reported a lower level of health literacy and this is lower than that of the elderly without disability (3.13) (Kim et al., 2014). Since our finding informed that health literacy is significantly linked to education and literacy, it is important to increase literacy education combined with community-based health literacy programs especially for the disabled elderly with low health literacy.

GERIATRIC HEALTHCARE IN DEVELOPING NATIONS: A REVIEW FROM INDIA

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In the highly populous India, the population above 60 were at 96 million in 2011 or 117 million in 2015, with a rapidly increasing trend. Alongside the demographic transition, there is also an epidemiological transition with increase in non-communicable diseases (NCDs) such as diabetes, hypertension, stroke and heart disease. Lower respiratory infections and diarrhoeal diseases decreased almost 80%, but ischaemic heart disease increased over 20%. For the large number of sick elderly though, geriatric healthcare, research, infrastructure, programs, policy and implementation present big gaps. Geriatrics as a medical specialty too is in its infancy, with only a handful of MD seats and very few geriatric departments across the nation.

Thus, common age-related medical conditions such as stroke and dementia are undiagnosed or underdiagnosed. There is no universal social security such as medicare for the elderly and very few are insured, that too only for acute or in-patient care. Elderly healthcare and its access thus is dismal, especially with disintegration of the traditional joint family system. For the non-working 60 plus, rationing of healthcare and finances has been the norm. This talk will address the lacunae in geriatric diagnoses, policy and implementing healthcare.

SESSION 880 (POSTER)

INNOVATIONS IN RESEARCH METHODS

INVOLVING OLDER ADULTS IN TECHNOLOGY RESEARCH AND DEVELOPMENT (OA-INVOLVE): AGE-WELL

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Background: Maintaining and improving quality of life, safety, security, and independence for the growing older adult (OA) population requires innovative approaches and transdisciplinary collaboration. The development of novel technologies that address the needs and preferences of OAs can benefit from the active engagement of potential target users across the spectrum of technology research and development (R&D), from conceptualization, to formulating the research questions, to prototype testing to commercialization.

Objective: To explore and describe best practices for active OA involvement in technology R&D.

Methods: OA-INVOLVE is one of over 25 projects within the AGE-WELL Network, a National Centre of Excellence focusing on technology and aging. Working closely with an OA advisory group and partner organizations, OA-INVOLVE applies a unique participatory action research approach to document existing OA engagement practices within AGE-WELL and across the broader research community.

Results: Initial findings indicate that the majority of OAs are engaged in projects as study participants; few are involved as advisors or decision makers. We present a framework for OA engagement, including planning, recruitment, training and engagement strategies for OA participation as collaborators, consultants, and co-designers at every stage of technology R&D. We report on facilitators, barriers, lessons learned, and solutions to enhance meaningful engagement of OAs. Our multimedia knowledge dissemination strategy further mobilizes the larger technology R&D community as well as older adults to form effective partnerships.

Conclusions: This work enables us to establish evidence-based models for collaborative participatory work with OAs and describe potential impacts on the research process and associated outcomes.

LEVELS OF OLDER ADULTS' ENGAGEMENT IN TECHNOLOGY RESEARCH, DESIGN AND DEVELOPMENT: A SCOPING REVIEW

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Background: Engaging older adults (OAs) in technology research, design and development is considered to be key in creating products that better fit their needs and preferences. However, engaging OAs, especially persons with mobility, physical or cognitive limitations, often requires employing individualized approaches and flexible ways of participating. Guidelines to support researchers and developers in creating meaningful working relationships with OAs are limited. In order to formulate guidelines facilitating effective OA engagement, we explored practices of conducting technology research and development. Our scoping review summarizes methods used for involving OAs and highlights different levels of their engagement.

Methods: We searched six databases and independently assessed articles for inclusion. A total of 54 articles met the inclusion criteria.

Results: The majority of studies involved OAs as participants in technology or prototype testing; fewer reported engagement in an advisory role or in true partnerships with shared decision-making. Making the research rewarding by catering to the interests and capabilities of the participants and providing adequate information about the technology and research process were essential to improved retention. A constant refinement of the activities and information materials, addressing the levels of the individuals' understanding was also critical. Furthermore, ensuring inclusive and non-exploitative relationships may involve re-consenting OAs at each step of the study or utilising process consent.

Conclusion: Involving OAs in research on a continuum, from conceptualization and technology development to user testing and knowledge translation, albeit time and human resource intensive, leads to social, research and technology development benefits.

DETECTING ASSOCIATIONS BETWEEN CHARACTERISTICS OF WALKING AND AGE USING RAW ACCELEROMETRY DATA

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Various subjective and objective methods have been proposed to measure physical activity. Subjective methods, such as ecological momentary assessment and surveys constitute relatively inexpensive ways of measuring one's physical activity; however, they are riddled with measurement error and bias due to self-report. Wearable accelerometers offer a non-invasive and an objective measure of study participants' physical activity and are widely used in observational studies.

Accelerometers record high frequency data and produce an unlabeled time series at the sub-second level. Since walking is often the only form of physical activity for older adults, it is important to properly identify its quantity (number of minutes per day) and quality (e.g. stability). Most methods use activity summaries which ignore nuances of walking data. Using in-the-lab data from the Developmental Epidemiologic Cohort Study (DECOS, N=49), we propose a statistical methodology to model age (scalar response variable) as a function of subject-specific walking acceleration power spectral density (PSD) estimated from the cadence-normalized domain utilizing functional linear models. Cadence-normalized PSDs provide representation of dynamic gait parameters that are robust to between- and within-subject variability caused by the cadence heterogeneity. We incorporate prior knowledge of walking mechanics as an additional information source in the statistical models proposed. We applied our methods to associate the characteristics of in-the-lab usual-paced 400-meter-walk DECOS data with age. We showed that older age is associated with a number of high harmonics indicating less stable and disrupted walking patterns. Our novel approach will be further applied to predict fall risks and mobility disability.

METHODOLOGY AND RECRUITMENT FOR DEVELOPMENT OF A PAIN MEASURE FOR PERSONS WITH DEMENTIA (PIMD)

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This paper describes the recruitment strategy and sampling plan for a study to develop a multidimensional pain intensity measure for individuals with moderate to severe dementia. Almost 590 nursing home residents from 16 facilities across four states screened eligible (Brief Interview for Mental Status, BIMS < 10) and consent was obtained for N = 208. Participants were 45.8% women, 31% Black/African American with a mean age of 83.9 (range = 50–107) and BIMS = 3.42 (SD = 3.14, range = 0–9). Sampling to observe a range of pain levels – necessary for scale development – was difficult. Pain was generally well-controlled in the recruited sample. Amendments to study methods during data collection were made to increase the number of participants with high pain intensity (e.g., expanded/targeted recruitment; observations at movement; increased frequency of observations). Expert clinicians estimated current pain intensity on a scale from 0–10; indicating a mean of 3.17 (SD = 6.36), mode = 0, median = 1, and range = 0–9. Current pain intensity of 3 or greater was observed in 16% (n = 33) of the final sample. Four facilities with higher rates of current pain (range = 22–25% of participants) were examined for commonalities. Though sample sizes in this four-facility

sub-group are small, thematic observations about researcher access to residents in distress are described (e.g., higher Centers for Medicare/Medicaid Services quality ratings; “outsider” vs. “insider” perceptions of the research team). Strategic approaches are necessary to ensure that recruited study samples reflect clinical populations in long term care settings.

THE USEFULNESS OF LOWER-LIMB MUSCLE ULTRASONOGRAPHY AS A DIAGNOSTIC METHOD OF SARCOPENIA

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The problem in the diagnosis of sarcopenia is that calculated values of muscle mass are dependent on measuring instruments and enough space and time is needed to measure walking speed accurately, and that standard way of measuring muscle mass cannot detect decline of fast-twitch fibers, which is accentuated in age-related sarcopenia. Thus, the method making it possible to diagnose sarcopenia more accurately and conveniently should be required. The goal of this study is to examine the usefulness of lower-limb muscle ultrasonography in the diagnosis of sarcopenia.

The subjects of this study were outpatients or inpatients in our department of Osaka University Hospital who were over 65 years old. Muscle mass, muscle strengths and physical functions including walking speed and balancing ability were measured, and the relationships between these indexes and muscle thickness or echo intensity of lower-limb muscles (TA; anterior tibialis, GM; gastrocnemius, SOL; soleus) using ultrasonography were examined.

102 subjects were recruited in this study and the average of age was 75.6 ± 6.1. There were positive correlations between muscle thicknesses of TA, GM and SOL and knee extensor muscle strength, grip strength and walking speed. Muscle echo intensities of TA and GM were negatively correlated with knee extensor muscle strength and grip strength, however muscle echo intensity of SOL was not correlated with muscle strengths or physical functions.

The measurements of muscle thickness and echo intensity of lower-limb muscles using ultrasonography were useful as a convenient diagnostic method of sarcopenia.

AAA-2016 CONFERENCE IDENTIFIES RAPALOG MILESTONE; NOMINATES EXEMPLARY HEALTHSPAN RESEARCH PROTOCOLS

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Background: Research conferences generally cluster scientists by discipline and limit cross-disciplinary communication. Rushed presentations frequently truncate messages. Travel costs prevent most scientists from ever meeting one another. And delays prior to publication and [sometimes] year-long web-posting embargoes impede the progress we all desire. In some research areas preclinical and clinical trials

have replication problems so severe that the US-National Institutes of Health funded a replication program which then failed to replicate 15 of 16 key studies [see PMIDs: 18838 063,22078760,22134153,22177997]. Because the plenary discussion of the first large-scale healthspan/longevity trial, the TAME trial (Targeting/Taming Aging with MEtformin), was cut short by time constraints, a communication group formed to continue the healthspan-trial-design discussion after the American Aging Association conference (AAA-2016), thereby improving/speeding communication between conferees and with IAGG-2017 and other healthspan-related conferences.

Methods: A brief 6-question survey (Healthspanstudy.com/Survey) invited trial-design recommendations, exemplary protocols, comments on memorable conference moments and research “milestones”.

Results: TAME and rapalog milestones were supported by convincing (>3-to-1) majorities; blueberry-milestone by 1-to-1; exemplary trial protocols included the CALERIE Protocol [www.calerie.duke.edu/files/phase2_protocol.pdf specifically citing research samples now available], the US/NIH Toolbox[NIHToolbox.org], European AGARD STRES battery[www.ncbi.nlm.nih.gov/pubmed/9182033]; high-precision Memtrax.com-memory and Blueberry Study hearing websites.

Main Conclusion: These results represent a rapalog-research milestone “[L]ife expectancy [increased] by more than 50%”[Kaeberlein]; “[R]apamycin can rejuvenate cardiac function, the cardiac proteome, metabolome and energetics”[Rabinovitch group]; RAD001 enhanced human immune-function and reduced impaired T-lymphocyte accumulation with age [Mannick]; “Rapamycin reverses metabolic deficits in Lamin A/C-deficient mice”[Liao & Kennedy]; and reduces A β accumulation and restores AD-like-memory deficits [Husson & Galvan].

SESSION 885 (POSTER)

LGBT AGING AND GENDER

HOME CARE EXPERIENCES OF OLDER LESBIANS: A NATIONAL QUALITATIVE STUDY

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Research has found that lesbian, gay, bisexual and transgender (LGBT) older adults fear what they might experience in accessing long term services and supports (LTSS) and that these fears are often grounded in reported incidents of discrimination. This paper reports on a national study isolating the experiences of older lesbians who have used LTSS (thus women receiving care predominantly from women—often older themselves), to determine if such experiences might be less fraught. Telephone interviews, comprised of open-ended questions, were completed with 20 lesbian women, 65 years of age and older ($m = 71.9$), who had received home care in the previous ten years. Additionally, six informal caregiving partners and five of the study participants’ home care workers were interviewed. Themes emerging from constant comparative qualitative data analysis underscore diverse experiences.

Most study participants did not discuss their sexuality with their workers ($n = 12$), with some considering the information irrelevant to the relationship and others feeling a need to protect themselves from discrimination; a few disclosed their sexuality up front ($n = 4$). A minority experienced homophobic behavior from a home care aide ($n = 6$), while most described their care as non-homophobic ($n = 13$). While many study participants ($n = 16$) had had home care workers with whom they were dissatisfied, ultimately, all but two had also experienced very good care. Study implications outline how the experiences of older lesbians may be unique within the overall LGBT category. Understanding such distinctions is critical in providing culturally competent care.

SOCIAL REPRESENTATIONS OF LGBT AGING: STUDY AMONG LAW, PEDAGOGY, AND PSYCHOLOGY BRAZILIAN STUDENTS

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This study aimed to evaluate and compare the social representations of Brazilian university students (Law, Education and Psychology) on LGBT aging of a private higher education institution in the city of Teresina-PI, Brazil. It also sought to identify the participated and elaborate knowledge of the students about homosexuality in old age and check and compare the social representations about homosexuality. It took part 300 university students (100 of each course), of both genders, with a mean age of 28 years old. It used Free Words Association Test (TALP) Socio-demographic questionnaire and semi-structured interviews, conducted collectively within the educational institution. Data were analyzed with the support of Iramutec software (Camargo & Justo, 2013) through the Analytic Hierarchy Descending, which allows an analysis of lexical roots, considering the word as unit also offers its contextualization in the corpus. The data obtained emerged representations into two antagonistic poles: on the other hand, the right that every individual has to make their independent sexual choices apart of the stage of life they are in, and other, the prejudice suffered by homosexuals, worsening when they are elderly. It was verified that there were social representations of old age LGBT in a negative connotation, and commonly associated with shame, loneliness, suffering and oppression. It emphasizes the need for further study of gender and generation, psychosocial interventions that focus on improving the quality of life of LGBT elderly, and public policies that protect the elderly and especially the LGBT public.

METHODOLOGICAL ASPECTS OF GENDER ON CAREGIVING BURDEN: EVIDENCE FROM 2015 U.S. CAREGIVING DATA

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Although extensive research has investigated gender to predict caregiving burden, methodological challenges

resulting from univariate comparison between men and women need to be overcome. This study adopted a dyadic approach to differentiate gender status and discrepancy to explain the caregiving burden.

Using 2015 National Alliance for Caregiving data (N=1391), we compared caregiving burden models using: (1) a traditional approach that includes separate gender variables of caregivers and care-recipients; and (2) an alternative approach that includes a variable of gender discrepancy, in which caregivers and care-recipients differ. Covariates include caregivers' age and years spent caregiving. Descriptive, univariate, and a series of multivariate linear regression analyses were completed for general caregivers and sub-groups.

Based on adjusted R-squared change, Akaike, and Bayesian information criteria, both models could be considered for general caregivers and non-Hispanic African American caregivers of older care-recipients (aged > 65). The alternative model of gender discrepancy was more appropriate than the traditional model for non-Hispanic Caucasian caregivers of care-recipients with cognitive or emotional problems. Both models aggravated the model fit in non-Hispanic Asian caregivers with younger care-recipients (aged < 65) with behavioral problems. Gender discrepancy had a predictive value for the caregiving burden with a regression coefficient ranging from .278 to .388 ($p < .001$), but separate gender variables did not.

Overall, the model of gender discrepancy is more suggestive to predict the caregiving burden. However, we suggest researchers to consider both the traditional and the alternative model for specific types of caregivers. Primary data collection and in-depth interview are required to confirm our findings.

RELEVANCE OF INTERSECTIONAL APPROACH TO UNDERSTAND AGING AMONG ELDERLY IMMIGRANT WOMEN

M. Charpentier, 1. *Social Work, UQAM-University of Quebec in Montreal, Montreal, Quebec, Canada*, 2. *Research Chair on Aging and Citizen Diversity, Montréal, Quebec, Canada*

This poster will present some of the results of a qualitative research aimed to analyze the experiences of aging among older immigrant women in Montreal, Quebec (Canada).

The sample included 83 women aged 65 years and older with diverse variables such as: age, ethno-cultural background (Arab, African, Haitian, Japanese, Romanian, etc.); timing of migration (during youth, adulthood or retirement) and immigration status. Each focus group consisted of 3–6 women sharing the same ethno-cultural background and speaking the same language, but having varied characteristics in terms of marital status, education, income and migration patterns.

Results show that immigration brings changes to women. These women demonstrate resiliency and great capacity for adaptation. For them, aging is not conceptualised and lived in terms of losses, far from it; they speak about it more in terms of gains in regards to identity and liberty. Migration has allowed them to age in a safer environment but also for the majority to feel freer as a woman, free to be themselves, to dress as they wish, to go out alone. Migration has opened opportunities for personal development and self-affirmation.

Aging is also accompanied by significant challenges for women arising from a triple discrimination; ageism, sexism and racism whose socio-economic conditions are particularly present in women of an advanced age especially when they migrated at an older age. The findings presented demonstrate the relevance of the intersectional approach in understanding the complexity and social conditionings of women's life courses.

A TIME SERIES ANALYSIS OF THE CORRELATION BETWEEN WIDOWHOOD AND THE ECONOMIC STATUS OF ELDERLY WOMEN

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Millar (1996) has mentioned that there are 'gender dimension of poverty' so that it leads the economic dependence of the wife on her husband. Older women without a spouse are more likely than men to face threats to their economic security. This study used data from Korea Welfare Panels (KOWEPs). KOWEPs is the largest panel study in Korea that allows long-term samples from 2006 to the present. In this study, descriptive analysis have been performed for 297 elderly women who were married from the ten waves (2006–2015) of the KOWEPs. Hierarchical Linear Model (HLM) and Hierarchical Generalized Linear Model (HGLM) were conducted for the adjusted household income and the poverty status. Women over 60 year-old and married in 2006 were included. The dependent variable is income, consumption, poverty status. The independent variable is marital state (married=0, spouse loss=1), age, education, living area, health condition, employment statement, child co-residence, employment status. *The changes in the marital status do not have significant effects on household income changes of elderly women nor increase the risks of living in poverty for elderly women in Korea.* These results, which are contrary to those of existed foreign studies reporting negative impacts of widowhood on the economic status of elderly women, would be due to strong dependence on private transfers from their children and comparatively greater impact on co-residence with children on the economic status of elderly women. In the future, there's need of enhancing and redesigning public income security policy focusing on women in Korean context.

MENTAL HEALTH RESILIENCE IN OLDER CHINESE WOMEN

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Nearly all older women across China are dependent on family support due to limited income to support for their retirement years. Declines in family size and migration strains that family dependence. Older women offer a unique perspective as they generally played a key role in their families lifelong and generally depend on social support from their family and close friends in older age to cope with any limitations they face as a result of age-related changes in their health and functional ability. We examine the research question which factors predict mental health resilience in older women using the Third wave of the 2010 Female Social Status Survey conducted by the

Women's Federation (n=3,527). Regression models exploring predisposing, supportive and health need variables were tested using SPSS version 22 exploring an 8 question mental health scale. Results showed that living with a spouse was not a significant predictor of mental health for women, while it was for men ($b=-1.2$, $p<.01$), income was significant only for women ($b=-.71$, $p<.01$), ownership of property only for men ($b=-.96$, $p<.05$), whereas women's mental health is more strongly predicted by current exercise ($b=-.89$, $p<.01$) and participation in leisure activities ($b=-.69$, $p<.001$). Policy making and implementation should do more than assess gender differences, but also mitigate the negative impacts on both genders with the help of the policy lever. Even under the current situation, it should play some role in protecting older women to compensate for the impacts of cumulative disadvantage on their later life.

SESSION 890 (POSTER)

ORAL HEALTH

ASSOCIATION BETWEEN SATISFACTION WITH ORAL HEALTH AND DEMOGRAPHIC CONDITIONS IN MEXICAN ELDERLY

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Objective: To determine association between satisfaction with oral health and demographic conditions in Mexican elderly. **Methods:** A randomized cross-sectional study was conducted with data from the Survey of Health, Welfare and Aging. Project coordinated by the Pan-American Health Organization. This study included 1547 participants, men and women cognitively healthy 60 years and over living in the metropolitan area of Guadalajara City. Data were collected by examiners trained and calibrated at participants' homes and included an interviewer-administered structured questionnaire with items on socioeconomic variables, etc. To measure satisfaction with oral health, the Geriatric Oral Health Assessment Index [GOHAI] validated and translated in Spanish language was applied. This questionnaire is a Likert scale of 12 items, is scored: Always, often, sometimes; rarely and never. The total score ranges from 12 to 60 points. A score below 57 is considered as an indicator of dissatisfaction with oral health. The GOHAI values Oral health-related quality of life in the context of older people. Descriptive statistics and Chi square test was applied to analyze data for sex, age and GOHAI. Two age groups of 60–74 and 75–102 years were created. **Results:** 983 women (63.6%) and 564 men (36.4%). (Mean age 72.5 ± 8.4 years). The sample had an average value of GOHAI (53.32 ± 7.3) which means a moderate satisfaction with oral health. No significant differences were observed in relation to sex and GOHAI $p > 0.05$, but if for age, showing less satisfaction with their oral health the group of 60–74 years old; $p = 0.0001$ with 95% confidence. **Conclusions:** The participants perceive a moderate dissatisfaction of their oral health. The youngest group (60–74 years old) had less oral health satisfaction.

PREDICTORS OF CHEWING DIFFICULTIES AMONG COMMUNITY-DWELLING OLDER ADULTS IN KOREA

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Chewing difficulties in older people associated with not only poor health status but also risk of mortality. The purpose of this study was to identify the prevalence and the predictors of chewing difficulties among community-dwelling older adults. This study used the sixth Korea National Health and Nutrition Examination Survey (KNHANES) conducted in 2014. Of the total 7,550 participants in the sixth KNHANES, data from 1,340 older adults aged over 65 years olds were used for analysis. Chewing difficulties was assessed by the self-report for having chewing problems. Mean age of the participants was 72.70 ± 5.60 and a total of 62.7% of the older adults reported having chewing difficulties. 78.4% and 31.9% were reported having perceived poor oral health and having oral pain, respectively. In logistic regression, education level (OR=1.51, 95% CI= 1.02–2.24), perceived oral health (OR=3.18, 95% CI=2.12–4.76) and oral pain (OR=2.03, 95% CI=1.47–2.81) were the significant predictors of chewing difficulties among community-dwelling older people. In conclusion, the prevalence in chewing difficulties was fairly high in Korean older adults, and education level, perceived oral health, oral pain were associated with chewing difficulties. To improve chewing ability, strategical oral health program is needed in this population.

RELATIONSHIP BETWEEN SARCOPENIA AND CHEWING ABILITY IN JAPANESE COMMUNITY-DWELLING ELDERLY

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Purpose: In old age, one of the most important factors to maintain chewing ability is the number of remaining teeth. Although in recent years elderly people increasingly tend to have greater remaining teeth, chewing ability decreases with age. Therefore, this study investigated the relationship between sarcopenia and chewing ability in addition to determining chewing ability related factors. **Methods:** A total of 1097 participants (445 men and 652 women, aged 74.8 ± 6.1 years) who attended the comprehensive survey for early detection and treatment of geriatric syndrome were selected in this study. We defined sarcopenia according to EWGSOP, and adopted the cut-off value according to AWGS. The logistic regression analysis was performed to determine the association of the occlusal force with each factor for sarcopenia. **Results:** Of the participants, 13.6 % were classified as sarcopenia. As a result of the logistic regression analysis, the decrease in the occlusal force was associated with the number of remaining teeth (OR: 0.86, CI = 0.85–0.88), the presence of sarcopenia (OR: 2.04, CI = 1.26–3.32), and the presence of medication (OR: 1.48, CI = 1.09–2.02). **Conclusion:** This study suggests that sarcopenia is related to chewing ability, even after controlling for known chewing ability related factors. As a background of this result, there might be a possibility that sarcopenia influences masticatory muscles. The present results suggested that sarcopenia, and

not only number of teeth, is an important factor in maintaining chewing ability among community-dwelling elderly people.

THE RELATIONSHIP BETWEEN ALZHEIMER'S DISEASE AND ORAL HEALTH: A SCOPING REVIEW

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A growing number of elderly will be diagnosed with Alzheimer's disease (AD), and although AD is recognized as a debilitating illness with no cure, limited attention has been paid to the implications of poor oral health for those with cognitive impairments such as AD. Oral health care is often not appropriately assessed by carers for those with AD and as such those with AD are at greater risk for oral diseases. A scoping review was conducted to synthesize the available literature on AD and oral health. With the assistance of a professional librarian, an exhaustive database search using keyword strings yielded 6000+ articles. Abstracts were manually curated and 110 studies which fulfilled inclusion criteria were fully analyzed. Studies of AD and oral health identified outcome and quality-of-life differences between community dwelling patients versus those in long-term care (N=34), implications of tooth-loss (n=13), influence of medications (n=11), assessment strategies (n=22), and mortality risk (n=30). Findings indicate that those in institutional settings have poor oral health; that the severity of AD may lead to deterioration of oral health and that the reverse association may also exist; that individuals with the fewest teeth had the highest risk of AD; and that women with AD had better oral health than men. The findings from this scoping review highlight that poor oral health for AD sufferers may have far-reaching implications and that greater research and practice focus on assessment in institutional settings will be needed in this area.

POOR ORAL CONDITIONS ARE RELATED TO THE DECLINE OF ORAL DIADOCHOKINETIC RATE AMONG JAPANESE ELDERLY

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Purpose: There are few studies that have reported the prospective change of Oral diadochokinetic (ODK) rate. We studied the association between the 1-year change of ODK and dental status among the elderly living in rural Japan.

Subjects and Methods: A total of 268 Japanese residents aged >65 years (mean age = 74.5) participated in this study. ODK was measured by having subjects repeat the phonetic sounds /pa/, /ta/, /ka/, and /pataka/ for 5 s each. The tooth and periodontal status as well as intraoral cleaning habits were assessed. We analyzed the change in ODK rate over 1 year and compared tooth and periodontal status and intraoral cleaning habits between subjects that had declining ODK and those that had maintained their ODK rates.

Results: The number of subjects that showed decreased ODK by 5 points in score was 58 (21.6%) in /pa/, 49 (18.3%) in /ta/, and 46 (17.2%) in /ka/. In total, 64 subjects (23.9%) had decreased ODK by 2 points of /pataka/

over 1 year. Subjects in the declining /pataka/ group had a significantly higher number of untreated teeth than those in the maintained /pataka/ group ($p < 0.05$). The decline of /pa/ was significantly associated with the presence of periodontal diseases and low awareness in oral cleaning habits ($p < 0.05$).

Conclusion: Decreasing ODK for 1 year was found in approximately 20% of Japanese elderly residents. Furthermore, the results suggest that poor oral conditions and cleaning habits have been closely related to the decline of ODK.

EFFICACY OF PROPOLIS ON DENTURE STOMATITIS IN OLDER ADULTS: A MULTICENTRIC RANDOMIZED TRIAL

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Our hypothesis tested the efficacy and safety of standard formulation of Brazilian propolis extract gel compared to miconazole oral gel for the treatment of denture stomatitis due *Candida spp* infection in older adults. A total of 40 older patients were randomly allocated in a non-inferiority clinical trial (NCT02818803) into two groups. The control group (MIC) received 20mg/g miconazole oral gel and the study group (PROP) received mucoadhesive formulation containing standardized extract of 2% propolis (EPP-AF®) during 14 days. Patients were examined by a dentist on days 1, 7 and 14. The Newton's score was used to assess the denture stomatitis. The colony forming unity count (CFU/mL) was quantified and compared before and after the treatment (days 1 and 14). Age, gender, duration of complete denture's use, baseline Newton's score, and baseline CFU/mL did not differ between groups. Both treatments reduced the Newton's score ($P < 0.0001$). Miconazole, but not propolis, reduced the CFU (6.2×10^3 vs. 10 CFU/mL, D1 vs. D14; $P < 0.001$). The candidiasis cure rate, defined as both absence of oral lesions and a negative culture for *Candida*, was only 30% for miconazole and 20% for EPP-AF® group. Both treatments resulted in improvement of the clinical symptoms of candidiasis, showing a clinical cure rate of 0.60 for miconazole and 0.50 for propolis. No serious adverse events were observed in neither group. The EPP-AF® appears to be non-inferior to miconazole considering the clinical cure rate and could be recommended as an alternative treatment for oral candidiasis in older patients. Financial support: FINEP(Brazil)/CNPq

SALIVATION DISORDERS IN ELDERLY PATIENTS

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Saliva possesses many important functions including antimicrobial activity, pH balance, lubrication, remineralization and mechanical cleansing of the oral mucosa. Xerostomia results from reduced or absent saliva flow. Its prevalence increases with age and is approximately 30% in patients over 65 years. Numerous medications include xerostomia as side effect. Dry mouth has multiple oral health consequences and affects quality of life. Oral candidiasis is one of the most common oral infections seen in association with xerostomia.

Methods: We recorded systematic anamnesis about swallowing difficulties, taste modification, dry mouth sensation, and results of oral dysphagia and mouth clinical examination.

Results: Forty-one patients were admitted consecutively in an acute geriatric unit. Median age was 86 (range: 76–99), and 80% of the patients were female. The median number of drugs lines was 8 (range 1–17). Thirty-one patients (76%) complained of xerostomia, 19 (46%) for more than 3 months, 27 (66%) need liquids to swallow dry foods, 16 (39%) feel swallowing difficulties, while 11 (37%) had a real dysphagia screened by a speech therapist. Oropharyngeal candidiasis was found in 14 patients (34%). Patients with MNA-confirmed risk of malnutrition complained more of xerostomia. Only red depapillation had significant statistical association with candidiasis. Antibiotics, opioids and diuretics showed an increased trend to xerostomia.

Conclusion: Xerostomia and oropharyngeal candidiasis can be frequently symptomatic in the elderly, who are particularly frail and challenged by polypharmacy and multiple comorbid conditions. Physicians should be aware of oral health and drug related salivation disorder.

IDENTIFYING ORAL FUNCTION AS AN INDEXING PARAMETER FOR DETECTION OF MILD COGNITIVE IMPAIRMENT

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Objectives: We examined the association between MCI and oral cavity conditions (e.g., oral hygiene and compromised oral function). In addition, we developed a screening index to identify MCI, focusing on oral assessment.

Methods: A total of 5,104 elderly people living in a community in Japan were classified into 930 people with MCI and 2,669 without MCI, and analyzed for relevant factors.

Results: Both the men and women with MCI showed significantly lower levels of the following: the number of the functional teeth; number of the remaining teeth; oral diadochokinesis (ODK) /Pa/Ka/; palpation of masseter muscle tone ($p < 0.01$). As a result of discriminant analysis between two groups of MCI, MCI and non-MCI groups a significant association was observed in age, sex, educational background, grip strength, Geriatric Depression Scale, Mini-Mental State Examination, history of cardiac disease, albumin level, and ODK /pa/ as assessment of the oral function. Although the proper diagnosis rate of our screening index for MCI was not as high at 0.63, it was in the acceptable range as a screening index because it is possible to increase sensitivity.

Conclusion: The results of our study showed a possibility that lip movement might have been impaired in patients with MCI. Impairment of movement of the lips may occur before oral hygiene worsens or chewing ability is impaired. This index may support early detection of MCI, and be one of the keys to prevent dementia. Also it may provide information which is useful to establish effective prevention strategy.

ADMINISTRATIVE PERSPECTIVES ON INTERPROFESSIONAL ORAL HEALTH EDUCATION IN LONG-TERM CARE SETTINGS

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The WHO has recognized the importance of older adult oral health as a global health issue of concern. Responding to the global call-to-action to improve older adult oral health, Lunder-Dineen Health Education Alliance of Maine and an advisory team have established MOTIVATE: Maine's Oral Team-Based Initiative: Vital Access To Education project; an interprofessional, evidence-based, and sustainable educational model to enhance oral health care in long term care (LTC). MOTIVATE training curriculum was formulated based on a needs assessment study administered at six LTC pilot sites. Administrative staff (N=51) were surveyed to assess oral health practices, training priorities, and their relationship to organizational mission. Respondents indicated oral health training fits with their organizational mission as it relates to: 1) providing high quality care (98%); 2) advancing resident and family satisfaction (94%); and 3) embodying resident and family-centered care (90%). Barriers to the provision of preventive oral care included resident behavior (85%), lack of staff training (70%), and lack of access to an oral health provider (62%). Varying levels of knowledge of interprofessional care roles were reported with 26% disagreeing that every healthcare team member has a clear role in oral care provision. Staff do not generally receive oral health training at the start of their employment (57%) or follow-up trainings (68%) leaving room for additional oral health training in LTC settings. Recommendations include framing oral health in terms of its fit with organizational mission, the need to increase understanding of oral health interprofessional roles, and increase opportunities for LTC staff training.

EFFECT OF ORAL HEALTH CARE ON HYPERSENSITIVITY SYNDROME AMONG THE ELDERLY IN LONG-TERM CARE

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Background: There are some elderly people with hypersensitivity syndrome (HS) showing symptoms, such as thrashing one's arms and legs, and frowning up one's faces. In addition, HS is difficult for care-givers to implement oral health care for elderly people. The purpose of this study was to examine the effect of hypersensitive removal care on HS, that is one of the professional oral health care. **Methods:** From 80 residents of nursing home in Tokyo, we selected 14 residents (1 men and 13 women; mean age: 90.6 ± 4.5 y) who had HS. The participants were randomly divided into two groups: intervention ($n = 7$) and control groups ($n = 7$). The intervention group was with usual care by the facility staff and hypersensitive removal care by dental hygienists twice a week for 3 months. The control group was with only usual care by the facility staff. We counted places of HS on the face and in the mouth before and after the

intervention (0 - 9). **Results:** There were no differences in the participant characteristics between two groups at baseline. In the intervention group, the HS numbers significantly improved after the intervention (1.7 ± 2.1) as compared to the baseline (3.6 ± 1.5). In the control group, there was no significant change in the HS numbers. **Conclusions:** The present study suggested that hypersensitive removal care was effective for elderly people in long-term care. Therefore, this technique can contribute to not only easing their discomfort but also reducing the burden of care-givers.

SATISFACTION WITH DIETARY LIFE AFFECTS SUBJECTIVE WELL-BEING IN VERY ELDERLY PEOPLE

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Age-related deterioration in physical condition and oral health in very elderly people are important problems that decrease healthy life expectancy. We investigated the effects of satisfaction with dietary life (SDL) in everyday life on subjective well-being in very old individuals. We evaluated 426 elderly individuals aged 85 years or older. All participants completed a questionnaire and oral, physical, and mental health examinations. The comprehensive oral health assessment consisted of a face-to-face interview, including a questionnaire about SDL and subjective well-being.

The relationship between the results of the questionnaire about SDL and subjective well-being were confirmed using a multiple logistic regression analysis. In the multivariate model adjusted for age, gender, drinking status, BMI, cognitive function, disability, physical performance, and comorbidity, participants who answered "enjoyable" with regard to SDL had a significantly lower risk for getting the lowest scores on the PGC and WHO-5 (OR = 0.589, 95% CI = 0.348–0.996; OR = 0.452, 95% CI = 0.263–0.775, respectively). After further adjustment for number of teeth present, the association was generally maintained. SDL was significantly associated with subjective well-being, even after adjusting for potential confounders, such as age, drinking habits, cognitive function, physical fitness, presence of disease, and loss of teeth. Based on these results, dental professionals must contribute to the lives of very elderly individuals in order to maintain oral function.

SOCIOECONOMIC DIFFERENCES IN RECENT USE OF DENTAL HEALTH SERVICES AMONG ELDERLY INDIVIDUALS

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Objective: Assess the prevalence of recent use of dental services and its association with sociodemographic factors among community-dwelling elderly individuals from Brazil. **Methods:** This was a cross-sectional study with data from the last Oral Health Survey conducted in the State of Minas Gerais, Brazil. The sample was representative of people aged 65–74 years living in Minas Gerais. The dependent variable was "recent use of dental services" (last dental visit ≤ 2 years). Independent variables included: sociodemographic factors (age, gender, education, household income, skin color); clinical measures of oral health (number of teeth, need for dental

treatment, prosthetic use, need for prostheses). The independent association between the use of the dental services and sociodemographic variables was assessed by multiple logistic regression. **Results:** The prevalence of recent dental appointment was 36.7%. According to the adjusted analysis recent use of dental services was independently associated with schooling. There was a positive gradient showing increasing chances of recent use with increasing number of schooling years. Higher chance of recent use was also observed among elderly individuals in need for dental treatment, whereas individuals in need for dental prosthesis had lower chance of recent dental appointment. **Conclusion:** Recent use of dental services among these elderly individuals is low and is related to socioeconomic inequalities.

THE MOUTH MATTERS: CHARACTERIZATION OF ORAL MICROBIOTA IN NURSING HOME RESIDENTS

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Oral health in aging is recognized as an increasingly important area of research endeavor. Over 700 bacterial species have been detected in the mouth. However, the relationship between oral commensal bacterial community (microbiota), aging, and health still remain unclear. A microbiota is the ecological community of commensal, symbiotic and pathogenic microorganisms that literally share our body space that controls the human body in health and disease. The link between intestinal microbiota and health is well studied using the new technology of microbiome analysis.

To elucidate potential associations between oral microbiota, aging, and health, we conducted microbiota analyses using salivary samples from 16 independently living older adults (aged 83 to 93 years old), 15 nursing home residents (aged 68 to 101 years old), and 17 young, healthy controls (aged 25 to 53 years old). Genomic DNA was extracted from each salivary sample for bacterial identification.

We found that microbial composition among three groups was significantly different at the phylum, which has potential implications for human health and aging. The change of bacterial composition itself is not important, however, the reduced microbiota diversity is possibly the result of increased frailty, that indicated by numerous previous reports. For example, loss of gut microbiota diversity is known to associate with aging or frailty.

Besides, saliva may be preferable for assessment of microbiota in older individuals due to its ease of sampling. It was previously reported that both gut and oral microbiota showed universal dynamics, potentially indicating similar mechanisms for imbalance of bacterial composition.

ORAL HEALTH INTEGRATION IN LONG-TERM CARE SETTINGS: LESSONS FROM A VIRGINIA PILOT PROGRAM

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Meeting oral health needs of older adults in Long-Term Care (LTC) settings means addressing unique challenges and disparities for this population. The Virginia Dental Association (VDA) LTC Access to Care Work Group facilitated a one-year pilot program integrating oral healthcare professionals into two public LTC facilities to demonstrate cost-effectiveness and benefits of ensuring preventive and referral oral health services into the LTC setting. A Registered Dental Hygienist and a Dental Assistant staffed the pilot program, providing training to direct support staff on oral disease/hygiene and recording oral health status, treatment indicated and rendered, and oral health-associated hospitalizations throughout the pilot program in order to raise the value placed on oral health in LTC settings, improve oral health of LTC residents, and demonstrate reduced morbidity and cost of oral health-related ailments/hospitalizations. To qualitatively assess the pilot program and inform the broader discussion on best practices for integrating oral health programs into LTC settings, VDA LTC Access to Care Work Group members and pilot program staff were interviewed. Key challenges and opportunities for integrating oral health services into LTC settings exist both on the direct care provision and administrative level. The novel Community Dental Health Coordinator (CDHC) may be a suitable catalyst to address recommendations emerging from pilot program. Continued collaboration between oral healthcare and LTC professionals as exhibited in this pilot program will strengthen and improve the LTC infrastructure in valuing and improving oral health for older adults.

SESSION 895 (POSTER)

PHYSICAL ACTIVITY AND EXERCISE II

FOUR-YEAR TRAJECTORIES OF PHYSICAL HEALTH IN CANADIAN SENIORS

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Seniors are living longer and many experience what is called Healthy Aging, an aging process without significant impairment. However, the vast majority of older adults will have some degree of limitations. In order to develop successful healthcare strategies it's necessary to understand the dynamics of aging. The global aim of this study was to describe trajectories of physical health over a 4-year period among a Canadian senior population and to identify factor's associated with deteriorating health.

Between 2004 and 2009, the Quebec Longitudinal Study on Nutrition and Successful Aging (NuAge) recruited 1793 seniors. Participants were assessed annually, for up to 4 years, including socio-demographic characteristics, comorbidities,

medication, physical function, cognition, health behaviors, social environment, and health status. Physical health was assessed using the SF-36 Physical Component Summary (PCS). Group-based trajectory modelling (GBTM) was used to create group individuals with similar physical health trajectories. Logistic regression was used to identify predictors of physical health deterioration among those with excellent or very good physical health.

From the sample of 1793 seniors (853 men, 940 women; mean age 74 ± 4 years), 6 unique trajectories of physical health were identified. Three groups started at values well below Canadian norms but this poor physical health remained stable over time. Three groups ($n=869$) had values above the norm and 1 showed persistent excellent health (PCS intercept = 55); 2 groups started with very good physical health (PCS intercept = 52) but 1 showed a drastic deterioration. Among those with starting out with excellent or very good health, three factors predicted membership in the deteriorating group: (i) heavier body weight (OR = 1.31 per 30kg. difference; 95%CI 1.12–1.78);(ii) more depressive symptoms (OR per symptom = 1.08; 95%CI 1.03–1.15); whereas (iii) higher physical activity (PA) protected against deterioration (OR = 0.69 per 30% more PA; 95%CI: 0.48–0.97). In conclusion, inactive, seniors with excess weight and depressive symptoms do not age well. These should be targets of preventive health strategies.

ASSOCIATION OF MULTISITE CHRONIC MUSCULOSKELETAL PAIN WITH PHYSICAL ACTIVITY IN ELDERLY

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To our knowledge, no study focus on number and severity of pain about the association between pain and physical activity. The purpose of this study is to investigate the association of the number of chronic musculoskeletal pain and pain severity with objectively measured physical activity in community-dwelling older adults. In this cross-sectional study, 231 community-dwelling older adults in Japan (mean age: 74.9 years, women: 71.0%) were recruited. Exclusion criteria included a score of <18 in the mini-mental state examination (MMSE), broken or lost accelerometer, not meeting criteria to wear accelerometer and not having completed all clinical examinations. Participants were asked to wear uniaxial accelerometer (Kenz Lifecorder EX; Suzuken Co, Ltd, Nagoya, Japan) for one week in order to assess steps, light intensity (1.5–2.9 METs) and moderate intensity (3.0–5.9 METs) of physical activity. The number of chronic musculoskeletal pain was assessed by counting the number of chronic musculoskeletal pain locations, and was categorized into three groups (no pain, one site and multisite). Pain severity was assessed using subscale of Brief Pain Inventory and was categorized into tertile. Linear regression models showed that significant association of multisite chronic

musculoskeletal pain with low steps and low moderate intensity of physical activity even after adjustment with age, gender, education, obesity, smoking status, alcohol consumption, MMSE, depressive symptoms and analgesic medication use [steps: $\beta = -1209.53$, $p < 0.05$; moderate intensity: $\beta = -8.72$, $p < 0.05$ (reference: no pain)]. Multisite chronic musculoskeletal pain may effect on physical activity.

STEP COUNT ACCURACY AND RELIABILITY FROM ACTIVITY MONITORS WORN BY MOBILITY-INTACT OLDER ADULTS

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Accurate and reliable measurement of physical activity is necessary to assess adherence to and effects of physical activity interventions within a growing population of physically inactive older adults. The STRIDES Study was designed to determine accuracy (criterion=tally counter) and reliability (test-retest) of step counting in mobility-intact older adults from six wearable activity monitors (Fitbit Charge, Fitbit One, Garmin Vivofit2, Jawbone UP2, Misfit Shine, and New-Lifestyles 1000 pedometer). Participants ($n=10$, 69–80 years) completed a continuous 400-meter walk (average speed 1.3m/s), a non-continuous 400-meter walk (1.1m/s) designed to mimic daily walking patterns incorporating small disturbances, and two 100-step reliability walks. For the continuous walk, five monitors had small mean errors less than $\pm 5\%$ (One -0.3% , 95%CI= $-0.4\text{to}-0.2\%$; Vivofit2 -0.6% , CI= $-1.4\text{to}0.2\%$; UP2 -3.2% , CI= $-5.7\text{to}-0.6\%$; Shine 0.5% , CI= $-6.3\text{to}7.4\%$; New-Lifestyles -0.7% , CI= $-1.1\text{to}-0.3\%$) while error for the Charge was larger (-7.7% ; CI= $-17.1\text{to}1.6\%$). Step counts from the One, Vivofit2 and New-Lifestyles were strongly correlated with criterion ($r \geq 0.95$). For the non-continuous walk, the One, Vivofit2, and Shine had small errors less than $\pm 5\%$ (-4.4% , CI= $-5.4\text{to}-3.5\%$; -4.2% , CI= $-8.1\text{to}-0.2\%$; -1.4% , CI= $-5.6\text{to}2.8\%$), while errors for the Charge, UP2 and New-Lifestyles were larger (-8.1% , CI= $-15.5\text{to}-0.6\%$; -6.3% , CI= $-10.6\text{to}-2.1\%$; -6.2% , CI= $-11.4\text{to}-0.9\%$). Only step counts from the One were strongly correlated with criterion ($r=0.95$). The Charge, One, Vivofit2, and New-Lifestyles were reliable with no significant differences in step counts between trials, while the Shine and UP2 were unreliable (mean differences between trials of 25.6 and 14.6%, $p < 0.05$). In summary, we found that most activity monitors were reliable and accurate for step counting in older adults during continuous walking, while accuracy of some monitors was compromised during non-continuous walking.

REACH FOR AN ACTIVE LIFESTYLE: PROGRAM FEASIBILITY AND PARTICIPANT PERCEPTIONS

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Return to Everyday Activities in the Community and Home (REACH) is an active living model targeting adults around retirement age. The gradual progression of the REACH program and its evidence-based foundation support the main principles of the model: sit less, move more and be strong. Our overall aim is to scale up the program; in this feasibility study we included women 55 years+ who attended a 6-week community-based group program (2-hours/session) to test key implementation factors and selected health outcomes. Participants provided feedback after each session, and additional information via semi-structured interviews at baseline, 3 and 6 weeks. They also completed questionnaires on habit formation, and exercise identity and confidence. We report all values as median (IQR). There were 10 women who completed the program, aged 64.1 (8.3) y, BMI 24.8 (4.7) and 9714 (4111) baseline steps/day. Participants attended 5(1)/6 sessions; they rated sessions as 5.94 (0.59)/7 and presentation/group facilitation as 6.19 (0.51)/7. For habit formation (pre-post: 7 point scale) they had an increase of 0.75 (2.35) point for breaking up prolonged sitting, 0.97 (1.26) point for physical activity and 1.03 (1.54) point for balance and strength activities. At final assessment, participants reported a very high level of confidence in their ability to use what they learned in daily life routines.

GAIT ADAPTATIONS AND DORSIFLEXION STRENGTH OF OLDER CARIBBEAN AMERICANS AFTER AN EXERCISE PROGRAM

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Older Caribbeans are migrating to the US in increasing numbers. They have difficulty integrating and often become isolated and deconditioned. The objective of this pilot study was to evaluate the feasibility and effects of an exercise program on walking during street crossing situations and on the dorsiflexion strength of older Caribbean Americans. Ten older Caribbean Americans completed a 30 to 40 minutes long group exercise program twice a week for 6 months with assessments at baseline, 3 and 6 months including measures of walking velocity, cadence, step length, base support, swing and stance time, single and double support time, knee flexion, and dorsiflexion strength. Participants walked 3 times at preferred speed (reference to normalize the street crossing simulations), and at simulated street crossing with regular time and with reduced time. There were no significant differences between street crossing conditions at baseline, but there were significant differences between conditions at 3 and 6 months for velocity ($P < 0.005$) and peak knee flexion ($P < 0.013$), and at 6 months for cadence ($P = 0.009$), step length ($P = 0.012$), swing time ($P = 0.045$), single ($P = 0.036$) and double support time ($P = 0.013$). Dorsiflexion strength at 6 months was significantly higher than during baseline ($p < 0.001$) and 3 months ($P = 0.004$). The program was feasible, acceptable, and showed some positive effects on walking and knee flexion during street crossing situations, and on the dorsiflexion strength.

BALANCE AND MOBILITY PRE-AND POST-TREATMENT WITH VIRTUAL REALITY OF OLDER LIVING AT NURSING HOMES

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Falls are common among older people needing health care and are a serious public health problem in this population. Studies indicate that about 50–66% of people over 65 years who live in the nursing homes fall annually. Often, institutionalized older have fewer opportunities to participate in activities and tasks of daily living, having a higher deleterious effects in the physiological losses from aging, compromising gait and balance. Postural balance training involving new technologies can promote challenging situations for the older, increasing patient motivation and adherence to the program. The aim of this study was to evaluate the effects of virtual reality training on the static balance and mobility of older living at nursing homes. Five institutionalized older participated in the study and were submitted to 12 weeks of virtual reality training (Nintendo Wii® Balance Board). The static balance was assessed using a force platform (eyes open and closed base). Were used the total path length (cm), the mean velocity (cm/s) and the 95% of the ellipse area to measure the subject's stability. The mobility was assessed by TUG test. The results showed a decrease of TUG values pre and post-treatment (17.3 ± 4.3 and 14.7 ± 4.7 , $p=0.19$). The static balance showed decrease pre and post-treatment in total path length (61.3 ± 18.7 and 59.8 ± 16.3 , $p=0.86$) and mean velocity (2.08 ± 0.62 and 1.99 ± 0.54 , $p=0.75$), but not in the 95% of the ellipse area (5.5 ± 2.96 and 5.7 ± 1.7 , $p=0.87$). The results showed that the treatment with virtual reality can increase the balance and mobility of institutionalized older patients.

THE DISTRIBUTION OF SEDENTARY BEHAVIOR AMONG OLDER U.S. ADULTS BY AGE AND GENDER: IDENTIFYING RISK

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Background. Sedentary behavior is a risk factor for and marker of poor health, independent of activity participation. Older adults spend the majority of time sedentary making this behavior a critical target for successful aging. The purpose of this study is to provide older adult normative data for sedentary behavior by age and gender, identifying the least and most sedentary patterns for each group as a reference to gauge risk.

Methods. We used hip accelerometry data from the nationally representative National Health and Nutrition Examination Survey (NHANES) sample from 2003–2006 to examine the distribution of average daily minutes of sedentary behavior among older U.S. adults. Sedentary behavior was defined as fewer than 100 counts per minute. The average number of minutes spent sedentary per day were calculated for the most sedentary quartile, the least sedentary quartile, and the middle quartiles for each age category (65–69, 70–74, 75–79, 80–85) by gender.

Results. Sedentary behavior increased with age and was higher among men than women. The most sedentary quartiles for each age group (youngest-oldest) spent an average of 659–709 minutes and 620–694 minutes per day sedentary for men and women, respectively. The least sedentary quartiles for each age group (youngest to oldest) spent an average of 376–419 minutes and 326–396 minutes per day sedentary for men and women, respectively.

Conclusions. Approximately 2–2.5 hours of sedentary time per day differentiated the most and least sedentary quartiles from the middle quartiles in each age/gender group. This reference can help identify individual risk relative to peers.

CHANGES IN COGNITIVE FUNCTION AFTER EXERCISE INTERVENTION AMONG COMMUNITY DWELLING OLDER ADULTS

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Background: Low cognitive function is a risk factor for mobility disability and low physical activity. The purpose of the study was to investigate the changes of cognitive function after 12 weeks of resistance training among healthy community dwelling older adults in Iceland. **Methods:** Subjects ($N=236$, 73.7 ± 5.7 years, 58.2% female) participated in a 12-week resistance exercise program (3 times/week; 3 sets, 6–8 repetitions at 75–80% of the 1-repetition maximum), designed to increase strength and muscle mass of major muscle groups. Body composition, physical activity status, cardiovascular risk factors, 6 minute walk for distance (6MWD), and Mini Mental State Examination (MMSE) were measured at baseline and endpoint. **Results:** The mean MMSE at baseline was 27.5 ± 2.1 , and the MMSE score significantly increased (change of score, 0.53) after the exercise intervention. However, at the individual level, half of the study subjects improved their cognitive function while the other half had the same or lower levels of cognitive function after the intervention. According to linear models, post intervention MMSE score was significantly associated with baseline grip strength.

Conclusion: After 12-week resistance training, improvement in cognitive function was significantly associated with baseline grip strength.

DETERMINANTS OF FUNCTIONAL MOBILITY IN OLDER ADULTS

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Background and Purpose: Physiological changes with ageing are associated with muscle strength and physical activity (PA) declines in older adults. The purpose of this study was to assess if changes in muscle strength and time spent in PA could predict gait speed (GS) in older adults.

Methods: The study population was identified from the NHANES 1999 - 2000 data set. All adults over the age of 64 years were included in the study. GS was assessed using a 20-foot timed walk. Quadriceps muscle strength was assessed using the Kim Kom dynamometer and recorded as

the peak force in newtons (N). Time spent in PA was assessed by a questionnaire.

Results: Data from 198 older adults were included in the study. Muscle strength was significantly associated with timed walk ($r = -0.217$, $p < 0.05$). Using the enter method, our regression model with muscle strength, PA, BMI, age and gender as predictors explained 18.1% of the variance in GS ($F(5,191) = 8.451$, $R^2 = .181$, $p < 0.001$).

Discussion: Muscle strength, age and BMI were found to be significant predictors of GS in older adults. The walk time decreased by 0.13 seconds for every 1 N unit increases in strength. On the other hand, the walk time increased by 0.01 and 0.145 seconds respectively for every 1 unit increase in age and BMI.

Conclusion: Based on the standardized coefficients, strength appears to have the biggest impact on GS. Gender and physical activity duration did not significantly predict gait speed performance in older adults

RELATIONSHIP BETWEEN THE 8-FOOT UP-AND-GO AND POWER IN OLDER ADULTS

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As people age, muscular power tends to decline to a greater extent than muscular strength. This may have a detrimental impact on balance and functionality. However, the relationship between vertical power and dynamic balance and agility are not completely understood. The purpose of this study was to determine whether power production during a chair stand is related to 8 Foot Up-and-Go (UPGO) time. **METHODS:** Participants included residents of an independent living retirement community ($N=31$, $M=81 \pm 6.81$ years). The UPGO required participants to stand and walk around a cone 8 feet away and return to a seated position as quickly as possible. Muscular power was assessed using a Tendo Power Analyzer™ during a maximum velocity chair stand conducted five times. A one minute rest period was given between each trial. **RESULTS:** After removal of an outlier, no relationship existed between the UPGO and average ($r = -.04$, $p = .85$) and peak ($r = -.11$, $p = .57$) power. **CONCLUSION:** The lack of a relationship between power production and the UPGO may indicate other factors are more influential in dynamic balance and agility performance. Differing movement angles of the tests may have also played a role in the results. Future research should evaluate the influence other factors, such as muscular strength or reaction time, might have on UPGO performance, as well as account for angular differences.

THE FEASIBILITY AND EFFICACY OF AN EXERGAMING PROGRAM IN UNDERSERVED URBAN COMMUNITIES

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Purpose: Low levels of regular leisure-time physical activity were noted among African Americans. The study tested the feasibility and efficacy of an exergaming program in this underserved communities. **Methods:** The study was a single-group with pre-and-post test design. Twelve

older African-American (64.17 ± 6.74 years old) engaged in a Wii Fit U exergaming program once or twice a week for 24 sessions over 14 weeks. Community health workers (CHWs) implemented the program through coaching and supporting mechanism to motivate participants to exercise in the two public housing health centers. Outcomes included functional mobility (muscular strength, flexibility, dynamic balance), depressive symptoms, and quality of life. Descriptive statistics and Wilcoxon signed-rank test were used. Semi-structural individual interviews were also conducted. **Results:** After the program, participants showed statistically significant improvements in lower-body flexibility ($p = .012$), and physical domain of health-related quality of life ($p = .005$). Participants had comparable outcomes of upper-body strength and flexibility, lower-body strength, dynamic balance, depressive symptoms, and mental domain of health-related quality of life before and after the program. Four themes were identified related to the benefits of the CHW-led exergaming program: (1) improving health; (2) feeling enjoyment; (3) getting connected; and (4) knowing you. **Conclusion:** CHWs played a significant role in influencing and improving health outcomes in the underprivileged communities. The CHW-delivered exergaming program provided an easy-to-implement and potentially effective intervention that could be used in the community-directed center to improve health and well-being in the underserved population.

CHINESE IMMIGRANTS' VIEWS ON EXERCISE AND USING TECHNOLOGY TO ENHANCE PHYSICAL ACTIVITY

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Older Asian Americans have lower rates of physical activity (PA) compared to their White counterparts and other minority groups. Little is known about PA among older Asian American *immigrants* and few studies disaggregate this data to highlight the variations in PA profile among Asian ethnic groups. To address this knowledge gap, we employed a community based participatory research approach to conduct focus groups aimed at understanding older Chinese immigrants' culturally bound attitudes, behaviors, and beliefs about PA. A secondary aim sought to elicit perspectives on the acceptability of, and barriers and facilitators to engaging with PA-promoting technology such as wearable physical activity trackers and exergaming devices (e.g. Nintendo Wii™, and Microsoft Kinect™) – technologies not typically available to at-risk vulnerable groups such as immigrant elders.

A bilingual (Cantonese/English) facilitator led focus groups using an interview guide based on constructs from Ajzen's (1991), Theory of Planned Behavior. Data were translated, transcribed, and analyzed following methods for qualitative thematic analysis.

We will present the main findings from 6 focus group interviews with community-dwelling elders in Boston, Chinatown; sharing salient themes relating to culturally bound normative attitudes and beliefs on PA, and perceived barriers and facilitators to engaging in leisure time physical

activity. Furthermore, we will present participants' perspectives on using PA-promoting technology, and offer their views on how these tools may be integrated into the larger context of their daily lives. This study has broad applicability to gerontological professionals seeking to develop interventions that improve PA for minority older adults.

HAND GRIP STRENGTH, PHYSICAL FUNCTION, AND MORTALITY AMONG MEXICAN AMERICANS 75 YEARS AND OLDER

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The objective of this study was to investigate the associations between handgrip strength and both physical function and mortality in older Mexican Americans. Data are from a ten-year prospective cohort study of 1,368 Mexican-Americans aged 75 and older from the Hispanic Established Population for the Epidemiologic Study of the Elderly. Measures included socio-demographic variables, hand grip strength, the Short Physical Performance Battery (SPPB), medical conditions, cognitive function, depression, body mass index, and mortality. Baseline hand grip strength means for women and men were 17.6 Kg (4.8) and 27.9 Kg (7.2), respectively. Means for the SPPB were 6.7 (2.9) for women and 7.5 (2.9) for men. At follow-up, 584 participants were confirmed dead. Using general linear mixed models, we found that women in the second and third lowest handgrip strength quartiles had greater SPPB declines over time ($b = -0.13$; standard error=0.06, $p=0.02$ and $b = -0.14$, standard error=0.05, $p=0.01$, respectively) compared to participants in the highest quartile. This association remained statistically significant after controlling for all covariates. No significant association was found between hand grip strength quartiles and changes in SPPB scores in men. In women and men in the lowest hand grip strength quartile, the hazard ratio of death controlling for all covariates was 1.66 (95% CI = 1.17–2.37) and 2.09 (95% CI = 1.42–3.07), respectively, compared with those in the highest hand strength quartile. Hand grip strength is a strong predictor of long-term decline in physical function and mortality in older Mexican Americans, after controlling for other relevant risk factors.

FATIGABILITY AS A MEASURE OF PHYSICAL RESILIENCE IN OLDER ADULTS

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A better understanding of physical resilience, ability to recover or optimize function when confronted with stressors such as age-related losses or disease, is needed to develop effective successful aging strategies. Few measures of physical resilience exist; one method is to use measurable aging phenotypes, such as fatigability. Fatigability can

be captured by assessing older adults' capacity to perform strenuous physical tasks. The purpose of our study was to examine fatigability as an indicator of physical resilience in older adults by exploring its associations with recently proposed contributors to physical resilience (Whitson, 2016). This was a secondary data analysis of 163 older adults with clinically-relevant fatigue and lower extremity osteoarthritis. Participants completed questionnaires, 7-days of at-home physical activity monitoring, and functional assessments, including a test of fatigability measured via change in self-reported fatigue pre- to post-Six-Minute Walk Test (SMWT) divided by distance walked. A binary logistic regression was performed to identify relevant psychosocial and physiological contributors to high versus low fatigability (determined by median split). Low fatigability was associated with fewer chronic conditions, faster scores on the timed up and go test, and lower BMI compared to high fatigability. Fatigability was not associated with peak V02, depression, pain, or percent immobile time during home monitoring. While lab-based fatigability assessments may reflect some aspects of physical resilience, such as physical functioning, obesity, and comorbidities. Other facets of physical resilience, such as physiologic reserve, mood, symptom burden, and sedentari-ness, may not be captured by lab-based fatigability tests.

EFFECTS OF TRAMPOLINE TRAINING ON COGNITIVE FUNCTIONS IN OLDER ADULTS: A PRELIMINARY STUDY.

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Intellectual ability gains a lot of importance in the era of aging of societies and in the face of the impact of variable diseases violating its level. This is confirmed by the results of research, indicating that along with the aging the importance of physical health decreases, while the role of mental health remains unchanged. Other research show the strategic role of the balance for the independent life of seniors. The purpose of the presented research was evaluation of the efficiency of regular physical exercises, performed on a mini trampoline, for selected cognitive functions among variously aged seniors.

32 people (aged 60,5 - 81,7) took part in the research. According to WHO classification they were divided into two subgroups: younger (below 70yo) and older (over 70yo).

Participants took part for ten weeks in a trampoline balancing program. Classes were always held in the morning, twice a week. Seniors were examined twice: before and after the cycle of classes. The CTT-test (Color-Trail-Test composed of CTT-1 and CTT-2) was used to access the efficiency of the processes of attention and executive functions. Analysis of variance revealed differences between the results obtained before and after the study. As a result of the applied intervention the duration of completing the tasks significantly reduces in CTT-2 in the older group (Duncan-test). The CTT-1 confirmed there are no differences in the duration of completing tasks in the first and second group. The mini trampoline program showed a significant effect in intelligent functioning in the older group.

SESSION 900 (POSTER)

PREVENTION, HEALTH RISK, AND HEALTH CARE

USING OLDER ADULTS' GOALS OF CARE TO DRIVE PERFORMANCE MEASUREMENT

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Care for older adults with complex needs should be aligned with their goals, values, and preferences. To create alignment, providers must elicit and document goals. Efforts are underway to make goal-directed care a reality. This qualitative descriptive study was conducted to build a taxonomy of older adults' goals to be used for goals-based performance measurement. Community-dwelling older adults with one or more functional limitations participated in focus groups or semi-structured interviews at six sites in three regions. Researchers coded transcripts in a template modeled on a pre-existing taxonomy with the following domains: Accessing Services and Supports; Choice and Control; Advanced Illness; Medical Care; Physical Quality of Life; Social, Emotional and Cognitive Quality of Life; and Caregiver Support. New goals were added as needed. [JBF1] Among the 65 goal codes across domains, a plurality of goals articulated by participants were clustered in the Medical Care domain. While many of these goals were outcomes (e.g. lose weight, manage pain), the goals most often articulated were care processes, including "receive needed care," "coordinated care," and "providers who work with/listen to/hear me." Goals were influenced by past and current health care experiences and were context-specific. More research is needed to address the complexity and heterogeneity of older adults' care goals for care planning, goal-based care and performance measurement. These results will support future research efforts to align care goals with care provided and to identify outcome measures (e.g. patient-reported outcome measures) that are important to and driven by older adults.

[JBF1]Redundant w/ next sentence

ALCOHOL USE AND OUTPATIENT SERVICE UTILIZATION AMONG OLDER ADULTS IN CHINA

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This secondary research is based on the WAVE I (2010) of the WHO Study on Global AGEing and Adult Health (SAGE). This study used the China sample to examine the role of alcohol use and other factors in predicting outpatient service utilization among older alcohol drinkers (self-identified) in China [n = 2,497; age 55 and older; 82% male; mean age=65.23; SD=7.88]. Outpatient services included consultation to doctors, Chinese traditional healers, and pharmacy use in the last 12 months Alcohol consumption was measured from "no days per week" to "5 or more days per week" in the last 12 months. Results showed that 60.1% of the sample had received at least one outpatient service in the last 12 months (mean= 6.14; SD = 9.7). Based on the Andersen and Newman Behavioral Model of Health Services Utilization, factors of

predisposing, enabling and need were used in the logistic regression. Other things being equal, alcohol consumption is a disabling factor to outpatient service use. Results suggest heavy drinkers were less likely to use outpatient services. Among the predisposing factors, rural residency was associated with outpatient service use. In China context, rural elders may have easy access to traditional healers in their villages. Other significant enabling factors predicting service use were elders who had more financial resources, had a higher level of social participation, and reported a better quality of life. As expected, poor health was a need factor for outpatient service utilization. Implications of the findings for health care professionals will be discussed.

THE EFFECT OF AGE AND CLINICAL COMPLEXITY ON PRIMARY CARE CLINICIANS' GLYCEMIC MANAGEMENT DECISIONS

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To reduce the risk of severe iatrogenic hypoglycemia, existing guidelines recommend less stringent glycated hemoglobin (HbA1c) targets for medically complex type 2 diabetics with limited life expectancy. The current study considers the effects of patient age, cognitive impairment, and history of myocardial infarction on primary care clinicians' decisions to intensify antihyperglycemic medication therapy at two HbA1c levels within the acceptable range for more complex patients: 7.5% and 8.5%.

We employed a vignette study design that asked primary care clinicians to make antihyperglycemic medication decisions for hypothetical patients with diabetes. For each vignette, clinicians recommended continuing with first-line treatment, Metformin, or intensifying the current medication by adding one of five second-line treatments. We administered vignettes to 376 primary care clinicians in 11 states.

At a HbA1c of 8.5%, 74% of clinicians intensified treatment for an 80-year old woman with longstanding diabetes, cognitive impairment, and heart disease; 36% of clinicians intensified treatment for the same patient with a HbA1c of 7.5%. Further, 29% of clinicians who viewed the 80-year-old patient with cognitive impairment intensified with insulin or a sulfonylurea, agents known to increase the risk of hypoglycemia in these populations. Compared to family practice physicians, internal medicine physicians and nurse practitioners had a higher predicted probability of treatment intensification.

Our findings conservatively suggest clinicians may inappropriately recommend an additional medication for complex older patients over a third of the time. Family practice physicians' lower enthusiasm for intensifying treatment for medically complex patients suggests they may be more familiar with existing guidelines.

FORECASTING HOSPITAL UTILIZATION AND COST OF FUTURE ELDERLY IN SINGAPORE.

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Singapore is one of the fastest-aging populations in the world. Predictions show that the percentage of citizens aged 65 and above will increase from 12.4% in 2014 to 24.0% in 2030. In addition, obesity and the burden of chronic diseases are both increasing as lifestyles change. Future health expenditures are determined by multiple factors: age, sex, health status, obesity and smoking. Resource allocation and cost-containment pose growing challenges to policy makers. The goal of this paper is to model future healthcare expenditures based on current trends and evaluate the impact of alternative interventions that aim to reduce smoking prevalence and obesity.

To project the health and functional status of future cohorts of the elderly and to understand their cost implications, we have developed a version of the Future Elderly Model (FEM) adapted to the context of Singapore. FEM-Singapore is a dynamic Markov micro-simulation model that allows individual health states to evolve over time and accounts for trends in background drivers such as aging, obesity, diseases and disability. Our main source of population data is the Singapore Chinese Health Study (SCHS), a cohort study of over 63,000 respondents followed in three waves from 1993–2010. The SCHS is linked with a detailed cost database from the Ministry of Health, Singapore that captures all hospitalization episodes for the same period. Our simulation model projects inpatient healthcare costs into 2050.

UN AGENDA 2030: ADULT VACCINATIONS AS A PUBLIC HEALTH INTEREST FOR HEALTHY AGEING

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The United Nations adopted a 15 year Sustainable Development Agenda for 2016–2030 (Agenda 2030). The prior agenda, known as the Millennium Development Goals, made no reference to older persons, however a Stakeholder Group on Ageing advocated so that Agenda 2030 has an overarching principle of “leaving no one behind.” There are 17 Goals and 169 Targets and accompanying indicators that contain specific and implied references to older persons. Specific attention will be given to Goal 3 of Agenda 2030: “to ensure healthy lives and promote wellbeing for all at all ages.” The implementation of one of its targets such as “Achieve universal health coverage...access to safe, effective, quality, and affordable, essential medicines and vaccines for all” provides a global opportunity to develop and seek ways to promote healthy ageing including adult vaccinations. Research has shown that adult immunizations can drive healthy ageing initiatives however obstacles still remain to successful implementation. This poster presents the opportunities and strategies to convince policymakers to adopt a lifecourse approach to healthy ageing including adult immunizations. The Stakeholder Group on Ageing members from across the globe will identify programmes to influence policies on ways to promote healthy ageing and reablement in this poster.

SOCIAL VALUE OF PREVENTING ELDERLY DEPRESSION WITH COLLABORATIVE STEPPED CARE AND PRODUCTIVE AGEING

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Approximately 10% of older adults living in the community has clinically significant depression in Hong Kong. The associated societal costs (e.g., years of life lost, direct healthcare and long-term care costs, disease complications) are huge. Previous analysis of Medicare and Medicaid claims data has suggested an additional direct healthcare costs for late-life depression ranging from US\$5,771 to up to US\$17,607 per person per year depending on care setting.

Indicated prevention (targeting older persons with high risk factors) and selective prevention (targeting those with high risk factors and mild symptoms) can reduce suffering and societal costs. Funded by the Hong Kong Jockey Club Charities Trust, this study aims to test a best practice model for effective outreach, engagement, and prevention of late-life depression in 3,840 community-dwelling older adults. The 3-year project has three components: (1) collaborative stepped care between elderly and mental health services; (2) productive ageing for active outreach and engagement; and (3) community empowerment for mental health literacy.

The overall social value of the model will be assessed using social return on investment (SROI) method, a type of cost-benefit analysis, to provide evidence for further service rollout. Following standard SROI study method, focus groups and interviews will be conducted to identify areas of changes and map outcomes/financial proxies with stakeholders, and quantitative data will be collected for evidencing, establishing impact and calculating SROI. We report here the service model, preliminary findings from focus groups and interviews, and the forecast SROI of the model.

U.S. RESOURCES FOR DELIVERING CHRONIC DISEASE-SELF-MANAGEMENT EDUCATION: THE NATIONAL RESOURCE CENTER

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Effective interventions, such as chronic disease self-management education (CDSME) programs, are necessary to address the growing epidemic of chronic diseases in the US and abroad. Funded by the US Administration for Community Living (ACL), the National Council on Aging (NCOA) serves as the National Resource Center to support the expansion and sustainability of evidence-based CDSME programs countrywide. This poster is designed for professionals interested in exploring CDSME program delivery resources that are accessible at the Center. It will showcase the ways NCOA provides training and technical assistance to a nationwide network of state and community-based organizations that offer CDSME programs. It will describe and explain how to access the range of webinars that cover a variety of topics on CDSME programming, including outreach to underserved populations, health care integration,

strategies for sustainability, and more. The poster will also feature the Center's national clearinghouse of resources and best practices for CDSME programs. This includes the "Best Practices Toolkit, a compilation of over 150 resources, grounded in "real world contexts" from partners across the country implementing CDSME programs. It will also feature the Center's multi-level online "Community Integrated Health Care Toolkit," designed to help community-based organizations build partnerships with health care systems and receive payment for the CDSME programs that they offer. The clearinghouse resources are organized for ease of access and can help professionals strategize their efforts in building leadership and partnerships, enhancing capacity, creating centralized and coordinated processes, designing business plans, and conducting quality assurance and evaluation activities.

EXPANDING THE SCOPE OF PATIENT-CENTERED PRACTICE TO INCLUDE NON-MEDICAL RESOURCES

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Using resource mobilization aspects of social movement theory, we conceptualize the melding of patient self-management education led by community organizations, such as area agencies on aging and senior centers, into medical management of chronic conditions as an element of a social movement. According to the partial theory defined in the seminal work by McCarthy and Zald, resource mobilization 'examines the variety of resources that must be mobilized, the linkages of social movements to other groups, and dependence of movements upon external supports for success and the tactics used by authorities to control or incorporate movements.' In our frame, we identify community-based patient education and coaching as resources that can be mobilized to enhance patient outcomes and quality of life. We will describe the methods we used to create an interdisciplinary team that includes physicians, social workers, nurses, health educators, program designers, dietitians, outpatient practice administrators, and reimbursement specialists to design innovative models that incorporate patient engagement, activation, self-management education, and coaching. We will present two models that emerged from this process.

ADHERENCE TO GLYCEMIC CONTROL GUIDELINES AND 8-YEAR MORTALITY RISK AMONG U.S. ADULTS WITH DIABETES

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The objective of this study was to examine whether life expectancy adjusted adherence to glycemic control guidelines is associated with 8-year mortality risk among U.S. older adults with diabetes. We used data from the Health and Retirement Study to identify a cohort of adults who had glycated hemoglobin A1c (HbA1c) tested in 2006. The study sample consisted of 1,300 adults aged 50 and older with diabetes. Glycemic control was defined as: (1) having an HbA1c of under 7% (the old guideline); or (2) having an HbA1c of under 7.5%, 8.0%, or 8.5% based on an individual's life

expectancy (the new guideline). The primary outcome measure is time until death or censoring as of 2014. Independent variables included socio-demographics, diabetes treatment regimen, health status, comorbidities, and lifestyle variables. We used Cox Proportional Hazards model to estimate the effect of guideline adherence on survival, controlling for covariates. The mean age of the sample was 69.2 years and 59.5% were female. We found that individuals who met the new guideline had similar survival as compared to those who met the old guideline (HR=1.02, 95% CI=0.77–1.36, p=0.881), whereas those who met neither guideline had a 38% increase in risk of death (HR=1.38, 95% CI=1.05–1.81, p=0.020). The findings suggest that diabetes patients who are reclassified as achieving glycemic control under the new guidelines are not at greater mortality risk. Further research is warranted on how to balance the needs for glycemic control and the management of other comorbidities that contribute to mortality for diabetes patients.

FILLING THE GAP: SOCIAL SUPPORT FOR OLDER ADULTS LIVING WITH HIV/AIDS

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Social support is a critical resource for older adults living with HIV/AIDS to help meet both emotional and functional needs. Social isolation and loneliness have been linked to decreased quality of life and poorer health, especially for populations marginalized by social stigma. Recent literature has identified a gap in knowledge about training and service provision to reduce HIV-related stigma and loneliness (Beaulaurier et al., 2009; Roger, Mignone, & Kirkland, 2013). This descriptive study aims to provide information on sources of social support in middle and older adulthood generating knowledge for tailoring training and service provision.

The study sample (n=181) consisted of people in SC on an HCBS HIV/AIDS Medicaid waiver. Most were men (68%) with a mean age of 56 years. When asked to identify people providing social support, family members and case managers were selected as providing the most social support (64%). One in 5 reported no support from family or friends. A subgroup of participants (n=39) had home health workers, whom they identified as providing more social support than any other group (67%).

These findings underscore the importance of the role of the formal support system to meeting critical social support needs. Given the world wide growing HIV/AIDS aging population and the reality that resources are limited everywhere, it is imperative to meet the need now. Home health workers are already providing these supports. Therefore organizations, large and small, can structure training around culturally and ethically appropriate methods of social engagement to build working relationships with older adults.

IMPACT OF ORAL CARE BY DENTAL PROFESSIONALS AMONG ELDERLY PATIENTS IN A REHABILITATION FACILITY

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Evidence has suggested that oral health may be linked with general health, and oral care potentially decrease pneumonia in frail elderly. However, it remains uncertain whether oral care by dental professionals is superior to that by non-professionals in terms of improvement in general health in elderly patients. In 2009, Japanese long-term care insurance system introduced additional reimbursement for oral care by dental professionals in geriatric rehabilitation facilities. This system innovation prompted us to conduct a quasi-experimental study using a nationwide database of long-term care to analyze the impact of oral care by dental professionals on the outcomes (incidence of critical illness, hospitalization, or mortality; discharge to home; and costs) among elderly patients in geriatric rehabilitation facilities. We identified in 294,541 patients in 1168 facilities that provided oral care by dental professionals, and 329,678 patients in 1523 facilities that did not provide oral care by dental professionals from 2008 to 2012. In difference-in-difference analyses, no significant difference was shown in the incidence of critical illness, hospitalization, mortality, or costs between patients with and without oral care by dental professionals. Significant increases in the proportions of discharge to home were observed in patients with oral care by dental professionals, being 0.16% (95% confidence interval, 0.02% to 0.30%) at 1 year, 0.26% (0.05% to 0.48%) at 2 years and 0.37% (0.10% to 0.65%) at 3 years. The results suggest that oral care by dental professionals may improve general condition of elderly patients in geriatric rehabilitation facilities and promote their discharge to home.

HOW ELDERLY MIGRANTS ACCESS HEALTHCARE? A QUALITATIVE ANALYSIS

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The number of elderly migrants (≥ 60) in China reached 10.6 million in 2014. There have quite a few studies on social adaptation of these old people, but limited focus on their utilization of healthcare. This study aims to understand the health services utilization of elderly migrants and identify its impact factors.

In-depth individual interviews were employed. 4 administrators from the district-level government departments, 2 health workers from a community health center and 30 elderly migrants from 3 communities in Shanghai were interviewed in 2015.

The results showed that majority of elderly migrants didn't see doctor when they got sick, except in an emergency or serious illness. They might buy drugs from pharmacies nearby or take the reserved drugs from hometown, and some of them would go back to their hometown to see doctor, especially for hospitalization. The factors including familiarity of living environment, family members accompanying, benefit package of health insurance and income played more important role in the pattern of accessing health care for the elderly migrants, compared to the local elders. Especially, almost all of the interviewees mentioned the problem of cross-region benefit of health insurance. When the elderly migrants see the doctor in Shanghai, they need go back to hometown to

get the reimbursement, the reimbursement procedure is complicated and the rate is much lower, and most outpatient services are not covered.

It requires particular attention on improving cross-region settlement system of health insurance, and strengthening the role of social organization and family supports.

EVIDENCETOPROGRAMS.COM: TOOL KIT FOR IDENTIFYING, SELECTING, AND IMPLEMENTING EVIDENCE-BASED PROGRAMS

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Community organizations are an excellent delivery channel for evidence-based programs (EBPs), and organizations providing EBPs frequently receive preference in accessing program funding. However, it is often challenging for them to access and implement EBPs that match their clients' needs. In response, we developed a web-based interactive toolkit, EvidenceToPrograms.com, to serve as a user-friendly guide to select, implement, and evaluate EBPs.

Divided into two sections, (1) selecting a suitable EBP and (2) implementing EBPs with fidelity, the Toolkit provides a comprehensive overview of EBPs that can benefit community organizations, healthcare professionals, and students alike. The Toolkit also guides the user through a series of steps to facilitate an organization's understanding of their ability to deliver evidence-based programming with model fidelity. Some of the Toolkit's unique features include rich content with supporting diagrams and tables, links to external sites for additional information and resources, and even interactive Readiness Questions that help foster organizational readiness to implement an EBP. The Toolkit also offers strategies that can help organizations increase the sustainability of their implemented program. Other features of the Toolkit include expert videos and an FAQ section where users can submit their questions regarding EBPs.

Whether new or experienced with EBPs, all organizations will find useful materials within the Toolkit.

MERELY A RHETORIC PROMISE? OLDER USERS' CHOICE AND CONTROL IN SWEDISH HOME CARE SERVICES

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Swedish eldercare is a publicly funded, municipal responsibility and older people are encouraged to remain in their own homes for as long as possible, supported by home care services. The policy goals have traditionally emphasized universalism [same services were directed toward and used by all socio-economic groups]. But in recent years, a policy shift towards individualized eldercare, with an emphasis on consumer-choice, has taken place. The policy intention is to give older people more choice and control and more customized services, regardless of what service or form of support they receive, and however it is provided. The aim of the paper is to analyze older people's views and experiences of available choice and control in the home care services. Empirical data consist of a survey ($n=2676$) and qualitative interviews ($n=$

25) with older people in three Swedish municipalities with different social care models that we label a *consumer-choice model*, a *service-choice model* and a *traditional model*. The theoretical frame for the analysis comprise Tronto's concepts care logic vs market logic and Hirschman's concepts voice, exit and loyalty. Preliminary results show that the respondents had trouble acting as consumers according to market logics. Instead, they emphasized the importance of a mutually respectful caring relationship and wanted to have 'voice'.

A DEMONSTRATION STUDY ON THE ELDERLY'S DEMANDS FOR NURSING CARE SERVICES IN BEIJING, CHINA

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Based on the data from the fourth survey of the living condition of Chinese elderly in 2015, this paper studied the factors of the elderly's demands for nursing care services from the perspective of gender. Binary Logistic model was used in this paper to analyze the effect of each variable on the elderly's demands for nursing care services. The results showed that the economic status and health status were the most important factors that affect the elderly's demands for nursing care services. That means those who are in better economic condition are in a higher demand for nursing care services and the healthier the elderly people are, the lower their demand is. Besides, a Good social participation can reduce the elderly's demands for nursing care services. In addition, male elderly have a higher demand for nursing care services than female elderly, and their demand is quite different in the type of aging service projects. So integrating the perspective of gender into the construction of aging service system and the improvement of aging service projects is urgently needed in Beijing, China.

NEW COLLABORATIVE PRACTICES IN PRIMARY CARE: PROVIDING COMPREHENSIVE SERVICES TO PATIENTS AT RISK

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One of the major challenges is to provide effective, efficient and better care to older people in primary care. A RCT study that tested a prospective care intervention provided by Advanced Practice Nurses to home dwelling people over the age of 80 years (n=461) in an urban area of Switzerland showed significant effects on reducing acute events (NNT 4.3; p=.001), falls (NNT 7.1; p=.003), and hospitalization (NNT 10.0; p=.03). Following this positive trial, a new model of care highlighting collaborative practices amongst health care professionals in primary care has been proposed. Subsequently, a program for home dwelling frail patients has been developed by a group of health care professionals in primary care and researchers using participatory action research methodology. The program focuses on patients-directed goal setting, involvement of family members, in-home care provision and coordination of services amongst health care providers especially advanced practice nurses and family physicians in an urban area. Despite many challenges

such as different professional languages and cultures, resistance of health care professionals toward new models of care and lack of reimbursement systems that allow embracing new collaborative practices, the program has been implemented and testing is under way. Primary results of the acceptance and satisfaction of patients and families, as well as collaborative practices amongst health care professionals will be presented.

COMPARING AGE PATTERNS OF CARDIOVASCULAR DISEASE AND ITS RISK FACTORS IN THE USA AND RURAL GHANA

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Despite increasing efforts of prevention, western populations face a persistently high prevalence of age-related diseases, most notably cardiovascular diseases and diabetes. Since these diseases are largely driven by a modern affluent lifestyle, they are scarce in developing populations without such a lifestyle.

Here, we compare population distributions of cardiovascular disease and risk factors amongst older people in the United States (NHANES) with our own field data from older people in a rural area in northern Ghana. We compared the mean levels and distributions of body mass index (BMI), glucose and cholesterol.

We observed that the mean levels of these risk factors were markedly lower in Ghana than in the United States. Interestingly, however, the entire distributions of these risk factors were shifted while retaining a similar dispersion around the mean. When studying the prevalence of cardiovascular disease, we observed a shift of disease onset towards later ages.

The observed shift of the distributions of lifestyle-related risk factors of cardiovascular diseases suggests that the high prevalence of these diseases in developed nations is due to factors that increase cardiovascular disease risk in all individuals, rather than a subset of individuals. In the terminology popularized by the epidemiologist Geoffrey Rose, developed nations have sick populations, and they still have much to gain from combatting the determinants of disease that act on entire populations. Though lifestyle change may be brought about through an individual-based approach, interventions aimed at disrupting population-level determinants of unhealthy lifestyle will likely be more successful in reducing disease prevalence.

USING EDUCATIONAL INTERVENTIONS TO AFFECT PROVIDER PRACTICES IN IMMUNIZATIONS

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Infectious diseases and vaccine-preventable diseases pose great health burdens to the older population. The older population suffers a significantly higher proportion of disease burden than other populations in vaccine-preventable diseases such as influenza, pneumonia and shingles. Obstetrician-gynecologists provide a high proportion of primary care to women. The American College of Obstetricians

and Gynecologists developed several educational resources and toolkits for providers and patients to increase the uptake of immunizations by adult women. A national survey was conducted prior to and following the educational intervention to assess the impact on providers' knowledge, attitudes and practices regarding education, recommendation, and implementation of immunizations into their standard practice with their adult female patients. A randomized pre- and post-intervention survey was sent to 1500 ob-gyns in 2012 and 2105. In the postintervention survey significantly more ob-gyns reported that they had received the educational toolkit (84.5% vs 67.0%, $p < .001$) and that they offered or planned to offer influenza and other vaccines to their adult patients (76.8% vs 59.3%, $p < .001$). A statistically significant difference was found in providers following these educational interventions documenting the efficacy on increasing immunization uptake in adult health care.

HEALTH INEQUALITY AND ITS DECOMPOSITION AMONG THE OLDER ADULTS IN XIAMEN, CHINA

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Purpose of the Study: To examine socioeconomic status (SES) inequality in comprehensive health (CH) among the Chinese elderly and to evaluate the contributions of the key factors to the inequalities.

Design and Methods: Data were utilized from a survey of 14,292 Chinese adults aged 60 years and older in Xiamen, China. The health included six domains, and each had five three-point or five-point items. First, domain score was calculated as the sum of each item score within the domain and then was normalized into the scale of 0 to 100. Second, CH and SES scores were derived by factor analyses. Third, concentration indices (CIs) were used to quantify the CH inequality. Finally, linear decomposition analysis was performed to estimate the contributions of key factors to CH inequalities across five SES groups.

Results: The means of the CH scores for SES from I to V were 61.10, 64.36, 68.43, 74.30 and 79.04, respectively. The CIs for overall CH was 0.053 (95%CI: 0.050, 0.055). 76.54% of the CH inequality was contributed by economic condition and education, other notable contributors were children's economic status (16.92%) and Medical Insurance for Urban Residents (-10.01%). Living in an urban area (9.77%), having Medical Insurance for Urban Employees (7.03%) and exercising (7.99%) also had significant contributions to the CH inequality.

Implications: Inequality in health among the elderly in Xiamen of China was largely determined by economic conditions, educational level, medical insurance, residence, and exercise. Comprehensive social policies should be considered to address CH inequalities for older adults.

FILLING THE GAP IN ORAL HEALTH FOR OLDER ADULTS: A COMMUNITY GUIDE TO PROGRAM IMPLEMENTATION

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The realization that oral health is strongly connected to overall health is growing. Beyond the health of teeth and gums, a visit to a dental professional can detect signs of poor nutrition, disease, infection, immune disorders, and some cancers, leading health experts to regard the mouth as "a mirror of health and disease."

The Administration for Community Living and the Office on Women's Health funded The Lewin Group to develop and disseminate the Community Guide to Adult Oral Health Program Implementation - a web-driven, online database of promising oral health programs for older adults, and a how-to-guide for communities interested in starting such oral health programs.

The team identified and researched over 200 community-based oral health programs through a systematic review. Performance criteria were developed with the help of a Subject Matter Expert Working Group, and five reviewers used the criteria to independently evaluate these programs.

These programs serve a broad cross-section of the older adult population and they range from mobile dentistry to hygienist administered prevention programs. The community-based oral health programs will be catalogued in a searchable online database organized by key program features such as location, services, and funding sources. The website will also include a Community Guide to Adult Oral Health Program Implementation providing resources addressing the following components of program development: conducting a needs assessment, developing a mission and goals, establishing partnerships, designing a program, financing the program, implementing the program, evaluation, and program sustainability.

REGISTERED NURSES DELEGATES THE ADMINISTRATION OF MEDICINE TO UNLICENSED PERSONNEL IN NURSING HOMES

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Aims and objective: The administration of medicine is frequently delegated by registered nurses to unlicensed assisting personnel when caring for older people in residential care. Our aim was to describe registered nurses' experience in the context of delegating the administration of medication to unlicensed personnel in residential care homes.

Background: The residents in residential care homes have a need for extensive care and nursing and large amounts of medicines are common practice. Registered nurses' workload and difficulties in fulfilling their duties, such as administration of medicines, have led to frequent delegation of this task between the registered nurses and unlicensed assisting personnel. It is of course a great responsibility to ensure that the

care of the elderly remains safe while maintaining quality in the prevailing situation.

Design: A qualitative inductive descriptive study.

Methods: Data were collected using audio-recorded semi-structured interviews with a purposive sample of 18 registered nurses and interpreted using manifest content analysis. The study was approved by the Ethical Research Committee.

Results: The study showed that registered nurses delegate the administration of medicine to unlicensed personnel with a wide-ranging variety of experiences in the care of the elderly and knowledge of medicine, administration and side-effects. Good communication and follow-up of the delegated administration of medicines to unlicensed personnel were considered to be two important factors in patient safety.

Conclusions: Delegating the administration of medicine as a registered nurse to unlicensed assisting personnel in residential care homes entails a challenging responsibility.

SESSION 905 (POSTER)

TECHNOLOGY

PARKINSON'S DISEASE CAN LIMIT THE EFFECTS OF MOTOR-COGNITIVE TRAINING IN VIRTUAL REALITY ENVIRONMENT

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Objective: To evaluate if patients with Parkinson's disease and elderly people can improve on their postural control (PC) and cognition after virtual reality training.

Methods: Sample size was composed by ten subjects, 5 idiopathic PD (PDG) [68.2±6.01 years; Hoehn & Yahr scale = 1:2 subject; 1.5:2 subject and 3:1 subject], and 5 elders subjects (ESG) [68.2±6.3 years]. Fourteen sessions of Kinect Adventures games were carried out [1 hour, 2x/week for 7 weeks, during on period of dopaminergic replacement]. PC and cognition were assessed by Mini-Balance Evaluation Systems Test (MBT) and Montreal Cognitive Assessment (MoCA). Assessments were performed before, after and 1 month after the end of training (follow-up). Descriptive analysis was performed (mean, standard deviation and confidence interval of 95%). **Results:** Regarding PC, MBT scores in PDG were at baseline: 26.0±3.6 [21.52 – 30.47]; after training: 26.2±3.42 [21.95 – 30.44] and follow-up: 27.6±2.6 [24.36 – 30.83]. MBT scores in ESG were at baseline: 27.4±2.7 [24.04 – 30.75], after training: 29.2±2.77 [25.75 – 32.64] and follow-up: 28.4±1.81 [26.14 – 30.65]. MoCA scores in PDG were 24.0±1.87 [21.67 – 26.32] at baseline 23.6±3.2 [19.61 – 27.58] after training and 23.6±2.7 [20.24 – 26.95] at follow up. MoCA scores in ESG were 21.0±3.08 [17.17 – 24.82] at baseline, 27.2±2.16 [24.50 – 29.89] after training and 26.2±2.48 [23.10 – 29.29] at follow up. **Conclusion:** Scores of groups in both scales at baseline indicated that patients were next to ceiling of scales. Nevertheless, CG showed improvement on PC and cognition

after training. However, future studies with larger sample are needed in order to generalize the results.

EFFECT OF KINECT GAMES ON COGNITION AND QUALITY OF LIFE OF ELDERLY: RANDOMIZED CLINICAL TRIAL

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Objective: To analyze the effect of Kinect Adventures games on cognition and quality of life of community dwelling elderly people. **Method:** This is randomized clinical trial. 36 elderlies were selected with mean age 69.68 (5.60) were randomized into control group (CG) and experimental group (GE), 18 in each group. The subjects underwent 14 training sessions of one hour, twice a week. The sessions of the CG were composed by warming up, balance training, aerobic exercises, muscular strengthening and cool-down. EG played four Kinect Adventures games. Participants were assessed before, after and 30 days after the training (follow up). Cognition was assessed by the Montreal Cognitive Assessment (MoCA) and the quality of life by the World Health Organization Quality of Life-Older Adults (WHOQOL-OLD). The Study was registered in the Brazilian Registry of Clinical Trials (RBR-4z4f48). Statistical analysis was performed using ANOVA of repeated measures and the post hoc test of Tukey, adopting alpha of 0.05. **Results:** CG showed improvement on MoCA after training (the mean difference between before and after training was 3.5; 95% Confidence Interval 1.11 to 5.99; P<0.01). GE showed improvement on MoCA on follow up (the mean difference between before and follow up was 3.66; 95% Confidence Interval 1.18 to 6.14; P<0.01). There was no difference between the groups. Regarding Quality of Life, both groups showed no improvements. **Conclusion:** Both training improved cognition and did not interfere on quality of life of community dwelling elderly people. This result is attributed to the short intervention time and small sample.

SMART-PHONE APPLICATION EVALUATION FOR OLDER ADULTS PRESCRIBED PHYSICAL THERAPY FOR FALL PREVENTION

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Strength and balance exercise reduces fall risk in older adults (OAs), but low adherence is a key barrier to realizing the benefits of an exercise routine. We partnered with a smart-phone application manufacturer to test the feasibility and effectiveness of Wellpepper, an application designed to improve adherence to physical therapy-based (PT) exercise, with OAs at high fall risk. Wellpepper provides users access to personalized videos taken during PT sessions that show the OA or physical therapist performing exercises. Wellpepper also generates reminders, allows communication between the OA and physical therapist, and facilitates tracking exercise completion, pain and/or other difficulty with the

exercises. Study participants are community-dwelling OAs aged 65+ who are undergoing PT for fall risk reduction, their physical therapists, and their caregivers. Data collection consists of interviews to assess user perceptions and a survey to assess physical activity level, fear of falling, and confidence to perform at-home exercise. Data collection is ongoing. Findings to date (N=4 physical therapists, 2 OAs) suggest that physical therapists are eager to use these tools in their practice and believe that the tools will help the OA adhere to their home exercise program. OAs are willing and able to use smart-phone applications as part of their exercise routine following instruction in use of the application. Effectiveness data indicate that the OA participants have a strong commitment to their at-home routines and low fear of falling at the close of the intervention period. Data from the entire study sample will be presented at the meeting.

CHALLENGES AND BENEFITS OF TECHNOLOGY-ENABLED REHABILITATION TO PROMOTE PHYSICAL FUNCTIONING

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Rehabilitation has potential to exploit information technology (IT) to address changes in physical functioning associated with chronic diseases and aging. This presentation will explore technology-specific aspects of a cohort study designed to determine feasibility of using an electronic patient health record to prevent physical functional decline in persons ≥ 44 years. Participants in the study (97 persons with chronic diseases/conditions (CD) and 50 persons without chronic conditions (NCD); mean age 64 years) interacted with occupational and physical therapists primarily through on-line assessments within a patient health record, and subsequently used secure messaging to receive and communicate about suggested rehabilitation strategies. Although most participants described themselves as being familiar users of IT (86% of CD group; 92% of NCD), some participants were either non-users or beginners. Seven in-depth interviews were conducted to explore participants' experiences and satisfaction with the technology and intervention at the study's completion. Initial content analyses suggest many participants experienced technological challenges; people who reported high levels of computer literacy professed greater engagement with the process. Benefits of technology included flexibility with on-line communications, and ongoing awareness of targets in relation to physical function from self-monitoring. However, participants requested more direct integration between their providers and the technology, including opportunities to discuss findings, and to better understand the purpose of advice received electronically. Findings suggest a range of experiences in using IT-enabled rehabilitation; such rehabilitation strategies can be developed to promote physical function, but may need to be implemented in a blended model with in-person interactions.

LUDO: AN INTERVENTION SYSTEM TO DETER PERSONS WITH MILD DEMENTIA FROM INACTIVITY AND RESTLESSNESS

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The prevalence of dementia is on the rise worldwide. As symptoms of dementia progress, many will experience increased bouts of physical inactivity and restlessness, which will inevitably impair their ability to remain independent in their homes. Existing interventions have incorporated home-based monitoring and/or stimulating activities, however standalone they remain insufficient. In this work, we present 'LuDo', which integrates home-based monitoring and stimulating activities in a single working system. LuDo is equipped with two components: (i) A wearable device, and (ii) An interactive stimulating suite. Using advanced machine learning algorithms, LuDo senses an extended period of inactivity or restlessness in persons with dementia (PWD), which triggers the computer to play a familiar sound. Users respond by approaching the periphery of the Kinect camera, activating the TV screen. The screen provides a voice/touch interface for PWD to interact with LuDo. Options include interactive activities and music. LuDo is capable of learning the habits of PWD over time which will recommend content based on user preference, and provides alerts to the carer if the PWD does/ doesn't respond or engage with the auditory cue. LuDo operates automatically, without user or carer intervention, works passively, activates only when necessary and can be deactivated at any time. An Initial prototype of LuDo is tested on healthy adults and was found to be able to reroute them from their inactive state and engage them in mentally stimulating activities. In future, we plan to conduct similar experiments with PWD and test their level of interaction with LuDo.

IPAD TRAINING INCREASES FRIENDS AND REDUCES LONELINESS IN OLDER ADULTS

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Information and communication technologies such as the iPad are important instruments for reducing loneliness and improving social connectedness. The present study examined change in loneliness following an iPad training program. A sample of 46 women and 9 men, aged 63 to 95, was drawn from community-dwelling older adults. Loneliness and key variables were assessed at baseline, 6 months, and 12 months. A 6-month iPad training was delivered following baseline measurement. We hypothesized that iPad training would reduce loneliness, and that increases in the reported number of close friends would be negatively associated with loneliness. We performed a tobit-mixed-effects model including age, socioeconomic status, meal habits, baseline number of friends, change in number of friends from baseline, and time. Data revealed both baseline number of friends and increases in the number of friends were negatively associated with loneliness. Eating meals alone was associated with more loneliness and increased age was associated with decreased loneliness. Loneliness did not change over time. Because this contradicted our initial hypothesis, we performed a follow-up

analysis to test whether 'change in number of friends' was accounting for the effect of time. We removed this variable from the model and re-ran the analysis. In this model, loneliness was significantly lower in the follow-up period than either baseline or end of the intervention. Findings suggest that iPads can be used as a suitable intervention for loneliness in older adults by helping improve relationships with family and friends. Implications of the findings are discussed for practitioners, researchers, and policy-makers.

MOBILE TECHNOLOGY IN MEDICATION MANAGEMENT FOR OLDER ADULTS: FEASIBLE AND EFFECTIVE

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This study aims to encourage community older adults to use technology for medication management. Ten community-dwelling older adults joined our study. Each participant attended a one-on-one teaching session which lasted for around 40 to 60 minutes. Each session included (1) teaching on the use of smartphone apps and QR code; (2) return demonstration; (3) immediate evaluation. A disc consisting of educational video and leaflet were given after the teaching session.

Medication incidents such as delayed dose (70%) and missing dose (40%) were common. In spite of these problems, nearly all of the participants (90%) did not adopt any methods to remind them taking the medications. After the intervention, participants used the reminder apps (80%) and QR code (70%) for medication management. An increased medication adherence was demonstrated by self-reported survey. This pilot study shows that mobile technology has potential to increase the compliance and knowledge of medication among older population.

RELIABILITY OF A SENSOR TO DETECT FLUID SWALLOWS IN COMMUNITY-DWELLING OLDER ADULTS

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Dehydration continues to be a costly, underappreciated precipitating or co-morbid condition leading to excess hospitalizations for older adults. There is no "gold standard" measure of hydration status, however many methods to assess this have been used, such as biologic specimens from blood, urine and saliva as well as clinical signs and symptoms. In this study we pilot tested a piezoelectric sensor ("WearSens") worn as a necklace, as a novel method to detect swallows of various fluids in real time. The purpose of this project was to determine the ability of the device to reliably distinguish fluid swallows. We recruited 14 participants, mean age 68.7 years, 10 females, 4 males. Participants drank pre-determined amounts of fluid in 4 randomized situations (cold, hot, room temperature and with a straw) while wearing the WearSens device. Percent agreement (n=13, one was not included because the sensor was loose) was 67%, with agreement highest for cold fluids (75%), with room temperature at 70%, fluids by straw at 61.5% and hot fluids at 50%. Cold ($r=.632, p=.02$) and room temperature ($r=.711, p=.004$) actual and predicted values were significantly correlated. Hot values had the most errors in prediction. When these outliers were removed the

correlation was significant ($r=.788, p=.007$). We concluded that the lower reliabilities were related to a less than optimal fit of the sensor. An improved design is being used in current study, which is focusing on distinguishing between solid and fluid swallows under normal living conditions.

VALIDATION OF A SCREENING TOOL FOR ED TO IDENTIFY OLDER AUSTRALIANS IN NEED OF SPECIALIST ASSESSMENT

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EDs are inefficient at diagnosing and treating elderly people with geriatric complexity. To meet the needs of older adults in ED, high risk screening for those most in need of targeted assessments, risk reduction interventions, as well as those who would benefit from community based care/services is warranted. The aim of this study is to validate the interRAI ED Screener to categorize high risk older adults at triage.

364 patients (50% female) aged 70+ years, presenting to ED were assessed with the interRAI ED screener. The interRAI ED screener scores were compared with hospital identified frail elderly persons whose needs are sufficiently complex to warrant further assessment, as well as those most in need of specialist support services after leaving ED. Secondly, we tested for an association between the interRAI ED screener score and hospital admission (N=364), ED representations (N=102), referrals for specialist services (N=364), and prolonged length of hospital stay (N=262).

Implementing the interRAI ED screener instrument into EDs may help identify those in need of further comprehensive geriatric assessment. An implementation case study will be described as one site has adopted the screener as part of standard clinical practice.

FEASIBILITY OF VIRTUAL REALITY EXPERIENCE OF NATURE AS A NURSING INTERVENTION

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Older adults in nursing homes have a limited visual experience due to their moving abilities. This study aimed to investigate the feasibility and effects of Virtual Reality Experience of Nature (VREN) using head mounted device (HMD) in older adults residing in nursing homes in Korea. A one-group pre-posttest design was used to assess the positive (PEE) and negative emotional expression (NEE) using the Observable Display of Affect Scale. One time VREN intervention was done for 2 minute. Two trained research assistants rated the PEE (facial, verbal, and posture) and NEE (facial, verbal, and posture) at pre, during, and post intervention for 2 minute. Data were analyzed with the repeated ANOVA to examine the changes of PEE and NEE. Means age and level of education of total 61 participants were 82.36 ± 8.34 and 6.61 ± 5.14 , respectively. Majorities were female (70.5%), diagnosed with dementia (65.6%), and partially dependent on mobility (63.9%). A total score of PEE ($F=31.68, p<.001$) was significant, but total NEE

($F=1.06$, $p=.354$) was not significant among pre, during, and post intervention. Verbal ($F=43.36$, $p<.001$) and posture PEE ($F=12.01$, $p<.001$) were significantly high during the intervention. Facial NEE ($F=6.34$, $p=.003$) was significantly high at pre-test, but verbal NEE ($F=6.77$, $p=.002$) was significant during the intervention. There were no significant differences in emotions during the intervention period by cognitive impairment and mobility. The results demonstrate that the VREN promotes PEE during and post the intervention for a short period of time. Replication study of VREN should be investigated using the randomized clinical trials with a larger sample.

THE CAREGIVER PERSPECTIVE ON USING THE MOBILE SYSTEM FOR ELDERLY MONITORING (SMAI)

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The Mobile System for Elderly Monitoring (SMAI) uses Android mobile applications as the infrastructure to monitor elderly patients with chronic degenerative disease and functional loss. The system development involves the Computer Science Laboratory (CSL) and the Geriatric Service (NAI) from the Rio de Janeiro State University (UERJ). Applications are designed based on strict requirements proposed by the health team, which assists over 300 elder patient and their caregivers. SMAI is being assessed in a randomized clinical trial with 60 patients (30 intervention and 30 control group), focusing the caregiver perspective on using the system. Pre-configured smartphones were delivered with minimal training, and the system was used for six months. The evaluation was based on the amount and frequency of sent information and through an interview with the caregivers. A Focus Group Interview (FGI) was then conducted with a sub-set of seven caregivers, which shared their opinions on using the SMAI to transmit information regarding the patient and to interact with the NAI professionals. Applying the thematic-categorical content analysis method, four categories were designed: caregiver overall experience; communication; management and administration of medicines to the patient; and the perceived impact/burden using the system. One of the caregiver reported: "I feel more confident taking care of my mother. Whenever I need, I get help...". The data collected will be mined correlating system use, caregiver stress and system resoluteness to confirm the expected outcomes: quality of life improvement for the caregivers and an effective tool for the health team.

SESSION LB910 (POSTER)

LATE BREAKER POSTER SESSION 2

SOCIAL SUPPORT AS FACILITATORS OF DENTAL CARE UTILIZATION AMONG LOW-INCOME OLDER CHINESE IMMIGRANTS

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Background: Few studies have been conducted that examined dental care utilization among low-income older Chinese immigrants in the United States (US). The purposes of this study are to (1) understand dental care utilization behaviors; and (2) understand the perceived sources and types of social support as facilitators of accessing dental care among low-income community-dwelling older Chinese immigrants in the US.

Method: Data was collected in the Greater Chicago area from July 1st to July 28th, 2016. Eighteen participants with income below the state-level poverty threshold completed an in-depth interview. Content analyses were conducted.

Results: The results show that all the participants interviewed had some oral health problems (e.g., toothache, bleeding, dentures, missing teeth, and edentulism). However, treatment to any dental issues were delayed until the symptoms became so severe that affect their work or daily activities. Most older immigrants preferred going back to China to see a dentist rather than seeking care locally given their perceived high cost of dental care in the US.

Children were the major source of informational and instrumental (financial) support, while spouses were the major source of emotional support for the participants. Meanwhile, participants were skeptical to seek any support from friends due to that they did not perceive friends as being able to help. Children's financial support was the most efficient facilitator towards seeking any dental care in the US.

Conclusion: Low-income older Chinese immigrants have unmet dental care needs. Children's financial support played the most significant role in promoting dental care utilization among low-income community-dwelling older Chinese immigrants in the US.

AN IMPLEMENTATION EVALUATION OF A PEER-LED HEALTH PROMOTION PROGRAM FOR SENIORS WITH FEAR OF FALLING

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The use of seniors as peer educators is gaining in popularity for promoting seniors' health. However, the conditions under which peer-led health promotion programs (HPP) can be optimally implemented are not well understood. Based on an extensive literature review, we developed a theoretical framework to identify factors related to programs, participants, peer educators and the organizational/environmental context, which could impact implementation outcomes of peer-led HPP. Our study aimed to test this framework using implementation data collected in a pragmatic effectiveness study of a peer-led HPP targeting seniors who are afraid of falling. Peers delivered the program to groups of 12 participants in 6 retirement homes. Program fidelity (peers' adherence to program principles and guidelines) and participants' responsiveness to the program were monitored using peers' logbooks,

observation grids, attendance sheets and satisfaction questionnaires completed at program termination. Implementation factors were documented through individual interviews conducted among a subgroup of program participants ($n=24$), peer leaders ($n=6$) and program managers in each retirement home ($n=6$). Participants' response to the program was excellent, as reflected by their high satisfaction level with the program and a 91% attendance rate. Peers closely followed the program principles and guidelines. Coherent with our framework, individual-related factors (e.g. participants' health condition, peers' experience) and program-related factors (e.g. quality of materials) emerged as important implementation factors during preliminary qualitative data analysis. Results from this study can help program practitioners and managers design effective strategies to achieve successful implementation of peer-led HPP for seniors.

OLDER ADULTS AND READINESS TO CEASE DRIVING

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Examining older driver readiness for driving cessation may facilitate successful mobility transitions that decrease adverse outcomes like depression and social isolation. The purpose of this study was to examine associations between older driver characteristics and driving cessation readiness using the Assessment of Readiness for Mobility Transition (ARMT), a measure that evaluates attitudinal and emotional readiness for prospective mobility loss or change. The study recruited community-dwelling, English-speaking adults aged ≥ 65 years from three internal medicine clinics affiliated with a tertiary-care academic center; all were active drivers lacking significant cognitive impairment. Participants completed the ARMT short-form questionnaire: ARMT scores ≥ 29 points suggest unreadiness for driving cessation while scores < 29 suggest readiness. Descriptive statistics were generated for each ARMT group, with chi-squared tests utilized to consider associations. Among 301 participants, 89% were white, 5% were Hispanic and 29% lived alone; 53% were male and median age was 72 (range: 65–93). Median ARMT score was 25 ($SD=5.60$); 25% had scores ≥ 29 . Only 13% had discussions about mobility transition. Older adults unreadiness to relinquish driving were Hispanic (10% vs 3%, $P=0.02$) and not college graduates (43% vs 29%, $P=0.04$). ARMT score was not significantly associated with other demographic characteristics. Results confirm positive associations between driving cessation unreadiness and Hispanic ethnicity and education level. They also indicate that while most participants were ready to cease driving, few had discussed mobility transitions with anyone. Introducing the ARMT measure to clinical and private settings may assist in beginning the dialogue for eventual driving cessation in older adults.

PREDICTORS OF FEAR OF FALLING AMONG COMMUNITY-DWELLING OLDER ADULTS IN KOREA

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Fear of falling is a common and syndrome with potentially serious health problems in older adults. Fear of falling

can lead to the avoidance of activities, loss of independence, depression, and decreased quality of life; however, predictors of fear of falling among community-dwelling older adults are not well-explored. The purpose of this study was to explore the predictors of fear of falling in community-dwelling older adults based on Health Belief Model. Data collection was done from August 2016 to September 2016. A total of 143 older adults over 65 years old were recruited from Seoul and Kyung-gi areas, Korea. Data analysis included descriptive statistics, independent t-test, one-way ANOVA, and hierarchical multiple linear regression. The mean age of the participants was 75.9 ± 6.2 years. A total of 88.8% of participants reported a fear of falling. Fear of falling by characteristics of participants were significantly associated with living with spouse, number of chronic diseases, perceived chronic pain in last 6months, falling experience in last 1year, exercise, and self-efficacy for exercise. Exercise was the strongest predictor for fear of falling ($\beta=-.31$, $p<.001$). Perceived chronic pain in last 6months ($\beta=.20$, $p=.026$), falling experience in last 1year ($\beta=.15$, $p=.056$), and living arrangement ($\beta=-.15$, $p=.056$) were also significant predictors. These variables explained 25.8% of the variance in fear of falling ($F=5.11$, $p<.001$). The prevention and management on fear of falling should be developed considering the factors of exercise, perceived chronic pain, falling experience, and living arrangement in this population.

WALKING FOR OUR HEALTH: MARRIED PARTNERS' COLLABORATION AND PHYSICAL ACTIVITY

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Despite the known benefits of regular physical activity (PA), less than 5% of older adults meet PA recommendations, and maintaining PA is even more challenging. Several couple-focused interventions have been tested to promote PA, and findings have been mixed. The purpose of this study was to examine whether collaborative strategies to promote PA may be facilitated when partners are working toward similar PA goals.

The Walking for Our Health intervention study included older adult couples ($n = 32$), and partners were randomized together into two goal-setting conditions. In the collaborative goal-setting condition, partners set a combined goal and tracked cumulative steps taken by both members of the couple. Partners in the concurrent individual goal-setting condition set goals and tracked their steps independently. Partners' use of collaborative strategies to increase PA (e.g., worked together) was assessed pre and post intervention. Moderate to vigorous PA was measured objectively using accelerometers pre and post intervention. During the 8-week intervention, participants tracked daily steps using pedometers, and participated in weekly goal-setting phone consultations.

Following the goal-setting intervention, partner's reports of collaborating with one another to be more active increased ($p < 0.001$) in both intervention conditions. Additionally, weekly minutes of moderate to vigorous physical activity increased ($p < 0.001$), and BMI decreased ($p < 0.01$), on average. There was no difference in changes across intervention conditions. Future research should examine whether

collaborative strategies are effective in facilitating health behavior change and maintenance in the context of married partners.

VARIOUS INTENSITIES OF PHYSICAL ACTIVITY IN CHINESE OLDER ADULTS WITH CHRONIC KIDNEY DISEASE

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The increasing prevalence of chronic kidney disease (CKD) become a health problem in China and worldwide. Physical activity can improve physical functioning and slow the decline in kidney function. However, less is known on correlates of physical activity among early stages of CKD. The current study used the data from China Health and Retirement Longitudinal Study to examine physical activity with different intensities and its correlates among Chinese middle-aged to older adults with chronic kidney disease. Based on eGFR less than 60 mL/min per 1.73 m², 1089 adults older than 40 years old and completed the measure of physical activity were identified. Overall, 28.7% of adults with CKD participated in vigorous-intensity activities, and 50.1% and 78.7% participated in moderate- and light-intensity activities in a week, respectively. Multivariate logistic regression analysis indicated that older age (>80 years old), being female, living in city, receiving higher education (high school or more), being single/widowed/divorced, no employment, perceiving higher financial burden, having functional limitation in at least one aspect, having diabetes and heart disease contributed to lower participation in vigorous-intensity activities. Living in city, no employment, and having functional limitation in at least one aspect significantly predicted the lower engagement in moderate-intensity activities. However, socio-demographics and comorbidity exerted little effect on engagement in light-intensity activities. Since effect of physical activities on health can vary with the intensity of activities, it is recommended to consider the correlates of physical activity with different intensity in promoting the engagement in physical activity among older adults with CKD.

IMPACT OF EDUCATION AND INCOME ON COGNITIVE FUNCTIONING IN LOW- AND MIDDLE-INCOME COUNTRIES

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Previous studies have shown that higher education, in sense of a cognitive reserve, promotes a good cognitive health. Poverty, on the other hand, represents a threat to health. We therefore investigated whether a cognitive reserve (higher education) would still enhance cognitive functioning under the constraints of poverty (low income). Our analyses were based on a sample of 45,000 individuals from low- and middle-income countries who participated in the World Health Organization's multi-country Study on global AGEing and adult health (WHO SAGE). Multivariate regression analyses

and structural equation modelling (adjusted for childhood socioeconomic conditions, health state, age, gender, and country) revealed that higher education as well as higher income was significantly associated with a better cognitive functioning – with similar effects in middle-aged and old-aged individuals. Our results suggest that a cognitive reserve of only six years of education could substantially enhance the cognitive health of individuals living in poverty. Therefore, expanding efforts to achieve universal education are essential for offsetting adverse effects of poverty and early life disadvantages and for promoting a good cognitive functioning over the entire life-span.

DOES DIAGNOSIS TYPE MATTER? GAPS IN END OF LIFE PLANNING

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End of life planning can be a useful tool to help people cope with a complex period of the life course. Individuals who plan in advance for their end of life care are less likely to experience pain and depression. As more of the United States population enters old age, research continues to explore if an association between disease burden and end of life care decisions exists. The objective is to investigate the impact of disease diagnosis on end of life planning. This study uses data from the Health and Retirement Study to examine participants who died between 2012 and 2014, merged with core data from 2010. 2,065 participants are included and variables analyzed include individual disease diagnoses and completion of written end of life instructions. Findings show that participants who have been diagnosed with cancer (OR=1.59, p<.001) and heart problems (OR=1.25, p<.05) are more likely to have end of life care instructions than those who have never been diagnosed. Additionally, demographic factors show that increases in age (OR=1.04, p<.001), education (OR=2.60, p<.001), and household net worth (OR=1.86, p<.001) all have greater odds of completing end of life plans. These findings suggest that depending on diagnosis type, patients may not receive exposure to end of life planning opportunities. Fatal diagnoses, such as lung disease and stroke, did not show significant associations with end of life planning. These results demonstrate a potential gap in patient care and provide possible opportunities for improvement in physician and patient communication.

INVESTIGATION OF PERSONALITY USING DIFFERENT TIME MATRICES, CONTROL VARIABLES, AND INCLUSION GROUPS

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Two studies suggest that personality change may be an early indicator of dementia (Balsis et al, 2005; Smith-Gamble et al, 2001); however, these studies did not assess personality trait change. Although Yoneda et al (2015) prospectively examined personality traits, the nature of the analyses did not allow comparison between trajectories in normal and abnormal aging. The current study includes comparison

of trajectories of extraversion and neuroticism personality traits in individuals who did and did not receive a dementia diagnosis.

This study used data from the OCTO-Twin Study, Longitudinal Aging Study Amsterdam, Swedish Adoption Twin Study of Aging, and Einstein Aging Study. For each dataset, a series of latent growth curve models were run examining each personality trait, first including a subsample of individuals eventually diagnosed with dementia and time-to-dementia metric, and second including the entire dataset, dementia diagnosis as a variable, and time-in-study metric.

Controlling for sex, age, education, depressive symptoms, and the interaction between age and education, the first series of analyses revealed a consistent pattern of personality change preceding dementia diagnosis across datasets, specifically linear increases in neuroticism and stability in extraversion. The second series of analyses revealed a less stable pattern of results: dementia diagnosis was only a significant predictor of neuroticism trajectories in some datasets. These findings will be discussed.

Identification of early indicators of dementia, specifically how personality changes differ for healthy individuals compared to individuals eventually diagnosed with dementia, may aid in early care strategies and facilitate development of screening assessments.

PERSONALITY TRAITS PREDICT DIETARY HABITS IN MIDDLE-TO-OLDER ADULTS

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Personality traits predict dietary habits in middle-to-older adults.

Personality traits are consistently associated with health behaviors, but little research has examined the role of traits on eating habits among middle-to-older adults. Importantly, food choices are constrained by financial resources or availability of healthy options, suggesting the need to test differential associations across SES. We examined the associations between traits and dietary habits, whether healthy eating predicted health at age 60, and if SES moderated these relationships. We used a sample of 665 middle-to-older adults from the Hawaii Personality and Health Cohort. Participants completed personality and eating questionnaires at age 44 and reported health at age 60. Dietary items were consolidated using factor analysis, which resulted in two factors: healthy and unhealthy foods. Eating healthy foods was associated with higher levels of agreeableness ($r = .11$), conscientiousness (.14), emotional stability (.14) and openness (.19) and predicted better self-rated health (.21) and lower BMI (-.19). Eating unhealthy foods was associated with lower levels of agreeableness ($r = -.11$), conscientiousness (-.12), emotional stability (-.09) and openness (-.14) and predicted lower self-rated health (-.13). Unhealthy food consumption did not predict BMI. Surprisingly, these results were not moderated by SES. Overall, we conclude that personality traits have a consistent relationship with dietary habits across levels of SES, and thus the use of traits to predict and understand eating choices can be applied consistently across patients, regardless of financial resources. Moreover, these associations between

traits and eating choices may consequences for older-adult health.

STRESS, PHYSICAL ACTIVITY, AND AGING: COORDINATED ANALYSES OF TWO LONGITUDINAL DATA SETS

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Although modest declines in cognition are considered normative, it is becoming increasingly evident that severe decline and dementia are not inevitable outcomes caused by age. Person-specific variables such as physical activity (PA) and stress are two modifiable lifestyle factors that have been demonstrated to be associated with poorer cognitive outcomes. To date, there are no studies examining both the between-person (BP; or person-mean levels) and within person (WP; or occasion specific fluctuation relative to one's expected trajectory) effects of PA and stress on cognitive abilities. Data from two longitudinal data sets were analyzed in a coordinated manner. Specifically, utilizing comparable variables, data were fit to the same models with processing speed, memory and MMSE as separate outcome variables. Higher average PA was associated with less decline in processing speed, working memory and MMSE scores in one of the two data sets. Interestingly, the WP effects of PA were associated with better cognitive outcomes in all models except memory performance in one of the studies. Unexpectedly, the WP effects of stress were associated with higher processing speed and working memory performance in one of the studies, while the BP effects were non-significant across both studies and outcome variables. Findings indicate that higher average PA, as well as individual specific fluctuations in activity can positively influence cognition. Moreover, proximal stress seems to enhance cognition. These findings corroborate literature implicating activity in cognitive functioning, and are nuanced in demonstrating that more proximal indicators of activity level and stress are associated with cognitive performance.

THE IMPORTANCE OF SUFFICIENT CHALLENGES TO POSITIVE EMOTIONS AMONG OLDER ADULTS

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Flow theory postulates that people enjoy the optimal experience when challenge level of an activity matches their skill level. However, little research has extended the theory to examine the effect of challenge-skill balance on older adults' emotional experiences. This recently completed study investigated whether older adults experienced more frequent high arousal positive(HAP) and low arousal positive(LAP) emotions in challenge-skill balanced activities. 104 younger(Mage=25.8, SD=2.76) and 93 older adults(Mage=65.0, SD=4.78) identified underchallenging(challenge-lower-than-skill), challenge-skill balanced, and overchallenging(challenge-higher-than-skill) activities that they had chosen to do in the past, and reported their typical emotions in each activity. Results were analyzed by repeated measures ANOVA and paired comparison t-tests. Consistent with flow theory, both younger and older adults reported more frequent HAP and LAP emotions

in challenge-skill balanced activities than in underchallenging or overchallenging activities, $F(2,392)=133.42$, $p<.001$, partial eta-squared=.405 for HAP emotions; and $F(2,392)=139.92$, $p<.001$, partial eta-squared=.417 for LAP emotions. In addition, although older adults experienced less frequent HAP emotions than younger adults in underchallenging and overchallenging activities, such affective difference was not observed in balanced activities. These findings are consistent with flow theory that challenge-skill balance is associated with high frequencies of HAP and LAP emotions among both older and younger adults. More important, engagement in sufficient but not overwhelming challenges can offset the differences in HAP emotions between younger and older adults. The study provides insight to older adults and those who serve this population on the importance of older adults maintaining sufficiently challenging activities to maximize their positive emotional experience.

SUICIDE AMONG THE ELDERLY IN KOREA: A META-ANALYSIS

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Elderly suicide is a major public health issue in South Korea. The aim of this study was to systematically examine the current knowledge about suicidal ideation among Korean older adults with specific focus on risk and preventive factors. In order to achieve this aim, a meta-analysis was conducted using Korean academic peer-reviewed journals published since 2001. A total of 97 articles were selected that met the research criteria (e.g., original study findings and key words of suicidal ideation, suicidal thought, and suicide). Three domains were identified and used for further analysis: individual, family, and society. Results showed that among individual factors, depression and burden or stress increased the risk of suicidal ideation, while better mental health reduced the risk of suicidal ideation. Among family factors, living alone was a risk factor for suicidal ideation, while family cohesion was a preventive factor for suicidal ideation. Among social factors, elderly discrimination, social isolation, and negative relationships were significant risk factors, while social support, social environment, and social activities were significant preventive factors affecting suicidal ideation. The results suggest several practical implications for developing suicide prevention programs and counseling approaches to address suicidal ideation. For example, depression and stress can be reduced by MBSR (Mindfulness-Based Stress Reduction) program where meditation is used as a coping strategy. In addition, counseling programs specifically focused on improving family and social relations should be implemented. Government should continuously support for these programs to prevent suicide among older Koreans.

DAILY SOCIAL INTERACTION RELATES TO SUBJECTIVE COGNITIVE FUNCTION

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Self-reports of cognitive problems are required for the clinical diagnosis of mild cognitive impairment (MCI). Identifying factors affecting subjective evaluations of cognition is essential to the early recognition of cognitive

impairment. One such factor is social engagement, which is an established protective factor for long-term cognitive health. However, little is known about how recent social interactions relate to reports of subjective cognitive function in everyday life. Therefore, we examined whether the frequency and quality of daily social interactions predicted day-to-day variability in reports of subjective cognition.

A systematic probability sample of 251 racially diverse adults (age=25–65) completed a 14-day ecological momentary assessment protocol that measured social interactions, mood and fatigue at 5 random times throughout each day. At the end of each day, participants provided subjective reports of their memory, speed, and attention, as well as their overall appraisal of the quality of their social interactions on that day.

Using multilevel modeling we found on days during which they had more frequent social interactions, participants reported better cognitive function (Estimate=1.56, $p<.0001$). Moreover, on days they reported more pleasant interactions, participants reported higher levels of subjective cognitive function (Estimate=0.16, $p<.0001$). Both effects remained significant after controlling for daytime affect and fatigue. The effects of both daily social interaction and end-of-day appraisal on subjective cognition were invariant across age.

This study illustrates that the frequency and quality of social interactions has a proximal (same day) relationship to subjective cognition. These results have implications both for assessing subjective cognition and for interventions.

THE ROLE OF GRANDMOTHERS IN KOREAN WOMEN'S WORK-LIFE BALANCE

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Although many Korean women want to pursue both successful careers and families, Korean culture limits women's ability to maintain work-family balance. Constrained by their ability to both work and care for their children, working Korean women tend to call on their aging mothers for assistance. The purpose of this study was to better understand the important role of grandmothers in working Korean women's work-family balance. We conducted in-depth interviews with 22 married, working women living in Korea ($M=35.9$ years) who have at least one young child (infant / preschooler) and who rely on their mothers ($M=62.5$ years) for child care. Several themes emerged from these newly available data. Women who had good relationships with their mothers tended to be more appreciative of their mother's help. Several women expressed feelings of guilt that their mothers took care of grandchildren because several of the grandmothers were experiencing health concerns of their own. However, despite these feelings of guilt, the women indicated that they hoped that their mothers would take care of their children until their children enter elementary school. Also, the women expressed the Korean government's childcare policy is unrealistic and they indicated that it would be beneficial if the Korean government provided support to grandmothers caring for grandchildren. Overall, our findings suggested that work-family balance is an important concern of many working Korean women. Often these women rely on support from their mothers in an attempt to obtain work-family balance. However, many of these grandmothers experience their own health concerns.

CARDIORESPIRATORY FITNESS BENEFITS VERBAL MEMORY IN OLDER BUT NOT YOUNGER BREAST CANCER PATIENTS

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Breast cancer survivors often experience cognitive problems following surgery and prior to further treatment. Cardiorespiratory fitness (CRF) benefits cognitive function in healthy older adults. However, few studies address CRF's effects among breast cancer survivors or consider how this pattern may vary by age. As part of a larger study, 110 female post-surgical breast cancer survivors (ages 26 to 75, stages I-IIIa) completed a graded cycle ergometry test to measure peak oxygen consumption prior to chemotherapy or radiation treatment. Neuropsychological tasks assessed verbal memory (Hopkins Verbal Learning Test), verbal fluency (F-A-S), executive function (Trail Making Test, n-back task), and sustained attention (Continuous Performance Test). Regression models revealed that the relationship between CRF and immediate verbal recall scores varied significantly by age, above and beyond education, comorbidities, cancer stage, and time since surgery ($b = .013$, $SE = .006$, $p = .032$). Among women ages 62 and older, those with better fitness had better immediate verbal recall compared to those with poorer fitness, using the Johnson-Neyman method. The age by CRF interaction did not significantly predict performance on other cognitive tasks in adjusted models. Accordingly, older participants who were more fit had better immediate verbal recall than those who were less fit, while younger women's CRF was not significantly related to their verbal memory performance. The fitness-cognitive function link may be particularly relevant for older cancer survivors compared to their younger counterparts. Longitudinal studies would help discern if physical fitness prevents accelerated cognitive aging among cancer survivors, and prompt relevant interventions.

FACTORS SHAPING GRANDPARENTS RESPONSIBILITY FOR GRANDCHILDREN IN THREE-GENERATION HOUSEHOLDS

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The number of grandparents identified as primary responsible for grandchildren is on the upswing. Data from the American Community Survey (ACS) suggest that the percent of coresident grandparents responsible for grandchildren increased from 11% in 2010 to 15% in 2015. Additionally, estimations indicate that among the nearly 2.7 million U.S. grandparents who claimed responsibility for their minor grandchildren in 2015, two-thirds lived in a three-generation household, including minor grandchildren, one or both of their parents, and one or more grandparents. However, most of the literature on grandparent caregivers has focused on the grandparent's role in skipped-generation households, and little is known about the grandparent's role in three-generation households. The purpose of this study is to explore the factors that lead grandparents to be identified as primarily responsible for grandchildren living with them in three-generation households. The analysis was conducted using the 2015 ACS 5-year estimates dataset. Household

income and income balance between the grandparent and parent generations are determinants of whether the grandparent is classified as being primarily responsible; specifically, grandparents who provide a high share of household income are more likely to be classified as primarily responsible for the grandchild. As well, race and ethnicity are related to the grandparent's identification as primary caregiver, with African American grandparents being more likely to be classified as primarily responsible for grandchildren. Together, these findings suggest that a grandparent's responsibilities in the three-generation household are defined in part by economic responsibility, but in part by cultural norms relating to the grandparent role.

MANIPULATION OF EFFICACY AND FUNCTIONAL MOTOR PERFORMANCE IN OLDER WOMEN

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Fall prevention remains a worthy goal for the aging population (Ungar, et al., 2013). This study contributes by testing the malleability of motivation and behavior of older women beginning to exhibit the fear of falling. Will manipulation of efficacy significantly affect both perceived fear (falls efficacy) and behavior (i.e. gait, balance)?

Forty-two older women ($N=42$), between 55 to 75 years were administered with the Falls Efficacy Scale-International (FES-I) and the Short Physical Performance Battery (SPPB) on two occasions: 1) Initial screening (baseline), and, 2) Post-manipulation. Baseline assessment included documentation of health, mental state, heart rate, activity levels and other demographic data. Those with low to moderate concern for falling (FES-I) were included in the participant pool and randomly assigned to three groups: enhanced efficacy (EE), reduced efficacy (RE), and control (C). A rhythmic weight shifting task (SMART Balance Master®) was undertaken to manipulate perception (efficacy). Fabricated verbal feedback were tailored according to group: regardless of actual performance, positive for EE, and negative for RE. Participants in the C group were provided none. Comparison (Friedman's Test) of the pre- and post-manipulation scores revealed that provision of manufactured verbal feedback did not influence FES-I or SPPB in any group examined ($p \geq 0.05$). In addition, no significant relationship was found between the variables before and after manipulation.

The non-significant results were likely attributable to the short intervention protocol. Perhaps a longer and consistent protocol, with specific focus on populations already experiencing a significant level of fear will produce alternative results.

DEPRESSIVE SYMPTOMS IN CHILD CAREGIVERS OF VERY OLD MEXICAN AMERICANS

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Objective: To study the effects of disability, cognitive impairment, and neuropsychiatric disturbance among older

Mexican Americans on depressive symptoms in their children caregivers.

Methods: This study utilizes data from Wave 7 (2010–11) of the Hispanic Established Populations for the Epidemiologic Study of the Elderly to assess caregivers that provided direct personal care with activities of daily living (ADL) and who were children of the care recipient. Two hundred adult caregivers provided direct personal care (e.g., bathing, toileting, dressing, etc.) to their older parents (average age = 87). We analyzed the influence of ADL disability, cognition (MMSE), and neuropsychiatric symptoms (NPI) on depressive symptoms of the adult child caregiver. A cross-sectional multivariable linear regression analysis was conducted to examine the effect of neuropsychiatric disturbance on caregiver depressive symptoms.

Results: ADL disability of the care recipient, cognitive functioning of the care recipient, and caregiver health status alone did not have a significant effect on depressive symptoms of the caregiver but NPI of the care-recipient did. Not being married, high perceived social stress, and caregiver-assessed NPI of the care recipient had a significant effect on caregiver depressive symptoms.

Conclusions: In a Mexican American familistic culture, disability and cognitive impairment might be better tolerated by families but neuropsychiatric behavioral symptoms related to dementia may take an increased toll on family member caregivers. The need to provide respite services, mental health resources and community services for caregivers of care recipients with neuropsychiatric dysfunction is of paramount importance to alleviate depressive symptoms and burden among caregivers.

THE STRENGTH OF SOCIAL TIES: HOW COUPLES FACE AD TOGETHER OR ALONE

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Social and behavioral research on Alzheimer's disease (AD) has largely neglected the potential positive appraisals of AD experiences relative to the so-called stress and burden assumed to accompany the condition. The very word caregiving implies a unidirectional and exclusively negative experience for everyone involved. Spouses provide the majority of care for individuals with AD yet few prior studies have examined the association between positive caregiving appraisals and quality of marital relationship. The qualitative literature suggests that these couples adopt either a We/Us approach where they describe experiences as a composite whole or an I/Me approach where they describe themselves as experiencing the impact of AD separately. Little is known about how these perspectives relate to the individual characteristics of either party. Eleven spousal dyads were divided into I/Me ($n = 5$) and We/Us ($n = 6$) groupings based on qualitative analyses. Diagnosed individuals were given measures of cognitive and functional ability and caregivers completed anxiety, depression, burden, relationship satisfaction, and positive aspects of caregiving measures. We found no significant differences between groups on patient cognitive or functional ability, or caregiver anxiety, depression, burden, or relationship satisfaction. However, We/Us caregivers

expressed more positive aspects of caring than I/Me couples. These findings suggest the I/Me approach is not associated with differences in cognitive status or functional ability or carer emotional health, perceived burden, or relationship satisfaction. Those taking a We/Us approach, however, were able to identify more positive aspects of caring. This may be related to mutual compassion and could be protective.

PASSIVE SUICIDAL IDEATION AMONG OLDER ADULT INSOMNIA CLINIC PATIENTS WITH INSOMNIA DISORDER

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Up to 29% of older adults suffer from insomnia symptoms (Ancoli Israel & Cooke, 2005; Schubert et al., 2002). Symptoms of insomnia have been found to be associated with suicidal ideation among older adults (Nadorff, Fiske, Sperry, Petts & Gregg, 2013). The present study seeks to investigate factors associated with suicidal ideation within a sample of 51 older adults diagnosed with Insomnia Disorder seeking treatment at an Insomnia Clinic. The sample was primarily female (70.6%) and Caucasian (96.1%). Participants completed self-report measures of insomnia symptoms (Insomnia Severity Index, ISI), daytime sleepiness (Epworth Sleepiness Scale, ESS), anxiety symptoms (Beck Anxiety Inventory, BAI), depression symptoms (Center for Epidemiologic Studies Depression Scale Revised, CESD-R), emotion regulation strategies (Emotion Regulation Questionnaire reappraisal and suppression scales, ERQ reappraisal and ERQ suppression), and social support (Interpersonal Support Evaluation List, ISEL). Passive suicidal ideation was assessed with items 14, "I wished I were dead" and 15, "I wanted to hurt myself", from the CESD-R and coded as a dichotomous variable. Passive suicidal ideation was endorsed by 9.8% of the sample. Older adults with passive suicidal ideation had more anxiety symptoms ($F_{1,48} = 17.59$, $p < .01$), more depression symptoms ($F_{1,49} = 21.39$, $p < .01$), greater use of suppression strategies to regulate negative emotions ($F_{1,36} = 7.24$, $p = .011$), and less social support ($F_{1,31} = 6.37$, $p = .017$). These findings indicate the need to screen for suicidal ideation among older adults seeking treatment for insomnia who present with elevated depression or anxiety symptoms.

MINDFULNESS-BASED PROGRAM ENHANCES THE QUALITY OF LIFE FOR COMMUNITY-DWELLING OLDER ADULTS IN TAIWAN

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Aim: This study aimed to evaluate the impact of an eight weeks mindfulness-based program on the quality of life for older adults from community population.

Methods: The benefits of mindfulness research on human well-being have accumulated much empirical evidences. Several studies have also indicated that mindfulness training enhances cognitive functions. However, it is unknown whether the positive effect can be generalized to older adults. An eight-weeks mindfulness-based program which was modified from Mindfulness-based Cognitive Therapy (MBCT) that involve understanding mindfulness, the benefits of mindfulness to increase self-awareness,

accept yourself and cultivate compassion minds through the practice of body stretch, sitting meditation, body scan, and breathing. In addition, role play, clam jar and ten-finger appreciation activities were also included to enrich the social element of the program. It is noteworthy that this program is easy-to-implement for older adults. Eighty-nine older adults recruited from a community center volunteered for the present study. All participants were over 60 years old, and the mean age was 71.88 years old ($SD = 5.92$). Before and after the program, the quality of life, depression, cognitive states was measured by visual analogue scale, Taiwanese Geriatric Depression Scale-5, and modified Chinese Mindfulness Awareness Attention Scale (mCMAAS), respectively.

Results: The results showed that the quality of life was enhanced after the program, $t(88) = 3.15$, $p < .01$. Both the depression state and cognitive state were remained the same ($p = .841$ for depression, $p = .633$ for cognitive state).

Conclusions: It is an exciting finding that the quality of life was significant improved after the Mindfulness-Based Program for community-dwelling older adults. It is likely that the mood and cognitive measures reached the ceiling so that they were insensitive to changes. The impact of a long-term training program and more sensitive measures on mood and cognitive ability should be further examined.

RESULTS OF A MINDFULNESS INTERVENTION FEASIBILITY STUDY AMONG ELDER AFRICAN AMERICAN WOMEN

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This study used mixed methods to examine the feasibility of implementing a 4-week mindfulness class with 10 elder African American women (aged 50 – 69). We measured changes in PSS, PANAS, LSI, Perseverative Cognition Scale, and the Multidimensional Inventory of Black Identity before and after the intervention. We also used these measures as a means to assess the salience of these scales to this population. Focus groups provided information on motivation, effective strategies, preferences, and perceived benefits of the mindfulness class. There was a significant change in numbers of participants who reported a meditation practice (1 person at time 1; 8 people at time 2, $\chi^2(1) = 5.84$, $p < .05$). There were marginally significant improvements in PSS, $t(18) = 1.99$, $p = .06$, and PANAS positive affect, $t(18) = -1.99$, $p = .06$. Stressors that motivated participation in the mindfulness class included family obligations and daily race-based microaggressions. Effective strategies to address stressors salient to our participants included taking time for self-care, quiet prayer, removing oneself from stressful people, remembering one's core self in the face of discrimination (i.e., centering), and having a positive mindset. Preferences included integration of faith-based language, using a facility recognized as a community center for the classes (e.g., church), and African American class instructors. Participants noted perceived benefits such as mindfulness as calming and centering, better body and pain awareness, an increased sense that one can better tune out chaos, and that the mindfulness group can provide a forum for race and diversity.

COULD POSITIVE EFFECTS OF LIFE REVIEW ON COGNITION LAST? THE FOLLOW-UP STUDY ON LIFE REVIEW IN TOME

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Life review could be defined as an evidence-based intervention for secondary aging. A part of the life review study in Tome found that regular participation in group life review session has positive effects on cognitive abilities in later life. Can these positive effects of group life review be maintained? The purpose of the current study was to follow the study in Tome up to see effects of group life review on memory, cognition, and QOL one year after intensive intervention. After having completed 10-week intensive group life review session, the life review group kept on participating in intermittent group life review session. All the participants took tests including Logical Memory and Verbal Paired Associates from WMS-R, MMSE, and SF-36 before, after, and one year after the intensive life review intervention. The life review group improved their scores on immediate recall of propositions in the short stories for Logical Memory subtest from WMS-R immediately after the intensive intervention ($M = 29.92$, $SD = 6.69$) and even maintained their performance one year after the intervention ($M = 30.08$, $SD = 7.24$). They also associated more pairs in delayed recall immediately after the intensive intervention ($M = 7.62$, $SD = .77$) and still improved their performance one year after the intervention ($M = 7.69$, $SD = .63$). There were no any significant differences in QOL, however. The results suggested that the intermittent intervention by life review contributed to maintaining improved performance on memory test while the intensive intervention could draw drastic improvement.

SELF-TALK ON HEALTH BY ASSISTED LIVING RESIDENTS: NEW IMPLICATIONS FOR PROVIDERS

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Assisted living (AL) settings serve as a significant congregate living environment for older adults worldwide and continue to increase in scope. This research examines how AL residents talk about their health issues in the context of two newly integrated, large qualitative data sets from two federally funded (NIA) ethnographic studies of ALs across a total of 10 AL settings spanning a consecutive 10 year period. Ethnographic interviews were collected and team coded by an interdisciplinary group of researchers using Atlas.ti software. Thematic analysis and interpretation of the "self-talk on health" code was consensus driven and guided by Levy's stereotype embodiment theory. Analysis suggests dominant self-talk on health themes that include: falls/fear of falling, medications, function/mobility, memory, symptoms, and pain. Notably, themes on health were almost completely negative in tone with only isolated references to positive self-talk on health by the AL residents. Stereotype embodiment theory suggests the strongly negative self-talk on health can gain salience in the lives of older adults and contribute to lack of self-fulfillment and may accelerate overall physical and mental health decline. Acknowledging the prevalence of negative self-talk on health in ALs can provide insight to

AL providers for new strategies in creating health-oriented programs to address positive coping and appraisal strategies including accommodation and adaptation. Providers proactively addressing negative self-talk on health can contribute to improving AL residents' self-perception on their health and well-being which can contribute to lengthening AL residents aging in place.

WHEN YOU LIMIT YOUR DRIVING: ASSOCIATION WITH COGNITION AND FUNCTIONAL ABILITIES IN OLDER AMERICANS

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Driving is a complex functional task that allows participation in routine, community, and social activities. Driving limitations in later life are associated with negative biopsychosocial consequences including increased depression, health declines, loss of independence, and social isolation. Employing the Multifactorial Model of Driving Safety, we hypothesized that older drivers who limited their driving were more impaired than older drivers who drove long trips. In addition, we examined changes in driving patterns. We used data from the 2008 and 2012 Health and Retirement Study. The sample included older drivers (M=73.6 years of age, 53% women, 86.5% white) at baseline (n=7,992). Descriptive statistics, MANOVA, and multinomial logistic regression were conducted. At baseline, approximately 38% limited their driving to nearby places. MANOVA results indicated that, compared to those who drove long distances, older drivers who limited their driving to nearby places had significantly poorer cognition scores, poorer self-rated hearing and eyesight, greater difficulties with activities of daily living, poorer self-rated health and tended to be older, female, and non-white, $\lambda=.79$, $F(11, 7980)=189.40$, $p<.001$, partial $\eta^2=.21$. About 27% of older drivers who limited driving at baseline stopped driving at four-year follow-up. Those who stopped driving at follow-up also showed poorer cognitive, sensory, and physical health status than those who did not. Results suggest that older drivers with cognitive, sensory and/or physical difficulties may regulate their driving behavior. Such driving patterns can inform the driving capacity, potential for rehabilitation, and risk of driving cessation of the aging population.

THE DECISION TO WORK PAST STATE PENSION AGE AND HOW IT AFFECTS QUALITY OF LIFE: EVIDENCE FROM ENGLAND

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Introduction: Increasing numbers of older people in the UK and other industrialised countries are now working beyond state pension age (SPA). However, to date, little is known about the motives beyond continued work at older ages and whether the reasons for extending working lives are associated with quality of life (QoL).

Aim: Our study examined whether, and to what extent, reasons given for being in paid work beyond SPA are associated, both cross-sectionally and longitudinally, with QoL.

Data and Methods. We employed data from Waves 4 and 7 of the English Longitudinal Study of Ageing. Using linear regression models we assessed both cross-sectional and longitudinal associations between reasons for being in paid work beyond SPA and QoL among men aged 65–74 and women aged 60–69 (N=2,306). Our cross-sectional analyses controlled for baseline health and socio-economic characteristics, as well as for social participation and the quality of social relationships. In our longitudinal analyses we also controlled for changes over time.

Results. Almost 23% of the sample is in paid work beyond SPA. Of these, almost two thirds reported that they were in paid work because they 'enjoy working' or to 'keep active and fit', whereas the other third reported financial issues as the main reason for working beyond SPA. Reasons which reflect a lack of control over the decision to work after SPA (i.e. financial reasons) are associated with lower QoL. In contrast, those reasons which capture a degree of control (enjoyment of the job or wanting to remain active) are associated with higher QoL both cross-sectionally and over time.

CHILDHOOD DEPRIVATION AND LATER-LIFE COGNITIVE HEALTH IN A SOUTH AFRICAN COHORT STUDY OF AGING

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Although the populations of low-to-middle income countries are rapidly aging, very little research has evaluated the drivers of cognitive aging in these settings. We aimed to investigate the relationship between father's occupation during childhood (a marker of childhood socioeconomic deprivation) and later-life cognitive function, and whether educational attainment may explain this relationship among older, rural South Africans. Data were from baseline assessments in "Health and Aging in Africa: A Longitudinal Study of an INDEPTH Community in Rural South Africa" (HAALSI), a population-based cohort in Agincourt, South Africa. The cohort included 5059 men and women aged ≥ 40 years in 2015. A formal mediation analysis was conducted using linear models adjusted for age cohort, sex, country of birth, and self-rated childhood health. Nearly half of the sample had no education (45%) or were illiterate (40%). The total effect of father's occupation during childhood on z-standardized latent cognitive function score was 0.134 (95% CI: 0.074–0.187 for skilled vs. unskilled labor) and the controlled direct effect not explained by education was 0.104 (95% CI: 0.048–0.157). The indirect effect mediated by education was 0.030 (95% CI: 0.010–0.054), representing 22% of the total effect. These results indicate that older South African adults whose father worked in unskilled labor had, on average, worse cognitive outcomes than those with a father in skilled work, partly because they received very little, if any formal education. In this post-Apartheid context of aging in rural South Africa, socioeconomic inequalities in cognitive

outcomes appear consistent with patterns observed in high-income countries.

DUCHENNE SMILING AND STIGMA IN OLDER ADULTS WITH PARKINSON'S DISEASE

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Older adults with Parkinson's disease (PD) often have limited positive expressivity due to diminished ability to activate facial muscles. People with this deficit appear more depressed and withdrawn, which can lead to stigmatization. The Duchenne smile, which includes crinkling around the eyes, is the most potent way to express happiness. Older adults with PD maintain some deliberate control of their faces and could learn to compensate for loss of spontaneous expression by deliberately posing the Duchenne smile. We measured the ability to spontaneously and deliberately produce Duchenne smiles, and tested the relationship between smiling and enacted stigma (experiencing unfavorable attitudes from others) and felt stigma (internalizing negative stereotypes about one's disease). Fifty-four participants with PD (Mage=65) were videotaped posing four happiness scenarios in which they were instructed to smile and say a phrase (deliberate task), and while telling an interviewer about an enjoyable activity (spontaneous task). The most expressive clip from the spontaneous task and the four role-plays were coded for Duchenne and non-Duchenne smiles. Forty participants produced at least one Duchenne smile during their spontaneous narrative (range: 1–2) and 36 produced at least one Duchenne smile in the deliberate task (range: 1–4). Deliberate Duchenne smiling correlated with experiencing less felt stigma, $r(52)=-.27$, $p=.05$, while spontaneous Duchenne smiling correlated with experiencing less enacted stigma, $r(52)=-.28$, $p<.05$. These data indicate two possible means by which older adults could reduce the stigmatization of reduced facial activation—deliberately to reduce feeling normatively inadequate and spontaneously to reduce experiencing the negative evaluations of others.

IMPROVING TECHNOLOGY-BASED BEHAVIOUR CHANGE INTERVENTIONS: LEARNINGS FROM THE GRAY MATTERS STUDY

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The potential of mobile and wearable technology to encourage individuals to adopt and sustain healthy lifestyle behaviours is receiving much attention. Indeed, if successful, these technologies could have a major impact on reducing risk factors and offering prevention strategies for a wide range of age related health conditions such as Alzheimer's Disease (AD). This session presents findings from the Gray Matters Study, a 6-month multi-domain lifestyle intervention for middle-aged persons (40–64 years). The RCT recruited 146 participants (treatment $n=104$; control $n=42$) and tracked lifestyle behaviours across six domains: physical activity, food, social, cognitive stimulation, sleep quality and stress. Users tracked their physical activity using a wearable activity monitor and self-reported lifestyle behaviours through a smartphone app. The app aimed to increase knowledge about AD prevention through daily recommendations of

how lifestyle behaviours could be modified. Study findings included increases in intrinsic motivation and actual changes in healthy behaviours. Usage of the app impacted positively on clinical measures (serum glucose ($p=0.015$, Insulin ($p=0.011$), HDL cholesterol ($p=0.037$) and BMI ($p=0.048$)). On conclusion of the study, however, none of the participants continued to use the app. This finding is in line with recent research highlighting that, whilst the popularity of health apps is increasing and their use is associated with improved health outcomes, achieving sustained engagement with the technology over time is more challenging. This session will discuss findings and best practices from Gray Matters including what technological improvements can be made in order to better sustain these healthy improvements over time.

USING INTERVALS OF NEED TO BETTER MEASURE FUNCTIONAL STATUS, SERVICE REQUIREMENTS, AND DISPARITIES

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Older adults' service needs are often assessed by counting dependence in activities of daily living (ADLs) and instrumental ADLs (IADLs). That approach lacks precision and does not adequately consider service need levels. We addressed those limitations with an approach adopted by the World Health Organization, using cognitive status and specific ADL/IADL combinations and impairment levels to identify time intervals when help was needed (e.g. weekly, daily, constant). Using Health and Retirement Study data ($n=29,933$, 146,324 status transitions, 306,997 person-years), we estimated seven-state multinomial logistic Markov models predicting need intervals and death by age, sex, race/ethnicity, and education. We then simulated populations, each individual in one of 6 need intervals each year, age 50 through death. Interval I1 was independence; I2, periodic standby help; I3, weekly IADL help, e.g., shopping; I4, regular guidance for cognitive impairment without ADL help; I5, scheduled help daily; I6, nursing home or equivalent care. Among women with high school education at age 80 African Americans averaged 13.5%, 9.5%, 2.9%, 18.2%, and 22.6% of remaining life in I2–I6, respectively; Hispanics: 10.4%, 7.7%, 4.4%, 19.2%, and 26.9%; whites: 11.7%, 8.6%, 2.6%, 17.6%, and 17.5% (all $p<0.01$). Remaining life in I6 for the same groups at age 90 was 37.4%, 44.0%, and 30.1%, with 22.3%, 27.2%, and 16.7% of those at this age in I6, respectively. Thus, at older ages more Hispanics required the highest care level, for longer periods of life. Measuring need intervals improves estimates of functional impairment, needs for formal and informal care, and health disparities.

CAN FAVOURABLE WORKING CONDITIONS HELP CHRONICALLY ILL WORKERS TO EXTEND THEIR WORKING LIVES?

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As a result to the increase of retirement ages, more workers with a chronic illness have to extend their working lives. We study the relevance of favourable psychosocial working conditions for workers with a chronic illness to extend their

working lives. Men and women (30%) aged 35–55, working, and having no chronic illness in phase 1 of the Whitehall II study on civil servants in the United Kingdom were selected ($n=7,957$). In the following 9 phases, spanning more than 20 years, we observe participants' exit from work through health-related retirement ($n=538$), other retirement (i.e. not health-related; $n=3,905$), and other exit (i.e. unemployment, inactivity; $n=500$). We investigate the impact of favourable psychosocial working conditions, chronic illness, and their interaction, for work exit. Competing risk models using the subdistribution hazard function revealed that favourable working conditions related to work exit. More occasions with high job control or work social support in midlife were related to a lower risk of health-related retirement. More work social support also decreased the risk of exit through unemployment or inactivity. Having a chronic illness increased the risk of any type of work exit, but only for health-related retirement this association was significant. The effect of chronic illness on work exit was only partially moderated by favourable psychosocial working conditions. Good working conditions in midlife can contribute to extended working lives, especially among those who exit young, e.g. due to health-related reasons.

GOAL-ORIENTED COGNITIVE REHABILITATION IN EARLY-STAGE DEMENTIA: RESULTS FROM THE GREAT TRIAL

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Cognitive rehabilitation (CR) is an individualised intervention for people with early-stage dementia. CR aims to improve management of everyday activities and reduce functional disability through identifying personal goals, applying a problem-solving approach and implementing evidence-based rehabilitative strategies.

We tested this approach in the multi-centre GREAT trial. Participants had early stage Alzheimer's, vascular or mixed dementia (ICD-10 criteria, MMSE score ≥ 18) and a family carer willing to contribute. All participants identified goals before being randomised to receive either treatment as usual (TAU) or home-delivered CR (10 therapy sessions over 3 months followed by 4 maintenance sessions over 6 months). Participants were followed up 3 and 9 months post-randomisation, with assessments conducted by a researcher blind to group allocation. The primary outcome was self-reported and carer-reported goal attainment at 3 months. Secondary outcomes were participant quality of life, mood, self-efficacy and cognition, and carer stress, health status and quality of life.

We randomised 475 participants, of whom 427 completed the trial (CR=209, TAU=218). There were statistically-significant large positive effects at 3-month follow-up for participant-rated goal attainment ($d=.97$, 95%CI .75-1.19), corroborated by carers ($d=1.11$, 95%CI .89-1.34). These

effects were maintained at 9-month follow-up for both participant ($d=.94$, 95%CI .71-1.17) and carer ratings ($d=.96$, 95%CI .73-1.2). There were no significant differences in secondary outcomes.

This major randomised controlled trial demonstrates that CR is effective in supporting functional ability in early-stage Alzheimer's, vascular or mixed dementia. CR offers a means of enabling people with early-stage dementia to maintain independence and engagement in everyday activities.

RELATIONSHIP BETWEEN SOCIAL SUPPORT AND MORTALITY RISK IN OLDER BLACK ADULTS

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The current study examined the relationship between social support and mortality risk utilizing data from the Baltimore Study of Black Aging (BSBA; $n = 602$; Mean age = 69.12). Participants were administered a battery of demographic (e.g., age, sex, income, education), social (e.g., social support), and health surveys (e.g., perceived stress, depressive symptoms, and diagnosed health conditions). Participants were also administered a global mental status test (Mini-Mental State Examination). Approximately 9 years after data collection, 52 participants were deceased. A logistic regression tested whether reports of social support given/received at BSBA wave 1 data collection predicted mortality risk (living or deceased) following the wave 1 visit. High levels of social support given was associated with lower odds of mortality (OR=.89; 95% CI 0.81–0.99) even after adjusting for demographic and health covariates (i.e., age, sex, education, income, stress, depression, number of health conditions, and global mental status). No significant association was observed between social support received and lower odds of mortality (OR=1.02; 95% CI 0.93–1.12). These results suggest the ability to provide (and not necessarily to give) social support is an indicator for mortality risk in older Black adults.

COPD CACHEXIA IN A MURINE MODEL

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Chronic Obstructive Pulmonary Disease (COPD) has a 6.3% prevalence in the USA (hundreds of millions worldwide), has an age-associated onset, features progressively declining lung function, and is currently incurable. Cachexia of varying severity is indicated in up to 40% of COPD patients, leading to significant loss of muscle, strength, and function--perhaps contributing to sarcopenia or frailty development. Our poly(I:C)-induced mouse model (male C57BL/6; 5 months old) was representative of inflammatory/fibrotic COPD. We hypothesized that some treated mice would present with cachexia. We tested a subset (two groups, $n=4$, one treated with Poly I:C and one a PBS sham) for function, contractile physiology and cellular morphology. The treated group showed significant (two-tailed t-test, $p<0.05$) reductions compared to the sham in function (grip test -50%,

treadmill -36%), body mass (-25%), muscle wet-weight (gastrocnemius -26%, soleus -33%), and in vitro soleus isometric contraction (-35%). Furthermore, with treatment, we found evidence of muscle remodeling, such as cellular cross-sectional area loss (-26% gastrocnemius, -29% soleus), fiber-type shift (diaphragm increased oxidative fibers, IIx to IIa + 22%), increased mitochondrial density/oxidative capacity and mitochondrial biogenesis (succinate dehydrogenase activity, PGC1- α protein content). In conclusion, 75% of the treated mice showed at least some overt signs of COPD cachexia, with one very similar to a frail elderly mouse. This model will serve as the basis for future investigation into mechanisms and treatments for COPD-related cachexia, with the hope to eventually discover strategies to mitigate progression and improve the quality of life for older adults living with this disease.

ADVANCED GLYCATION END PRODUCTS IN HEMATOPOIETIC DEVELOPMENT

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Advanced glycation end products (AGEs) are posttranslational protein modifications that emerge from glycation, a non-enzymatic reaction between the protein and a sugar. AGEs are reported to have negative effects on proteins, cells, tissues and organisms and are linked to several age-related diseases such as Alzheimer's disease, diabetes, inflammation signaling and cardiovascular diseases, among others. AGEs are also linked to nutrition, as research indicates that AGE-high diets could have negative effects on the body. We investigate AGEs in the hematopoietic system, a tissue strongly relying on stem cell function and differentiation, which is compromised in older individuals. We find that throughout hematopoietic development, populations show different AGE levels, depending on their lineage (myeloid or lymphoid) and differentiation stage (early progenitor or fully matured). In T cell development, these population-dependent levels are unchanged upon old age and caloric restriction, which indicates them to be conserved and potentially inevitable during differentiation. The differences in AGE levels point towards a possible relationship between glycation and differentiation within the hematopoietic system. This begs the question if differentiation drives glycation or if AGEs could actually contribute to differentiation. This would argue for an important role of AGEs and could help to rethink the dogma that renders AGEs simply harmful. Though focused on aging, the field of glycation research neither concentrates on stem cells nor the hematopoietic system, thereby neglecting their importance. Our studies serve to gain a better understanding of the biological role of glycation during aging and in stem cells, starting with the hematopoietic system.

ASSOCIATIONS BETWEEN METABOLITES AND PHYSICAL FUNCTION IN OLDER BLACK MEN

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Functional decline is a common condition among older adults but mechanisms that give rise to functional decline and disability are incompletely understood. To identify metabolic perturbations that may impact functional decline, non-targeted metabolomics was used to measure 350 metabolites in baseline plasma from 313 black men in the Health, Aging and Body Composition Study (median age 74 years, median BMI 26.7). Usual gait speed was measured over 20 meters. Cross-sectional relationships between gait speed and metabolites were explored with Pearson partial correlations adjusted for age, study site and smoking status. Risk of incident mobility disability (2 consecutive reports of inability to walk ¼ mile or climb 10 stairs) over 13 years of follow-up was additionally explored with cox regression models among 307 men who were initially free of mobility disability. Significance was determined at $p \leq 0.01$ and $q \leq 0.30$. Ten metabolites were correlated with gait speed. The most strongly correlated were hydroxyglutarate ($r = -0.18$), gluconurate ($r = -0.18$), homogentisate ($r = -0.16$), salicylurate ($r = -0.19$), and tryptophan ($r = 0.15$). Sixteen metabolites; all unique from gait speed-correlated metabolites, were associated with incident mobility disability. The top metabolites were creatine (HR 5.21, 95% CI 1.85–14.7); symmetric dimethylarginine, a biomarker of kidney function (HR=3.30, 95% CI=1.46–7.48); inositol (HR 2.73, 95% CI 1.48–5.02) and quinolate; a metabolite of tryptophan degradation (HR 2.54, 95% CI 1.64–3.93). This hypothesis generating study identified 26 involved in biological mechanisms including tryptophan metabolism, prospectively associated with functional decline in older men. The novel function-related metabolites identified here may help target future investigation of perturbed metabolic pathways.

SYSTEMIC OVEREXPRESSION OF AT-1/SLC33A1 CAUSES A PROGERIA-LIKE PHENOTYPE

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The import of acetyl-CoA into the lumen of the endoplasmic reticulum (ER) by AT-1/SLC33A1 regulates N ϵ -lysine acetylation of ER-resident and -transiting proteins. Mutations or increased expression of AT-1/SLC33A1 have been associated with diseases such as familial spastic paraplegia, developmental delay with premature death, and autism spectrum disorder with intellectual disability and dysmorphic features. Additionally, increased gene dosage and protein levels have been reported in patients with late-onset Alzheimer's disease. Our lab has demonstrated that the imbalance of acetyl-CoA influx into the ER lumen affects the induction of autophagy and mitochondrial adaptation (J Neurosci 2014; 34: 6772 and J Exp Med 2016; 213: 1267). In this study, we generated a systemic AT-1 Tg mouse model that ubiquitously overexpresses human AT-1. The animals demonstrate a progeria-like phenotype that mimics an accelerated form of aging. The phenotype includes short lifespan, osteoporosis, skin changes, anal prolapse, reduced stemness of stem cells, and reduced proliferation potential of mitotically competent cells. At the mechanistic level, the phenotype is caused by

defective proteostasis and reduced cell proliferation potential, which appears to be linked to aberrant mitochondria metabolic adaptation. Funding: NIH.

PRODUCTION OF TNF EX VIVO IS PREDICTIVE OF AN IMMUNE RESPONSE TO FLU VACCINATION IN ELDERLY SUBJECTS

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Objective: To investigate the relationship between the response to influenza vaccination and the ability to produce proinflammatory cytokines in elderly subjects.

Methods: Peripheral blood mononuclear cells (PBMC) of 25 elderly subjects collected before flu vaccination were stimulated with the influenza vaccine in order to evaluate the secretion of five specific cytokines: TNF α , IFN α , IFN γ , IL2 and IL10. The results were correlated with the increased HAI antibody titres three weeks after vaccination.

Results: Only 30% of elderly individuals seroconverted after flu vaccination. Although 50 to 70% of the cohort did not produce TNF α , IFN α , IFN γ , IL2 or IL10, All the individuals who seroconverted were able to produce TNF α . Furthermore production of IFN γ , with or without production of IFN α /b, was not associated with a better response to the vaccine.

Conclusion: Production of TNF α appears to be primordial for an efficient vaccine response and may provide a predictive marker for the humoral response to vaccination. It may also provide the basis for evaluating agents designed to rescue TNF α producing cells. This study emphasizes the necessity and the timing to rescue the function the TNF producing cells.

VITAMIN C DEFICIENCY LEADS TO SKELETAL MUSCLE ATROPHY AND MUSCLE FIBER TRANSFORMATION

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Recently, we have reported that plasma L-ascorbic acid (AA, reduced form of vitamin C) concentrations in community-dwelling elderly women were related well to their muscle strength and physical performance (Saito, K. et al., 2012, *J. Gerontol. A Biol. Sci. Med. Sci.*). To clarify the physiological functions of AA in skeletal muscle, we investigated the effect of AA deficiency in skeletal muscle using senescence marker protein-30 (SMP30)/gluconolactonase (GNL)-knockout (KO) mice that lacks AA biosynthesis ability just like a human being.

SMP30/GNL-KO female mice at age of 8 weeks were divided into two groups: AA-deficient group (AA-) given tap water and AA-sufficient group (AA+) given 1.5 g/L AA water. At 16-week of experimental period (age of 24 weeks), AA

was not detected at all in skeletal muscles of AA-deficient mice. The gastrocnemius, soleus, plantaris, and tibialis anterior muscle weight of AA-deficient mice were significantly lower than those of AA-sufficient mice, but EDL muscle weight showed no difference. In soleus muscle, the area of muscle fibers and the percentage of type I fiber (slow-twitch fiber) were decreased in AA-deficient mice when compared to AA-sufficient mice. In contrast, the percentage of type IIa fiber (fast-twitch fiber) was increased in AA-deficient mice.

These results strongly suggested that vitamin C deficiency in skeletal muscle leads to muscle atrophy and switches muscle fiber types from slow to fast.

FRAILITY EFFECTS ON COGNITIVE CHANGES IN AGING ARE MODERATED BY DOMAIN, GENETIC RISK, AND SEX

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Introduction: Age-related frailty reflects cumulative multisystem physiological and health decline. Frailty increases risk of adverse brain and cognitive outcomes, including differential decline and dementia. In a longitudinal sample of non-demented older adults, we examine whether (a) frailty predicts trajectories across three cognitive domains (memory, executive function (EF), and speed) and (b) prediction patterns are modified by Alzheimer's genetic risk (Apolipoprotein E (APOE)) or sex.

Methods: Participants (n = 655; M age = 70.7, range 53–95; 3 waves) were from the Victoria Longitudinal Study. After computing a frailty index, we used latent growth modeling and path analysis to test frailty effects on level and change in three latent cognitive variables. We tested two potential moderators by stratifying by APOE risk (e4+, e4-) and sex.

Results: First, frailty levels predicted speed and EF performance levels, and differential memory change slopes. Second, change in frailty predicted rate of decline for both speed and EF. Third, genetic moderation analyses showed that APOE risk (e4+) carriers were selectively sensitive to frailty effects on memory change. Fourth, sex moderation analyses showed that females were selectively sensitive to (a) frailty effects on memory change and (b) frailty change effects on speed change. In contrast, the frailty effects on EF change were stronger in males.

Conclusion: In non-demented older adults, increasing frailty is associated with differential decline in cognitive trajectories. These effects vary by cognitive domain and are moderated by both genetic risk and sex.

AMYLOID- β RISK FACTOR FOR AGE-RELATED MACULAR DEGENERATION

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Age-related macular degeneration (AMD) is the leading cause of severe visual impairment in the elderly. The appearance of amyloid- β in eye tissues makes it possible to see in a new light the problem of eye amyloidosis. Amyloidosis and aging is fundamental biological problem. The appearance

of amyloid- β in eye tissues is related with development of some gerontophthalmological diseases. Histological, immunohistochemical, and electron microscopic studies of the 137 eyes with AMD revealed amyloid- β in the drusen, Bruch's membrane, and between the basal membrane of the retinal pigment epithelium (RPE) and internal collagen layer of Bruch's membrane. Comparative analysis of morphological changes in tissues of the macular and paramacular areas and the incidence of amyloid- β incorporations in them permit us to propose that accumulation of local senile amyloid- β is conducive to development and aggravation of AMD. Ultrastructural studies of Bruch's membrane in the macular region have shown that amyloid- β fibrils are localized in inner collagenous zones of Bruch's membrane with fragments of degrading RPE cells closely attached to them. By reason not clear yet, a portion of the damaged photoreceptor membrane material resists the enzymatic digestion. The fact results in partial degradation, autophagy and accumulating in the cytoplasm of RPE cells of some material except lipids out of which amyloid- β fibrils may be formed. The authors put forward a hypothesis of the pathogenesis of AMD, in which the principal role in the formation and deposition of abnormal protein-amyloid- β , is played by degenerative cells of RPE.

REPEATED ELECTROMAGNETIC FIELD STIMULATION LOWERS A β PROTEIN LEVELS IN HUMAN NEURONAL CULTURES

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Former studies in AD mouse model demonstrated that Repeated Electromagnetic Field Stimulation (REMFS) reversed cognitive impairment by decreasing A β levels (1). However, extrapolation of data that would allow safe utilization in humans has been limited by the increased potential risk of thermal injury. Previously, we determined that frequencies of 50 to 70 MHz were more appropriate for human exposure (2). The present work presents the effects of REMFS on A β levels in primary human fetal brain (HFB) cultures, and determines the minimal energy to induce this biological effects (MEBE) without secondary toxicity. The results obtained suggest a new therapeutic strategy to decrease A β in humans.

Methods: Primary human fetal brain (HFB) cultures were treated with REMFS at different frequencies, powers, specific absorption rates (SAR), and times. Exposures were performed using a TEM cell chamber. Levels of A β 1–40 and 1–42 levels were measured using ELISA.

Results: Compared to untreated cultures, exposure of HFB cultures to REMFS resulted in a 58.35 percent reduction ($P=0.001$) in A β 1–40 levels when treated with a frequency of 64 MHz at a SAR of 0.6 W/Kg for 1 hour/day during 21 days. Lower energy (SAR 0.4 W/Kg) exposure at 64 and 100 MHz for 1 and 2 hours/day during 14 days also resulted in significant reduction of A β levels. Further data

demonstrated that REMFS exposure at 64 MHz with a SAR of 0.4 and 0.9 W/Kg at 4, 8 and 14 days did not cause a significant change in A β Precursor Protein secretion, but rather increased A β degradation. Notably, all results were achieved with no signs of cellular toxicity in treated cultures, as would be suggested by differences in LDH levels, cell number, cell morphology, cell attachment, or neurite extension.

Conclusion: This study confirms that REMFS reduces A β levels in human neurons. Our results suggest that REMFS at 64 MHz/SAR of 0.4 W/Kg for one hour during 14 days may be the MEBE required to induce degradation of A β peptides, this effect likely occurring via up-regulation of the main controller of proteostasis, Heat Shock Factor1(1). These findings are encouraging, given the EMF frequency and power used in our experiments make REMFS both suitable and safe for human trials.

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VITAMIN E BOOSTS NEUTROPHIL ELASTASE ACTIVITY AND THEIR ABILITY TO KILL STREPTOCOCCUS PNEUMONIAE

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Streptococcus pneumoniae (pneumococcus) remain a leading cause of life-threatening infections such as pneumonia, bacteremia and meningitis in the elderly. Neutrophils are innate immune cells that are key determinants of disease following infection as their presence is initially required to control bacterial numbers, but their persistence in the lungs can lead to tissue destruction and bacterial spread. We previously found that vitamin E (VE) supplementation reverses the age-associated increase in susceptibility to *S. pneumoniae* in mice by modulating pulmonary recruitment of neutrophils. The objective of this study was to test the effect of VE on the ability of neutrophils isolated from young (22–35 years) or elderly (65–69 years) volunteers to migrate across lung epithelial cell in response to *S. pneumoniae* and to kill complement-opsonized bacteria in vitro. We found no distinguishable differences in neutrophil migration from young and elderly donors and that VE diminished transepithelial migration across all ages. Surprisingly, unlike previous studies showing defective killing of antibody opsonized bacteria with aging, we found that when compared to young donors, neutrophils of older donors were better at killing complement opsonized pneumococci ex vivo. This increased antibacterial response in neutrophils from elderly individuals correlated with elevated activity of the antimicrobial serine protease neutrophil elastase. Exposure of neutrophils to VE elevated enzymatic activity of neutrophil elastase in young donors and increased pneumococcal killing by these cells. These findings demonstrate that VE is an effective modulator of innate immune cell function with potential to fight bacterial pneumonia.

INFLUENZA-INDUCED MUSCLE DEGRADATION: A PATHWAY TO AGE-ASSOCIATED DISABILITY

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Influenza (flu) is problematic for the elderly with increased severity of infection and greater risk for hospitalization and death. Flu infection is limited to pulmonary epithelial cells; yet myalgias are a common symptom and elderly are at increased risk for disability post-flu. Recent studies from our laboratory were the first to demonstrate a molecular link for this interaction by characterizing the impact of flu infection on muscle health. We demonstrated declines in mobility and altered gait kinetics in both young and aged mice during infection with more prolonged deficits with aging. Gastrocnemius gene expression of inflammatory cytokines (IL-6, IL-6R, TNF, CXCL10) was upregulated with flu with more dramatic and prolonged alterations in the aged mice. Similarly, genes involved in muscle degradation and proteolysis (Atrogin1, MuRF-1, Ubiquitin B, Ubiquitin C) were upregulated with infection and remained elevated for longer in the aged mice. In contrast, positive regulators of muscle mass and myogenesis (IGF-1, Pax7, MyoD) were downregulated during infection and to a greater extent in aged mice. This may indicate that flu infection is a previously unrecognized contributor to sarcopenia and frailty in the elderly. Recent studies just completed in our laboratory have shown that vaccination with recombinant flu nucleoprotein can partially protect mice from functional decrements and muscle gene alterations. Thus, despite decreased vaccine efficacy with aging, vaccination may be a potential strategy to prevent flu-induced disability with aging. Mechanisms are currently being investigated; however, these initial findings provide preliminary highly translational advancements to protect the aging population.

RISK FACTORS FOR OLFACTORY DYSFUNCTION IN MIDDLE-AGED AND OLDER U.S. ADULTS

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Olfaction is a key sensory mechanism in humans, playing important roles in multiple facets of daily life. Deficits in this chemosensory function have wide-ranging impacts on overall health, wellbeing and quality of life. In the United States, olfactory dysfunction is considered a significant public health issue. More than 2 million Americans suffer from smell disorders. Various risk factors for olfactory dysfunction have been identified, with age being the primary one. Impairments in chemosensory perception (both smell and taste) are a hallmark of aging, and begin to manifest around middle age. This study examines the role of environmental, biological and lifestyle factors as determinants of olfactory dysfunction among middle aged and older adults in a large, randomly selected national sample. We examine the association of environmental exposures (phthalates, volatile organic compounds, phenols, heavy metals and polycyclic aromatic hydrocarbons [PAHs]), measures of physiological function and various lifestyle/behavioral characteristics on olfactory function. Evaluation of olfactory function was carried out using a short 8-item test, and was limited to basic scent-identification tasks. Penalized ordinal regression models were used to test for associations between the explanatory variables and olfactory assessment scores, adjusting for potentially confounding covariates. Our results identified metabolic parameters with significant association with

olfactory deficits, suggesting their putative roles as risk factors for this condition. Further, increased urinary levels of environmental phenols were found to be associated with olfactory impairment.

INCREASED PLASMA PROLINE CONCENTRATION IS ASSOCIATED WITH SARCOPENIA OF ELDERLY PEOPLE

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Background and purpose: Metabolome analyses have shown that plasma amino acid profiles reflect various pathological conditions, such as cancer and diabetes mellitus. It is not known, however, whether the plasma amino acid profile changes in patients with sarcopenia. This study aimed to investigate whether sarcopenia-specific changes occur in the plasma amino acid profile.

Methods: A total of 153 community-dwelling elderly individuals and 7 institutionalized elderly individuals (male, n=56; female, n=104 women; age, 77.7 ± 7.0 years old) were recruited for this cross-sectional analysis. We performed a comprehensive geriatric assessment, which included an evaluation of the subjects' hand grip strength, gait speed, muscle mass and blood chemistry, including the concentration of 18 amino acids.

Results: Twenty-eight of the 160 participants met the criteria for sarcopenia established by the Asian Working Group on Sarcopenia in Older People. A univariate analysis showed that lower plasma concentrations of glutamine, histidine and tryptophan, and a higher concentration of proline were associated with sarcopenia. A multivariable analysis revealed that a higher concentration of proline was the only variable to be independently associated with sarcopenia.

Conclusions: The plasma concentration of proline may therefore be useful for understanding the underlying pathophysiology of sarcopenia.

PARADOXICAL ADVERSE ASSOCIATION BETWEEN HIGH VITAMIN D LEVEL AND MUSCLE STRENGTH

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Introduction: High vitamin D level is believed to be advantageous for muscle. However, much of the studies were cross-sectional and its effect on cardiovascular outcomes was opposite. We therefore examined the cross-sectional and longitudinal association between vitamin D level and muscle mass and strength.

Methods: 2815 community-dwelling older adults ≥65 years of age had baseline 25(OH) vitamin D level measured by liquid chromatography and mass spectrometry. In addition, baseline and 2-year muscle mass and strength were measured by DXA and handgrip strength (dynamometer) respectively. The baseline appendicular muscle mass and strength and their changes in 2 years were compared with respective to 3 vitamin D levels, namely <50, 50–69.9 and ≥70nmol/L, adjusted for age and physical activity level (PASE).

Results: At baseline, women with higher vitamin D level had a stronger grip strength (p-for-trend=0.017), which remained significant after adjustment for age and physical activity (PASE). After 2 years, in women, a higher vitamin D level was associated with a faster decline in handgrip strength (p-for-trend<0.0001), which remained significant after adjustment for age and physical activity (p-for-trend<0.0001). No association was observed in men.

Conclusion: There exists a paradoxical adverse association between vitamin D and muscle strength in women. High vitamin D level is not always advantageous for health.

REGULATION OF LIPOLYTIC CONTROL BY NEUROPEPTIDE Y PROMOTES SURVIVAL IN CALORIE-RESTRICTED MICE

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Neuropeptide Y (NPY) is an orexigenic peptide that plays an essential role in caloric restriction (CR)-mediated lifespan extension. However, the mechanisms underlying the NPY-mediated effects in CR are poorly defined. Here, we report that NPY deficiency in mice during CR increases mortality in association with lipodystrophy. NPY^{-/-} mice displayed a rapid decrease in body weight and fat mass as well as increased lipolysis during CR. These alterations in fat regulation were inhibited by the lipolysis inhibitor, acipimox (ACM), a treatment associated with reduced mortality. The lipolytic signaling pathway, β 3-adrenergic receptor/hormone sensitive lipase was markedly activated in white adipose tissue of NPY^{-/-} mice compared with that of NPY^{+/+} mice, and NPY administration reduced thermogenesis in fasted NPY^{-/-} mice. These results demonstrate the critical role of NPY in the regulation of lipid metabolic homeostasis and survival via control of lipolysis and thermogenesis in a state of negative energy balance.

ROLES FOR FOXO1 AND FOXO3 IN REGULATION OF CANCER AND LIFESPAN IN DIETARY-RESTRICTED MICE

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Forkhead box O (Foxo) transcription factors may be involved in the salutary effect of dietary restriction (DR). We investigated roles for Foxo1 and Foxo3 in regulation of cancer and lifespan in mice. The preventive effect of DR on cancer was diminished in Foxo1-knockout heterozygotic (+/-) mice, although the life-extending effect of DR remained in Foxo1 (+/-) mice. By contrast, the life-extending effect of DR was abrogated in Foxo3 (+/-) mice; the incidence of cancer was diminished by DR in Foxo3 (+/-) mice. These findings indicate differential roles for Foxo1 and Foxo3 in regulation of cancer and lifespan in the DR condition. To elucidate a mechanism by which Foxo3 affects the life-extending effect of DR, we analyzed a metabolome in liver tissues and bioenergetics of mitochondria isolated from 24-month-old mouse liver. The metabolome revealed that some metabolites in the glycolysis/ gluconeogenesis were lower; and that the ratio of lactate: pyruvates and the ratio of NADH: NAD⁺ were greater in Foxo3^{+/-} DR mice, compared to WT DR mice. The findings suggest a pseudohypoxic condition in

Foxo3^{+/-} DR mouse tissues. The mitochondrial membrane potential was greater in Foxo3^{+/-} DR mice than in WT-DR mice. These findings suggest that Foxo3 is required for metabolic adaptation to DR, and that the impairment diminishes the life-prolonging effect of DR.

THE ASSOCIATION OF FRAILTY WITH RECOVERY FROM DISABILITY AMONG NEWLY DISABLED OLDER ADULTS

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Research has demonstrated that disability is a dynamic rather than an irreversible process and transitions among different disability states are common. However, little is known about factors that affect recovery from disability. We analyzed data from the Health and Retirement Study to test the hypothesis that frailty, a physiologic state of decreased resilience to stressors, was associated with lower recovery from disability in the newly disabled adults (≥ 65 years). Disability was defined as having difficulty in any of the six activities of daily living (ADLs; dressing, eating, toileting, bathing, transferring, walking across a room). Frailty was assessed using five criteria measured two years before disability: weakness, slowness, exhaustion, inactivity, and shrinking. We classified individuals as “robust” (0 criteria; n=355), “prefrail” (1–2 criteria; n=650), and “frail” (3–5 criteria; n=161). Recovery was defined as regaining independence in all ADLs within two years of disability. Of the 1166 participants with incident disability, 43.9% of the robust, 35.7% of the prefrail, and 16.8% of the frail recovered from disability. After adjusting for socio-demographics, lifestyle, chronic conditions, self-rated health, cognitive function, and severity of disability, frail individuals were less likely to recover compared with the robust (risk ratio [RR]=0.57, 95%CI: 0.39–0.83). We found no difference between the robust and the prefrail (adjusted RR=0.99). In summary, frailty is an independent predictor of poor recovery of ADL disability among newly disabled elders. These findings validate frailty as a marker of decreased resilience, and may offer new opportunities for individualized interventions and geriatric care based on frailty assessment.

THE RELATIONSHIP AMONG TYPES OF DAILY LIVING ASSISTANCE AND LONG HOURS OF INFORMAL CARE

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Long hours of informal care cause adverse events among family caregivers. However, it is not certain what type of daily living assistance prolong time of informal care. The aim of this study is to determine the types of daily living assistance related to extensive time of informal care. We used the Comprehensive Survey of Living Conditions from 2007, 2010, 2013. It is a cross-sectional survey by the Ministry of Health, Labor and Welfare, Japan. The subjects were care

recipients over 65 years and their main family-caregiver, for a total of 6094 dyads included. Among them, there were 1638 care recipients with stroke and 1245 care receivers with dementia. We used ordered logistic regression analysis stratified by stroke patients and dementia patients to examine the relationship between the hours of informal care (lending a hand when needed, 2 to 3 hours or around half a day, and almost all day) and each daily living assistance adjusted for the characteristics of caregivers and care recipients. Our finding was that the daily living assistances associated with extensive time of informal care were: wiping the body, changing position, and taking medicine in stroke patients, while oral health, taking bath, and changing clothes in dementia patients. Toileting and feeding in both kind of patients. In conclusion, the types of assistance associated with long hours of informal care were different between stroke patients and dementia patients. It seems better to make separate plans to support family caregivers of stroke patients and dementia patients.

COGNITIVE DEFICITS IN CHRONIC STROKE PATIENTS: NEUROPSYCHOLOGICAL ASSESSMENT AND SELF-REPORTS

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The aim of this study was to assess cognitive functioning 12 months after stroke, using screening instruments and comprehensive neuropsychological assessment, and to compare self-reported problems with neuropsychological testing.

106 stroke patients (62 males, 44 females, 75 (71%) were aged 60 and older) performed cognitive testing 12 months following stroke. The self-reporting Stroke Impairment Scale (SIS2), MMSE, HADS (Hospital Anxiety and Depression Scale) were administered, as well as neuropsychological tests of visual memory, executive function, verbal skills and processing speed. A score of 1.5 SD below age-, gender- and educational level adjusted scores was regarded as cognitive impairment.

59 (56 %) of these stroke patients had cognitive impairment in at least one domain, mostly visual memory and executive function. The proportion of impairment was significantly higher in those aged >60 years. 32 patients (36 %) reported "no cognitive problems" on the SIS2-scale. Of these, 23 (72 %) showed cognitive impairment on neuropsychological testing, 18 males, 5 females. 19 patients (21 %) reported of cognitive problems on the SIS2, but showed no cognitive impairment on neuropsychological testing, thus over-reporting; 10 males, 9 females. Among these, only 3 (16 %) had depression, compared to 13 (17 %) of participants over 60 years. HADS scores were not correlated with cognitive test scores.

Cognitive impairment 12 months after stroke is common, and is mainly affecting executive function, visuospatial memory, and processing speed. More men than women self-reported "no problems", though having measurable cognitive impairment.

LONGITUDINAL EFFECTS OF SOCIAL NETWORK DIVERSITY ON MORTALITY AND DISABILITY AMONG ELDERLY

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Having a larger social network has beneficial effects on health and survival in adults, but few studies have evaluated the role of network diversity, in addition to network size. We aim to determine whether social network diversity is associated with mortality, physical function, and disability in a population of older black and white adults. We used data from the Chicago Health and Aging Project, a longitudinal, population-based study of adults aged 65 years and older. We estimated hazard ratios (HRs) of mortality using Cox proportional hazards models (N=6,595), mean difference (b) in physical function using generalized estimating equations (N=4,304), odds ratios (ORs) of disability onset using logistic regression (N=5,318), and relative risk (RR) of disability progression using Poisson regression (N=5,318), associated with network diversity. Models were adjusted for age, gender, race, education, marital status, and health-related variables. In adjusted models, elderly with more diverse social networks had a lower risk of mortality (HR=0.76; 95% CI = 0.62–0.92) and higher physical function at baseline (b=0.85; p<.001) compared to elderly with less diverse networks. Increased diversity in social networks was also associated with lower odds of disability onset (OR=0.58; 95% CI = 0.36–0.91) but not with progression of disability. Social networks are particularly important for older adults as they face the greatest threats to their health, and depend on their network relationships, more than younger individuals, to meet their needs. Increasing diversity, and not just increasing size, of social networks may be essential for improving health and survival among the elderly.

SEX DIFFERENCES IN THE CIRCUMSTANCES OF FALLS AMONG OLDER ADULTS IN LONG-TERM CARE

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Introduction: Falls are a major health concern for both older men and women. However, few studies have examined sex differences in the circumstances of falls. We analyzed real-life falls captured on video to compare scenarios leading to falls between men and women in two long-term care (LTC) facilities.

Methods: Between 2008 and 2016, we video-captured 1738 falls experienced by 231 men and 298 women (mean age=83±9 years). We focused our analysis on the biomechanical causes of imbalance and the activities at time of falling, and compared these to sex and health status.

Results: Men were more likely than women to fall from loss of support with an external object (odds ratio 1.37; 95%

CI 1.08–1.73) and less likely to fall from tripping (0.72; 0.54–0.96). Men were more likely to fall while seated (1.42; 1.07–1.87) or while rising from sitting (1.49; 1.11–1.99), and less likely to fall while walking (0.61; 0.50–0.75). Falls in men were more likely to involve wheelchairs (1.50; 1.16–1.93), and less likely to involve walkers (0.57; 0.43–0.76). Falls from loss of support were more common among individuals who were less independent in performing activities of daily living (ADL), who used multiple medications, and who used mobility aids. Individuals with independent ADL and intact cognition were more likely to fall while walking, but less likely to fall while seated or while rising.

Conclusion: Our results elucidate differences between older men and women in the scenarios that lead to falls, to inform strategies to prevent falls in the LTC setting.

OPTIMIZING MEDICATION USE AMONG OLDER PEOPLE RESIDING IN AGED CARE FACILITIES

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Medication reviews are essential in the optimization of pharmacotherapy among the older population. This study developed a comprehensive approach to medication management among older people in aged care facilities. The framework is centered on medication appropriateness and comprises a five-step medication review algorithm that is supplemented with a 10-component tool, the Medication Appropriateness Index-Geriatric version (MAI-G). This version incorporates geriatric components and detects changes in medication use. The MAI-G supplements the algorithm and quantifies the appropriateness of medications, determining improvements and permitting measurable outcomes. The components in the MAI-G closely correspond to components in the algorithm to allow for quick and unequivocal extrapolation. The algorithm and MAI-G were implemented in a 6-month prospective study among 202 residents aged 60 years and above across 17 aged care facilities in Malaysia. The proportion of residents with inappropriate medications detected by the MAI-G were 55.0% at baseline, 50.5% at 3-months and 46.5% at 6-months. The number of inappropriate medications detected by the MAI-G also decreased from 0.83 ± 0.93 at baseline, to 0.76 ± 0.92 at 6-months. The MAI-G average scores decreased from 1.19 ± 1.03 , at baseline, to 1.16 ± 0.98 , at 6-months (MAI-G scores range from 0–21). This study supports the need for a comprehensive medication review process that is supplemented by quantification of medication appropriateness which identifies changes in medication use. This study also provides an overview of the medication appropriateness among older people residing in aged care facilities in Malaysia.

ASSESSING THE MEALTIME ENVIRONMENT IN CANADIAN LONG-TERM CARE HOMES USING THE MEALTIME SCAN

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The mealtime environment in long term care (LTC) may influence food intake of residents, and could improve food intake. Making the Most of Mealtimes (M3) is a cross-sectional, multi-site study with data collected from 82 dining rooms in 32 LTC homes in 4 Canadian provinces. The Mealtime Scan (MTS) was developed to quantify the overall dining atmosphere and includes items that assess the physical and social environments and person-centred care practices. MTS was completed 4–6 times in each dining room and average values used for analysis. Protein and energy intake of residents (n=639) was collected with non-consecutive weighed 3-day records. Units were stratified based on whether or not they specialised in dementia care. Regression analyses were used to identify MTS items adjusted for age, gender and cognitive status that predicted individual energy and protein intake ($p < 0.05$).

In dementia care units, number of residents eating alone was positively associated with energy intake; while meal length, number of residents eating alone, and person-directed care practices were negatively associated with protein intake in designated dementia units. In general units, none of the mealtime environment characteristics, as measured by the MTS, were associated with energy intake; protein intake was positively associated with number of persons in the dining room and negatively associated with person-directed care practices towards residents that required eating assistance. This analysis suggests that environmental features of designated dementia and general units differ in their association with residents' food intake. Strategies to support food intake should be tailored to the target population.

ASSOCIATION OF PSYCHOSOCIAL WORK STRESS WITH COGNITIVE DECLINE AND BRAIN STRUCTURE DIFFERENCES

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Evidence on the influence of psychosocial work stress on cognitive function and brain structure is limited. This study examined whether work-related stress is associated with structural brain changes and cognitive decline in old age. In a population-based prospective cohort study, 2876 dementia-free participants aged ≥ 60 years were followed-up for up to 9 years. A subsample (n=436) underwent brain magnetic resonance imaging (MRI) at baseline. Global cognitive function was measured by the Mini-Mental State Examination at baseline and all follow-ups. Levels of job control and demands in the longest held job over the whole working life were assessed by a validated matrix. Data were analyzed using mixed-effects linear regression. People with low levels of job control and demands exhibited greater cognitive decline (β : -0.13, 95% CI: -0.19 to -0.07; β : -0.10, 95% CI: -0.16 to -0.04), compared to those with high levels. Relative to persons who had active job strain, faster cognitive decline was found in those who had high job strain (β : -0.11, 95% CI: -0.18 to -0.05,) and passive job strain (β : -0.16, 95%

CI: -0.23 to -0.09). MRI data showed that low levels of job demands and passive job strain were both related to smaller total hippocampal volume (β : -0.23, 95% CI: -0.39 to -0.08; β : -0.19, 95% CI: -0.37 to -0.01). Work-related psychosocial stress is associated with smaller hippocampal volume and may accelerate cognitive decline even in the eighth decade of life, suggesting that neural alterations play a role in the work stress-cognitive decline link.

NEIGHBORING GREEN SPACE AND TRANSITIONS BETWEEN FRAILTY STATES AMONG CHINESE ELDERLY IN HONG KONG

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Frailty is a clinically recognizable and prevalent geriatric syndrome predicting adverse health outcomes for the elderly. Green space has been identified as a health-benefiting factor via multiple pathways. We explored the effects of green space on transitions in frailty states.

Three frailty phenotypes (robust, pre-frail, frail) for 3,355 community-based Chinese elderly (≥ 65 years) were identified at baseline (2001–2003) and at subsequent two-year follow-up (2003–2005), adopting the 5-item Fried Criteria (weight loss, exhaustion, low physical activity, muscle weakness, and slow walking speed). Two-year transitions in frailty states were determined as improved, stable, or deteriorated. With the Normalized Difference Vegetation Index assigned to pixels (15×15 m) within 600m buffered around each validated address, the percentage of green space was calculated as a continuous independent variable. Ordinal logistic regression models were used to estimate the effects of green space on transitions in frailty states, controlling for demographics, lifestyle, housing type, proximity to major roads, living height, and PM2.5 concentration.

During the two-year period, frailty status was identified as improved for 273 (8.1%) and deteriorated for 856 (25.5%) subjects. Mean coverage of green space within 600m buffer was 26.8%, with every 10% increase in green space, there was a significant decrease in the odds of deteriorated frailty state (OR 0.95, 95%CI 0.91–0.99; p -value=0.038), regardless of demographics, lifestyle, and other environmental characteristics.

Increasing coverage of neighboring green space could be an applicable approach in developing age-friendly environment in high density urbanized cities, therefore protecting the elderly from becoming frail and improving their individual independence and wellness.

THE BERG BALANCE SCALE AS A SCREENING TEST TO PREDICT FALLS IN OLDER ADULTS: A SYSTEMATIC REVIEW

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Although the Berg Balance Scale (BBS) is widely used in daily practice, there is no consensus about its value to predict

falls. This systematic review aims to verify the BBS ability to predict fall risk in older adults through the analysis of prospective studies. Manual and electronic searches (Medline, EMBASE, CINAHL, Ageline, Lilacs, Web of Science, Cochrane and PEDro) were conducted without language restriction and with publication date after 1989 (BBS development year). We included prognostic studies with older people sample that evaluated the BBS (predictive factor) and the fall event in the last 6 or 12 months (outcome measurement). The studies methodological quality was assessed using the Quality In Prognosis Studies tool. We found 509 studies. This review included 8 studies from ten articles and they presented moderate to low risk of bias. Five studies had a 6 months follow-up period and 3 had a 12 months. The BBS average score for non-fallers was 49.4 and 52.5 points; and for fallers 44.5 and 51 points in 6 and 12 months, respectively. The BBS cut-off ranged from 45 to 51 points. Only in three studies the BBS score was able to discriminate fallers and non-fallers. It was not possible to define a BBS cut-off score due to studies lack of homogeneity, adequate sample size and absence of subgroup analysis. Evidence is insufficient to determine an adequate BBS cut-off score to predict falls in older adults. Ultimately, BBS should not be used as a prediction tool for falls in clinical practice.

PREVENTION OF ADVERSE DRUG REACTIONS IN HOSPITALIZED OLDER PATIENTS: PHYSICIAN VERSUS PHARMACIST

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Potentially inappropriate prescribing (PIP) in the multimorbid elderly is a major healthcare problem. Explicit criteria such as Screening Tool of Older Persons' Prescriptions (STOPP) and Screening Tool to Alert to Right Treatment (START) are well recognized for identifying PIP instances, and the application of STOPP/START criteria has been shown to reduce adverse drug reactions (ADRs) in older people. Two randomized controlled trials were conducted in the same hospital whereby a pharmacist and physician individually applied the STOPP/START criteria to older patients' medication lists at hospital admission and made recommendations to the attending teams. All of the physician's recommendations were delivered in both oral and written forms. All of the pharmacist's recommendations were delivered in written form, and approximately one third communicated orally. Attending teams accepted 37.8% of the pharmacist's STOPP/START recommendations compared to 83.4% of the physician's STOPP/START recommendations. Whilst the physician's intervention focused solely on STOPP/START recommendations, the pharmacist's intervention was multifaceted - other than the pharmacist's STOPP/START recommendations, the remainder addressed medicines reconciliation, renal dose adjustment, and other prescribing criteria issues. With the same control cohort ($n=372$), the physician's intervention resulted in a significantly greater absolute risk reduction in ADRs than the pharmacist's (9.3% vs 6.8%) in comparable intervention cohorts (360 patients vs 361 patients). The greater acceptance rate for the physician's recommendations was attributed to having a narrower intervention focus, communicating the recommendations

in both oral and written form, and the physician having an already recognized prescribing role within the hospital.

SEASONAL CHANGES IN BLOOD PRESSURE AND SERUM ELECTROLYTES FOR OLDER PATIENTS WITH HOME MEDICAL CARE

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We investigated seasonal variations of blood pressure (BP) and serum electrolytes in order to obtain suggestions about future effective treatments or nursing care in old patients with home medical care. Study subjects were 78 patients age 65 years or older receiving home medical care participating in Osaka home medical care registry (OHCARE), a prospective cohort study. Two seasons data were collected in summer (1st June-31st August) and winter (1st December-28th February). The mean age of the subjects was 84.4(±8.6) and male was 37%. About 60% subjects in present study were very frailty or bedridden. Mean Systolic BP (SBP) and diastolic BP (DBP) was higher in winter than in summer (122.4±17/65.4±10 vs. 124.5±20/68.4±10mmHg) and there was statistically significant difference in DBP (p=0.007). Especially, high SBP group (SBP≥130mmHg) had greater changes both in SBP and DBP than low SBP group (SBP<130mmHg). About changes of serum electrolytes, sodium level was lower and potassium level was higher in summer than in winter. Patients who showed changed potassium level were 'Older' and had 'Lower renal function' than patients with unchanged potassium level. The present study revealed the seasonal changes in BP and serum electrolytes in old patients receiving home medical care. Doctors and visiting nurses should pay attention for these variabilities in patients with home medical cares.

ASSOCIATION OF VISITING NURSES' RESPONSE WITH CANCER PATIENTS' GOOD DEATH BY AWARENESS OF DYING TYPE

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The Awareness of Dying (AOD) theory has been investigated worldwide; however, there are few studies investigate the association of good death (GD) with visiting nurses' response (VNR) based on the types of AOD. AOD is composed of closed-awareness (CA), suspected-awareness (SA), mutual-pretense-awareness (MPA), and open-awareness (OA). The aim of this study was to determine the association of VNR with GD in four types of AOD for end-stage home cancer patients.

We sent self-administered questionnaire to visiting nurses in order to assess their response with end-stage cancer patients and statistically analyzed with one-way ANOVA and t-test.

Participants' average age (N=386) was 46.8±7.6 years. The proportions of AOD type were OA (67.1%), CA (10.6%), SA (8.8%), and MPA (7.3%).

The GD score of OA was higher than SA (p=.01) and the CA was higher than the SA (p=.01). In dealing with information related to patient's death, the VNR score was higher for OA than for SA (p=.01). The higher VNR score was significantly associated with the higher GD scores.

The study findings suggest that the most frequent AOD is OA in Japanese home cancer care. For OA and CA, visiting nurses had more desirable responses and actively handled information on death compared to SA. When visiting nurses regard the patient's death as good, they took more desirable responses. This suggests that VNR may be involved in the association between AOD and GD. This is the first report on the association between AOD, VNR, and GD in end-stage cancer patients with home care.

SUPERNORMALS' OVER-TIME BRAIN MAP LINKS TO ALZHEIMER'S PATHOLOGY: A MULTIVARIATE PATTERN ANALYSIS

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We recently investigated a cross-sectional relationship between the function of a selected set of brain regions and cognition in older adults with excellent memory capacity (a.k.a., Supernormals), and revealed that a unique brain map covering anterior and posterior regions in Supernormals protected their cognition from Alzheimer's disease (AD) pathology (Lin et al., 2017, Cortex). In the present study, we continued the validation of the longitudinal relationship between the brain map and cognition and AD pathology in Supernormals. We hypothesized that an over-time stable brain map involving anterior and posterior regions would differentiate Supernormals from their cognitively normal or abnormal counterparts, and such a brain map would link to AD pathology. Here, we identified 22 Supernormals, 25 with normal cognition (NC), 70 with amnesic mild cognitive impairment (MCI) and 28 with AD. Multivariate pattern based searchlight analysis of resting-state functional MRI data was applied to identify brain regions with constantly high discriminative powers between Supernormals and NC over 2 years. The regions included right cerebellum, left middle temporal gyrus, right middle frontal gyrus, right precuneus, right precentral gyrus. The brain map composed by these regions predicted multiple cognitive assessments and their longitudinal changes with 51% to 82% accuracy, discriminated NC, MCI and AD at 62% to 78%, and predicted beta-amyloid/pTau at 71%. Our findings suggest that applying searchlight analysis with longitudinal resting-state imaging data from Supernormals construct a brain map that sheds lights on understanding Alzheimer's disease associated neurodegeneration.

EFFECTS OF REALLOCATING TIME IN SEDENTARY BEHAVIOR WITH PHYSICAL ACTIVITIES ON SLEEP IN ELDERLY

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Previous studies showed that sedentary behavior (SB) and physical activity (PA) are linked to sleep. Recent research

suggested that an isotemporal substitution (IS) model enables an estimate of the effect of displacing one activity by an equivalent amount of time in another activity. However, it is unclear how the reallocation of time from one activity to another affects sleep outcomes.

This study aimed to examine the effects of reallocating time to SB and various intensities of PA on objective sleep parameters in older adults. The participants were seventy-six community-dwelling older Japanese adults (70.9 ± 4.5 yrs). We measured SB, intensity of PA (light-intensity PA (LPA), moderate-to-vigorous PA (MVPA)), and objective sleep parameters using ActiGraph accelerometry for a week. In this study, SB, LPA, and MVPA were 316.2 ± 175.3 , 517.9 ± 78.7 , and 23.3 ± 12.0 min, respectively. After adjusting confounding factors, the IS models showed that replacing one hour of SB with LPA was favorably associated with sleep efficiency ($\beta = 1.155$; 95% confidence interval (CI), 0.234, 2.075) and wake after sleep onset ($\beta = -0.114$; 95% CI, -0.187, -0.040). Replacing one hour of MVPA with LPA was favorably associated with sleep efficiency ($\beta = -7.405$; 95% CI, -13.417, -1.394) and wake after sleep onset ($\beta = 0.488$; 95% CI, 0.006, 0.970).

Substituting time spent in SB and MVPA with LPA may be beneficial to sleep in older people.

PHYSICAL RESTRAINT REDUCTION IN LONG-TERM CARE: IMPLEMENTATION OF A GUIDELINE-BASED PROGRAM

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Despite evidence on unintended consequences, physical restraints continue to be part of standard care. We implemented a successfully tested guideline-based multicomponent program on physical restraints reduction into routine long-term care.

We performed a before-after study in home care services and nursing homes of one health care provider in northern Germany. The intervention, originally developed for nursing homes, was adapted for use in home care.

Four one-day nurse training courses were conducted. Participating facilities received the evidence-based guideline, associated materials and structured telephone counselling. Prior to the first training and after one year, the percentage of care recipients with at least one physical restraint was assessed by direct observation.

Nine home care facilities and 15 nursing homes with 1,490 care recipients took part in the study and 34 nurses were trained. In nursing homes, the number of residents with physical restraints was reduced from 11.1% to 5.7% (reduction 5.4%, 95% CI: 2.1–8.6, $p=0.001$).

In home care, the number was reduced from 6.1% to 3.8% (reduction 2.3%, 95% CI: 0.4–4.3, $p=0.021$).

In conclusion, the guideline-based program was successfully adapted and implemented for the needs of home care services and nursing homes of one large care provider in Germany. However, not all services could be equally reached

by the intervention. Regular training and updates are necessary for permanent implementation.

BRIDGING BARRIERS: CHINESE AMERICAN SENIORS' END-OF-LIFE DECISION-MAKING

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In the United States (US), the underutilization of hospice resources by Asian Americans is evident in the low rates of hospice enrollment, 2.4%, where they comprise 5.6% of the US population. The low utilization of end-of-life (EOL) services has been associated with increased deaths in hospitals and increased costs to Medicare, revealing a significant health disparity within the Asian American community.

Chinese Americans represent the largest subgroup of Asian Americans with a population of 4.5 million in the US. Seminal studies on Chinese American Seniors EOL have accentuated the taboo nature of the topic, and recommended health care professionals to prevaricate EOL discussions to promote cultural sensitivity. In contrast, recent findings in literature suggests Chinese American Seniors' lack of knowledge as a main contributor to the underutilization of EOL resources. A pilot study using semi-structured interviews was conducted to understand the preferences and EOL decision-making processes of Chinese American Seniors. Using Constructivist Grounded Theory methodology, data from the interviews was analyzed in an iterative process to reveal the emergent themes of trust / distrust towards health care professionals and health care systems, the role of religion in decision-making, and protecting the family. Synthesis of the findings reveal the role of health care professionals in bridging barriers to EOL decision-making among Chinese American Seniors.

A QUALITATIVE SYSTEMATIC REVIEW EXPLORING ROLES, RISKS, AND SOCIAL PATTERNS OF DRINKING IN LATER LIFE

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Older adults may be at risk from even moderate levels of drinking, due to conditions and medications that are problematic when combined with alcohol. Current cohorts of older adults may have consumed alcohol regularly through most of their adult life. This represents additional risk of chronic disease linked to their drinking. Alcohol policy and practice has therefore turned to focus on this older group. However, in combatting alcohol use amongst older adults, we must first consider the roles of alcohol in their lives. This recently completed systematic review synthesises qualitative research evidence on older adults' perceptions of non-dependent drinking in later life. Medline, PsychINFO, Scopus, ASSIA and CINAHL databases were systematically searched for relevant articles. The principles of thematic analysis were applied to synthesise findings. Twenty-four studies were identified from ten different countries, including the USA, Canada and the UK. Four key themes were: i) Routines and Rituals, ii) Self-image as a Responsible Drinker, iii) Alcohol and the Ageing Body, iv) Access to Alcohol. Differences in roles and patterns of drinking between genders

and age groups, across cultures and socioeconomic status, are explored. Drinking creates social and leisure opportunities, which may have depleted due to retirement and other factors in later life. Health concerns and issues surrounding purchasing alcohol or getting to drinking settings are important considerations for older drinkers. These roles and practicalities are contrasted against those identified for younger age groups in other qualitative studies. Recommendations for alcohol-related policy and practice are presented given these findings.

COMBINED LOW MUSCLE MASS AND STRENGTH AFFECT MOBILITY LIMITATION IN THE ELDERLY: A 4-YEAR FOLLOW-UP

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The study aimed to investigate which combined muscle mass and strength among four different combinations might be a risk factor for mobility limitation and falls in older adults. A total of 284 older adults participated in this study from baseline until the 4-year follow-up. We assessed the appendicular skeletal muscle mass index (AMI) using bioelectric impedance analysis. Additionally, the appendicular strength Z-score (ASZ) based on the hand-grip strength for the upper extremity and peak reaction force during sit-to-stand movement for the lower extremity were measured at baseline. The participants were classified into 4-group according to their AMI and ASZ score: Low AMI and Low ASZ; Low AMI; Low ASZ; and Normal. Mobility limitation and falls were assessed by a self-reported questionnaire at baseline and during follow-up. We used a Cox regression analysis with an adjustment for sex, age, body mass index, knee pain, and back pain. Among participants with no mobility limitation at baseline, the hazard ratio of any new mobility limitation was 5.54 (95% CI 2.24–13.69) in Low AMI and Low ASZ compared with Normal. As for participants with no falls at baseline, the hazard ratio of any new incident falls was 4.01 (95% CI 1.83–8.82) in Low AMI and Low ASZ, 2.05 (95% CI 1.11–3.77) in Low ASZ compared with Normal. These results suggest that the type of combined low muscle mass and low strength is an important risk factor for mobility limitation and falls. Moreover, low strength alone may independently predict incident falls in older adults.

ASSESSMENT OF HEALTH-PROMOTING BEHAVIORS BEFORE AND AFTER AN ALZHEIMER'S PREVENTION PROGRAM

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With the rapidly aging population and associated increased risk of Alzheimer's disease (AD), interventions aimed at preventing AD are crucial. We investigated whether older adults would benefit from empirically supported psychoeducation targeting strategies to prevent or delay AD. Twenty-seven older adults (Mean age (SD) = 81.93(5.68)),

completed a six-month group psychoeducation program created by the University of Kansas Alzheimer's Disease Center. Twelve sessions occurred twice monthly in a local retirement community, led by an interprofessional team with expertise in AD prevention. Sessions focused on modifiable risk factors for AD (i.e., physical activity, nutrition, sleep, stress). We used paired t-tests to measure changes in Health Promoting Lifestyle Profile subscale scores (nutrition, physical activity, spiritual growth, and stress management) from pre-intervention to post-intervention. There was statistically significant improvement in stress management ($p = .004$). There were no differences on nutrition or physical activity subscales. There was a trend toward significance for spiritual growth ($p = .059$), though our study was underpowered due to small sample size. Average physical activity scores were lowest across the subscales. Our group-based psychoeducation program targeting promotion of healthy lifestyle behaviors resulted in improved self-reported stress management. This is an important outcome for an older adult population seeking to be proactive about their brain health. Future research will explore how this stress reduction may occur (e.g., reduced helplessness, internal locus of control). The average lower scores on physical activity compared with other subscale scores suggest that strategies aimed at increasing physical activity show the greatest room for improvement.

A MEDIATIONAL MODEL OF STRESS IN HIPPOCAMPAL NETWORKS IN MILD COGNITIVE IMPAIRMENT

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The hippocampus regulates learning and memory formation and storage, while also playing a significant role in regulating the Hypothalamic-Pituitary-Adrenal axis and stress responses. AD-associated neurodegeneration is known to affect all of these aspects. However, it's still unclear how different types of stress (chronic vs. acute) mediate the hippocampal regulation of learning and memory, especially in AD associated neurodegeneration. The present study combined neuropsychological testing, resting state functional MRI, structural MRI, acute stress tests, and self-report chronic stress questionnaires to compare MCI subjects ($n = 18$) to their age-, sex-, and education-matched healthy controls (HC, $n = 21$). The MCI group had significantly smaller right hippocampal grey matter volumes ($t = 2.50$, $df = 30$, $p = .018$) than the HC group. The connectivity between the right hippocampus and the inferior frontal gyrus (Rhipp-IFG) was significantly positively related to both acute and chronic stress for the entire sample. After testing our mediation model for the two groups separately, we found that acute and chronic stress showed significant mediating effects in the association between Rhipp-IFG and learning (before adding mediators: $t = -2.56$, $p = .022$; when including mediators: $t = 0.21$, $p = .84$) in the HC group, but not in the MCI group. This suggests that chronic and acute stress act as mediators for the right hippocampus-involved neural network for learning and memory, and this mediating effect may be disrupted in the AD-associated neurodegeneration process.

COGNITIVE STATUS, CO-MORBID CONDITIONS, AND UNPLANNED READMISSIONS IN OLDER SURGICAL PATIENTS

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Unplanned hospital readmissions are associated with poor patient outcomes and incur increased resource utilization and costs. Cognitive impairment, greater burden of comorbidity, and increased age are associated with unplanned hospital readmissions of medicine patients, but are not well-studied among surgical patients. To-date a cohort of 331 patients undergoing elective gastrointestinal, thoracic or vascular surgery, have been enrolled in a prospective longitudinal study at three VA Medical Centers. Patients were interviewed on day of discharge, and administered the Short Blessed Test to screen for cognitive dysfunction. Length of stay and 30-day readmissions were determined via chart review, and a Charlson Comorbidity Index (CCI) score calculated for 62 patients. 146 underwent abdominal/colorectal or hernia repair, 123 vascular, 62 thoracic procedures. Mean age was 65.8 + 9.9 years, and length of stay (LOS) 6.3 + 4.4 days; neither was significantly different by surgery ($F=3.20$, $p=0.15$). Age was positively associated with CCI (i.e. higher risk of mortality; $r=-0.68$, $p<.0001$), with worse SBT and LOS ($z=15.77$, $p<.0001$). There were 52 unplanned readmissions (15.7%), with readmitted patients being older (66.4 vs. 65.6 years, $p<.0001$), having worse scores on the SBT ($F=6.16$, $p<.003$), and higher CCI ($F=4.27$, $p<.02$) after controlling for type of surgery. In older adults, greater comorbid burden and cognitive impairment may confer a risk for unplanned surgical readmission similar to that seen for medical readmissions.

VALIDATION OF A SCREENING TOOL (GERIATRIC-CHECK) FOR GERIATRIC PATIENTS

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Introduction: The Geriatric-Check is a short screening tool to identify geriatric patients. According to recent recommendations from the Baden-Württemberg Hospital Association, the test should be performed in all patients aged 70 and older who are referred to a hospital. It consists of two parts. If part A is positive, the patient is identified as a probable geriatric patient. Part A assesses age, care level, presence of dementia and whether the person is living in a nursing residency. Part B is performed in case part A is negative. Part B covers the domains mobility, autonomy, cognition, depression, and hospital stays during the last year. Although regularly used in German hospitals, this test has to our best knowledge not yet been validated.

Methods: We included 107 inpatients of the Neurological Department of the University of Tuebingen, aged 70 and older in a cross-sectional study. We performed part A and B of the test in all patients and compared the results with a comprehensive geriatric assessment.

Results: Twenty-three patients (22%) showed a positive part A. Twenty of these patients (87%) also showed a positive part B. Compared with the patients without positive results, patients with positive results in both parts of the Geriatric-Check were older, had lower gait speed and grip force, and had greater fear of falling.

Conclusion: This analysis shows that the results of the Geriatric-Check are in concordance with the results of the comprehensive geriatric assessment. It can thus be considered as a useful screening tool for the identification of geriatric patients.

EFFECTIVENESS OF MOTOR SKILL OF WALKING GROUP EXERCISE IN OLDER ADULTS: A CLUSTER RANDOMIZED TRIAL

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Many standard group exercise programs emphasize muscle strengthening, flexibility and general conditioning because of the association of such impairments with walking difficulties, but do not emphasize the ability to walk or the timing and coordination of movement that is critical to walking. We developed a group exercise program that includes timing and coordination exercises for walking called On the Move (OTM). In a single blind cluster-randomized trial, we evaluated the effectiveness of OTM and standard group programs to improve mobility, function and disability in 32 independent living facilities, community centers and senior apartment buildings. Programs were 1 hour, twice weekly for 12 weeks and ≤ 10 participants per class. OTM consisted of warm-up, timing and coordination (stepping and walking patterns), strengthening and stretching exercises. The standard program consisted of warm-up, aerobic, strengthening and stretching exercises. 298 participants (mean age 80.0 $\pm$ 8.1 years) were randomized, and groups were not significantly different at baseline. Despite a lower rate of attending 80+% of classes (50% vs 65%; $p=0.0324$), OTM elicited greater gains than the standard program in gait speed (0.05 m/s; $p=0.0022$) and 6-minute walk distance (16.7 m; $p=0.0344$), but not in function and disability (Late Life Function/Disability Index). Exploratory subgroup analyses suggest those with better mobility at baseline (gait speed > 0.8 m/s and 6-minute distance farther than 300m) may elicit greater benefits from OTM than the standard program. A group exercise program that addresses the motor skill of walking is more effective than a standard strength and conditioning program in improving mobility.

ASSOCIATIONS OF QUADRICEPS TORQUE PROPERTIES WITH MUSCLE SIZE AND ADIPOSITY IN OLDER ADULTS

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Atrophy and fatty infiltration of muscle with aging is associated with fractures and fall-related health outcomes. This study examined the association between CT-derived quadriceps muscle measures and function in a population-based cohort of older adults. It was hypothesized that participants with lower muscle attenuation (HU), area, and greater intra-muscular adipose tissue (%IMAT) will exhibit both slower rates of torque development (RTD) and lower peak knee torques. Participants (N=4863 [2060:2803 male:female]) from the Age Gene/Environment Susceptibility Reykjavik Study with a mean age of 76 ± 0.1 y had complete imaging and isometric torque knee testing. Linear regression models were adjusted for 16 covariates related to muscle size and function, health, behavior & comorbidities. After adjustment for covariates, the knee RTD was independently associated with HU (men $\beta=0.06$, 95% CI [0.01, 0.11]; and women $\beta=0.06$, 95% CI [0.02, 0.10]); as well as muscle area (men $\beta=0.14$, 95% CI [0.08, 0.20]; women $\beta=0.1$, 95% CI [0.06, 0.15]). Additionally, peak torque was independently associated with HU (men $\beta=0.11$, 95% CI [0.07, 0.15]; and women $\beta=0.12$, 95% CI [0.09, 0.16]); as well as muscle area (men $\beta=0.38$, 95% CI [0.34, 0.43]; women $\beta=0.33$, 95% CI [0.29, 0.37]). With the exception of RTD in women ($\beta=-0.06$, 95% CI [-0.10, -0.02]), and peak torque in men ($\beta=-0.05$, 95% CI [-0.09, -0.01]), %IMAT was not associated with function after adjusting for muscle HU and area. These novel results suggest that muscle HU is associated with the RTD independent of muscle area, further elucidating a potential pathway underpinning previously described relationships of muscle HU with falls, fractures, and poor balance.

MULTI-LEVEL DETERMINANTS OF LONG-TERM CARE RESIDENT ENERGY INTAKE: MAKING THE MOST OF MEALTIMES

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The Making the Most of Mealtimes (M3) prevalence study collected data from a representative Canadian sample of residents (n=639), staff (n=461), dining rooms (n=82), and homes (n=32). Three non-consecutive days of weighed and estimated food intake was used to determine energy intake. Mealtime and dining room observations, home management and staff questionnaires, health records, and physical assessments were collected by research staff. Mini-Nutritional Assessment-SF was used to determine nutritional risk. The Edinburgh-Feeding Questionnaire (Ed-FED) was used to identify eating challenges and eating independence. Dining environments were assessed for physical features using the

Dining Environment Audit Protocol and a derived homelikeness summary score. The Mealtime Scan was used to record mealtime experience and ambiance, and three summative scores were derived on physical, social and person-centered practices. Hierarchical multivariate regression determined predictors of energy intake. Mean age of participants was 86.6 ± 7.8 years and 31% were male. Mean energy intake was 1571.9 ± 411.9 kcal. Age, more eating challenges, requiring some eating assistance, and homelikeness scores were negatively associated ($p < 0.05$) with energy intake. Male gender, MNA-SF, often requiring eating assistance, being on a dementia unit and a more person-centred meal environment were positively ($p < 0.05$) associated with energy intake. There was also a significant interaction ($p < 0.05$) between being prescribed a pureed/liquidized diet and requiring eating assistance. These findings indicate that interventions focused on pureed food, restorative dining, eating assistance and person-centered care practices may improve food intake and should be targets for further research. (Funded by Canadian Institutes of Health Research)

EFFECT OF AGING AND GLUCAGON-LIKE PEPTIDE 2 ON INTESTINAL MICROBIOTA IN SD RATS

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Objective: To study the influence of aging and GLP-2 on intestinal microbiota in rats. Methods: Twelve 3 months old male SD rats were randomly divided into two groups: group C and group G. Twelve 26 months old male SD rats were randomly divided into two groups: group L and group T. GLP-2 was intraperitoneally injected into rats from group G and group T for 14 days. The fecal bacterial compositions were investigated by Miseq high-throughput sequencing. Results: Diversity of intestinal microbiota in group L was lower than that in group C. There was no obvious difference about the diversity of intestinal microbiota between group C and group G, group L and group T. At the phylum level, the relative abundance of Bacteroidetes, Firmicutes and Proteobacteria were higher in all rats. There was no obvious difference about the relative abundance at the phylum level except Spirochaetae. At the genus level, the relative abundance of Allobaculum and Bifidobacterium in group L was lower. The relative abundance of Anaerovibrio, Thalassospira, Streptococcus and Treponema in group L was higher. The relative abundance of Desulfovibrio, Intestinimonas and Oscillibacter in group G was higher. The relative abundance of Parasutterella, Prevotella and Psychrobacter in group G was lower. Conclusions: Aging significantly decreases the diversity of intestinal microbiota in SD rats, while GLP-2 has no significant effect. Aging reduces the probiotic bacteria, increases pathogenic bacteria of rats. GLP-2 increases parts of probiotic bacteria, reduces parts of pathogenic bacteria in young rats.

FUNCTIONAL ABILITIES AND GOALS IN POST-ACUTE CARE: AN EARLY LOOK AT STANDARDIZED ASSESSMENT DATA

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Functional status is tied to important health outcomes, yet the collection of functional status data has not been standardized across post-acute care (PAC). The IMPACT Act of 2014 required the submission of standardized assessment data by PAC providers, including data related to function. Previously, functional assessment data collected in skilled nursing facilities (SNFs), inpatient rehabilitation facilities (IRFs), and long-term care hospitals (LTCHs) consisted of different assessment instruments, scales, and items. Standardization of functional data across PAC settings has the potential to improve care coordination. We present a preliminary review of recently implemented standardized self-care and mobility data by examining the cross-setting quality measure, Application of Percent of Long-Term Care Hospital (LTCH) Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function.

We analyzed the first quarter of assessment data available for all three PAC settings (October – December, 2016). Data sources with these standardized data elements include the Minimum Data Set, IRF-PAI, and LTCH CARE Data Set. We examined the reporting of patient and resident functional abilities and goals across PAC settings. For example, among 404 LTCH facilities, the average hospital completed an admission and discharge functional assessment and assigned at least one discharge goal for 95.5% of patients. Results were slightly higher for the average IRF facility (98.7%, $n=1,105$). Analysis of the SNF setting data as well as within setting variability by geographic regions, urbanicity, ownership, and number of discharges will also be presented. Policy implications of these findings will be discussed.

ASSOCIATION BETWEEN PERCEIVED SOCIAL SUPPORT AND DEPRESSIVE SYMPTOMS AMONG OLDER CHINESE AMERICANS

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Purpose: Depressive symptoms are common among older immigrants. Social support is an important factor that can relieve the stress due to the process of acculturation. This study was to examine the association between social support and depressive symptoms among U.S. Chinese older adults.

Methods: Data were from the Population Study of Chinese Elderly in Chicago (PINE) study. Independent variables were positive social support and negative social support. Dependent variable was depressive symptoms. Logistic regression analyses were performed.

Results: A total of participants were 3,157 Chinese older adults with the mean age of 72.8 years (range 60–105). After controlling for age, gender, income, marital status, the number of children, and the number of medical comorbidities, higher positive social support was associated with fewer depressive symptoms (mild vs. minimum odds ratio [OR] = 0.88, 95% confidence interval [CI]: 0.85–0.92; moderate-severe vs minimum OR = 0.82, 95% CI: 0.79–0.86). In contrast, higher negative social support was associated with more depressive symptoms (mild vs. minimum OR = 1.34, 95% CI: 1.24–1.46; moderate-severe vs minimum OR = 1.38, 95% CI: 1.26–1.52).

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Conclusion: Future prevention and intervention programs should incorporate valuable cultural insight to improve mental health among older Chinese immigrants. In addition to enhancing family and spousal support, the negative interactions (e.g. abuse, demands, and criticism) should be avoided to alleviate the severity of depressive symptoms.

GLYCEMIC CONTROL AND CLINICAL OUTCOMES IN INSTITUTIONALIZED DIABETIC OLDER ADULTS

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In institutionalized diabetic older adults, the harms of intensive glycemic control may outweigh the benefits. However, evidence-based data are lacking.

A retrospective cohort of older adults (age ≥ 65 years) with diabetes mellitus living in nursing homes with HbA1c measurements were identified. They were divided into groups according to their HbA1c: $<7.0\%$, $7.0\text{--}8.4\%$, $8.5\text{--}9.9\%$ and $\geq 10.0\%$. Baseline characteristics included demographics, clinical, functional and laboratory parameters and study outcomes (mortality and hospitalizations) were evaluated.

376 institutionalized diabetic older adults (mean age 81.6 ± 6.7 years) were included. The majority had multiple comorbidities (Charlson Comorbidity Index 4.7 ± 2.1) and functional limitations (70.8% with impaired mobility). The lowest 1-year mortality and hospitalization rate were found in the group with HbA1c $8.5\text{--}9.9\%$. Multivariate analyses showed that there were J-shaped associations between HbA1c and hazard ratio for mortality and between HbA1c and odds ratio of recurrent hospitalization with best outcomes in those with HbA1c $8.5\text{--}9.9\%$. Advanced age, presence of stage 5 chronic kidney disease and peripheral vascular disease, impaired mobility, polypharmacy and lower albumin level were independent predictors of mortality. Among those with intensive glycemic control (HbA1c $<7.0\%$), 55.9% received glucose-lowering therapy with high hypoglycemia risk (sulfonylurea and/or insulin).

Institutionalized diabetic older adults with HbA1c $8.5\text{--}9.9\%$ had the lowest 1-year mortality and hospitalization rate. This may provide a reference for the recommended HbA1c in this population. Comprehensive geriatric assessment can prognosticate clinical outcomes in this population. Our findings suggested that a substantial proportion of this population was potentially over-treated and de-intensification of drug treatment should be considered.

CAN PROTEIN AND VITAMIN D ENHANCE THE COGNITIVE BENEFITS OF RESISTANCE TRAINING IN TYPE 2 DIABETICS?

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Type 2 Diabetes (T2DM) is associated with an increased risk of cognitive impairment. Exercise and nutrition are the cornerstone of T2DM management and can improve cognition, but whether they produce additive benefits remains unknown. This 24-week RCT examined whether protein-vitamin D supplementation could enhance the effects of

progressive resistance training (RT) on cognition in adults aged 50–75 with T2DM. All participants (n=198) were prescribed RT and randomized to receive a whey-protein drink (20g/d before breakfast plus 20g/d after RT) plus vitamin D (2000 IU/d) (RT+ProD, n=98), or no additional powder/supplements (RT, n=100). Cognition was assessed at baseline, 12 and 24 weeks using three composite z-score measures [global cognitive function; working memory/learning (WML), attention/psychomotor function] from the Cogstate computerised battery. All results were adjusted for age, gender, education and diabetes duration. Overall 177 (89%) and 168 (85%) completed the 12- and 24-week assessment. Exercise compliance was 68% in RT+ProD and 58% in RT ($P<0.05$). Mean compliance with the whey-protein and vitamin D supplements was 79% and 92%, respectively. For global cognitive function, both groups experienced similar significant improvements after 24-weeks (0.17–0.19 SD, $P<0.001$). For WML, there was a 0.19 SD greater improvement in RT+ProD versus RT after 12-weeks ($P<0.05$), but by week 24 both groups displayed a similar significant improvement (0.22–0.24 SD, $P<0.01$). Attention/psychomotor scores did not change in either group. In conclusion, protein-vitamin D supplementation initially enhanced the effects of exercise on working memory/learning in older people with T2DM, but does not appear to provide additional long-term benefits.

BMI, INFLAMMATION, AND PHYSICAL FATIGABILITY IN OLD AGE: SHARED OR INDEPENDENT PATHWAYS?

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Physical fatigability, the level of fatigue experienced while undertaking specified physical tasks, increases with age. These age-related changes, which reflect reductions in energy availability, precipitate declines in function and activity participation. Cross-sectional analyses suggest that obesity and inflammation may be modifiable risk factors for fatigability which require further investigation in longitudinal studies. Using data on 2095 participants from the MRC National Survey of Health and Development, a nationally representative British birth cohort, we aimed to assess whether body mass index (BMI) and inflammatory markers were associated with physical fatigability and, if so, whether these act on shared pathways. Linear regression models were used to relate BMI from age 36 and inflammatory markers (C-reactive protein (CRP) and interleukin-6 (IL-6)) at age 60–64 to physical fatigability scores on the Pittsburgh Fatigability Scale (PFS) at age 68. Women had higher mean PFS scores than men (16.0 (SD=9.3) vs 13.4 (SD=9.0), $p<0.01$), with higher scores indicating greater perceived physical fatigability. In sex-adjusted analyses, higher BMI across adulthood and higher levels of CRP and IL-6 were associated with higher PFS scores. For example, participants with BMI ≥ 30 kg/m² at age 36 had a sex-adjusted mean PFS score 6.1 (95% CI: 3.9–8.2) points higher than those with BMI 20–24.9kg/m². When these associations were mutually adjusted, BMI and IL6 remained associated with PFS scores, whereas associations with CRP were fully attenuated. These findings highlight that BMI and inflammatory markers earlier in adulthood are associated

with physical fatigability in old age and act on both shared and independent pathways.

THE EFFICACY OF A FALLS CLINIC FOR ELDERLY AND THE ADDED ROLE OF THE TILT TABLE TEST

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Background: Many geriatric centers include special fall clinics for evaluating elderly patients who fall in an attempt to prevent such events that pose a threat to patients' independence. Few studies have assessed the added value of the Head-Up Tilt Table (HUTT) test in the elderly.

Objective: In a fall clinic we evaluated the impact of HUTT test and the efficacy of structured instructions to patients.

Methods: This descriptive comparative study included 150 consecutive patients presenting with falls due to dizziness or suspected syncope. All participants underwent a comprehensive evaluation and were referred to HUTT test. Seventy-five underwent the test and the other 75 who did not comprised the comparison group. Each participant received personal guidance to prevent falls. Clinical data, including HUTT results, were collected retrospectively from patients' files. A follow-up telephone interview was conducted 6 months later.

Results: The two groups were similar in gender, number of falls, medical history, motor FIM score and number of medications. Those in the HUTT test group were 6 years younger (average). The response rate to the follow-up telephone survey was 87.3%, and 75.6% of responders were the patients themselves. There was good adherence to the fall clinic's recommendations and a significant decrease in dizziness. Syncope, fall rates and hospitalizations due to falls. These findings did not differ between the study groups nor according to HUTT results.

Conclusion: Our study demonstrates the impact of comprehensive evaluation and structured instructions in a specialized fall clinic for elderly patients, beyond a single diagnostic test.

FACTORS ASSOCIATED WITH FUNCTIONAL DECLINE AMONG ADULTS AGE 50 YEARS OR OLDER: A 4-YEAR FOLLOW-UP

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This is a prospective 4-year follow-up study (2011–2015) in a population-based sample of 713 adults aged 50 years or older residing in a medium-sized city in Southern Brazil. In this analysis, only 412 individuals, who were considered independent for instrumental activities of daily living (IADL), were included in the baseline assessment. The outcome was the functional decline (FD), defined as the functional loss of at least two IADL after 4 years of follow-up. The independent variables associated with FD were sociodemographic, lifestyle, and comorbidities. The results showed that 78 of the 412 subjects (18.9%) were considered dependent for

IADL after 4 years of follow-up. When adjusted for sex, age, economic class, and schooling, the following variables were identified as having significant associations with high FD: absence of spouses, relative risk (RR) = 1.75 [95% confidence interval (CI): 1.08–2.95]; low consumption of vegetables and fruits, RR = 1.85 (95% CI: 1.11–3.07); diabetes, RR = 1.69 (95% CI: 1.13–3.28); hearing impairment, RR = 2.06 (95% CI: 0.24–3.43); and falls, RR = 1.61 (95% CI: 1.01–2.57). In conclusion, we observed an overall worsening of functional status in a population aged 50 years or older within a short period of 4 years, especially in groups at higher risk such as those without spouses, those having diabetics, those with low consumption of fruits/vegetables, and those having hearing impairment. Therefore, it is important to adopt measures to maintain the functional capacity in these specific populations.

VALIDITY OF FRUIT AND VEGETABLE INTAKE ASSESSED BY A FOOD FREQUENCY QUESTIONNAIRE IN OLDER ADULTS

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Accurately assessing dietary intake in older populations is vital to determine the potential role of diet in healthy ageing. Based on the uncertainty over the utility of a food frequency questionnaire (FFQ) to determine dietary intake in older people, the objective of this study was to validate fruit and vegetable (FV) intake from a FFQ, using a food diary (FD). A sub-sample of 50 participants (aged >50y) from the Northern Ireland Cohort for the Longitudinal Study of Aging completed a FFQ and 4-day FD (reference method) at two time-points (Month 0 and Month 6). Estimates of FV intake were compared between methods using Spearman's correlation coefficients, cross-classification, weighted kappa and Bland-Altman plots. At both time-points, median fruit, vegetable and total FV intake were higher (all $p < 0.001$) in the FFQ than the FD. Positive correlations (all $p < 0.05$) were observed between the FFQ and FD estimates at both time-points (Mo 0, $r = 0.44$, 0.52 and 0.46 for fruit, vegetables, total FV, respectively; Mo 6 $r = 0.49$, 0.44 and 0.44 , respectively) while weighted kappa showed fair-moderate agreement between methods for FV intake. Cross-classification indicated that 79% of participants were classified into the same or adjacent quartile. Bland-Altman plots revealed a widening in limits of agreements, between the FFQ and FD, with higher FV intakes. While over-reporting is evident with the FFQ compared to the FD, the results show good comparability in ranking older adults according to their FV intake. Analysis of FV biomarkers within this sample will provide a more objective assessment of FV intake.

A CASE FOR DEVELOPING AN EXERCISE-BASED PREVENTIVE SWALLOW HEALTH MAINTENANCE PROGRAM IN THE ELDERLY

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Oropharyngeal dysphagia (OPD) associated with frailty is an important national healthcare concern with

serious consequences, enormous cost and limited therapeutic options. Despite positive health outcomes with strength training exercises for locomotive health maintenance in the elderly, to date there has been no systematic approach for an exercise-based swallow function maintenance program. Aim: To determine the effect of a swallow exercise program on the oropharyngeal deglutitive biomechanics in healthy elderly and dysphagic patients using a novel technique of Swallowing Against Laryngeal Restriction (SALR). Methods: We studied 24 healthy elderly (76+/-7yrs, 10M) by videofluoroscopy before and after six-weeks of real exercise. 12 of these volunteers also underwent pre and post-exercise high-resolution pharyngeal manometry. 10 elderly (81+/-6yrs, 1M) were studied by videofluoroscopy before and after six-week of sham exercise. We also studied a heterogeneous group of 21 OPD patients (64+/-10yrs, 10F) with videofluoroscopy before and after a minimum of six-weeks of real exercise. Real exercise consisted of 30 swallows at 15 second intervals TID using a device hindering deglutitive laryngeal excursion. Results: In healthy elderly, real exercise, but not sham exercise, significantly improved upper esophageal sphincter (UES) opening, posterior pharyngeal-wall thickness, anterosuperior laryngeal excursion and pharyngeal contractile integral. In patients, UES opening, anterior laryngeal excursion and symptom-specific outcome EAT-10 improved significantly post-exercise. Conclusions: Strength training facilitated by SALR technique safely improves deglutitive biomechanics, function, and reverses pharyngeal sarcopenia. In addition to developing similar program for deglutitive rehabilitation of OPD, the findings of this study provide the basis for developing an exercise-based preventive swallow health maintenance program for the elderly.

RESPIRATORY MUSCLE STRENGTH IS ASSOCIATED TO PARITY AMONG LOW-INCOME WOMEN FROM NORTHEAST BRAZIL

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High parity is common in low-income settings and it is related to chronic conditions among women. This study investigated associations between parity and respiratory muscle strength in low-income women (Northeast Brazil). In a cross-sectional study, 204 community-dwelling women (40–80 years-old) were evaluated regarding the number of lifetime childbirths and ability of generating maximal inspiratory (MIP) and expiratory (MEP) pressures with a digital manometer. We performed multiple linear regression analyses to model the effect of multiple births on MIP and MEP, adjusting for covariates (current age, age at first birth, income, education, smoking, BMI, time seated during a day and walking per week). Forty four percent of the sample had ≤ 3 births, 30.4% had 4 to 6 births and 25.5% had 7 births or more. There is a clear gradient in relation to MEP and parity groups; those with a higher number of births had lower MEP values. In the fully adjusted model, women with ≥ 7 births and women with 4–6 births presented lower mean MEP ($\beta = -17.79$ cmH₂O; $p = 0.01$ and $\beta = -12.46$ cmH₂O; $p = 0.02$, respectively) than women with ≤ 3 births. No relation was

observed between parity and MIP. We hypothesized that multiparity may affect the abdominal strength due to impairment in the muscles biomechanics. Diastasis recti is common after multiple pregnancies and may cause disadvantage in strength generation, reducing expiratory pressures. Lower expiratory pressures are related to higher incidence of lung diseases including atelectasis and recurrent pneumonia, which are important debilitating conditions for elderly.

IMPROVING AIR QUALITY AND CARDIOVASCULAR HEALTH FOR LOW-INCOME ELDERLY IN DETROIT, MICHIGAN

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Ambient fine particulate matter (PM_{2.5}) compromises cardiovascular health (CV) by stimulating inflammatory reactions in blood vessels. We tested the effectiveness of indoor air filtration to reduce PM_{2.5} exposure and improve CV health in seniors living in a government-subsidized low-income apartment building. This facility is located in downtown Detroit, Michigan, where documented average indoor PM_{2.5} concentrations are more than twice the current annual US National Ambient Air Quality Standard. This facility is in an area where we have previously demonstrated that exposure to both ambient and personal PM_{2.5} is significantly associated with elevated blood pressure within 1–3 days after exposure. For the current study, we conducted a randomized crossover intervention study with repeat health and exposure measurements from 39 seniors exposed to unfiltered, low-efficient (LE) filtered, and high-efficiency (HE) filtered air. Preliminary results indicate that both LE and HE indoor filtration effectively reduce indoor and personal PM_{2.5} concentrations by 35–51%. Effects on cardiovascular outcomes and inflammation markers are pending. If shown to be effective, in-room air filtration offers a relatively inexpensive intervention to improve air quality and CV health in seniors living in areas of high air pollution.

A SHORT SURVEY TO ASSESS HEALTH STATUS AMONG OLDER ADULTS

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The purpose of this study was to test the feasibility of fielding a short survey to a large older population to learn about their self-rated health, compliance with annual flu vaccinations, and willingness to participate in population health programs. 675,772 older adults were contacted to participate in the survey. Responses were linked to eligibility, medical claims, and pharmaceutical data to identify: 1) those who responded to the survey; 2) those whose self-rated health was different than their Hierarchical Condition Category (HCC) risk score measured with claims data and; 3) those that reported not having a flu vaccination. The survey response

rate was 14%, and 32% of respondents reported no flu vaccination. Among those rating their health as poor-fair, 1/3 had an HCC score indicating they were healthy (HCC<1.0). Among those rating their health as good-excellent, 4% had HCC score indicating they were sick (HCC>2.8). This telephonic short survey outreach to a large population successfully gathered important population health metrics not available in claims data. First, the flu vaccination information can be used to effectively target an intervention for those not vaccinated. Second, using self-rated health to prioritize those being considered for a population health intervention may be more effective than using claims data. Finally, individuals who complete a survey have demonstrated that they are more likely to join a population health program when offered, and therefore given a high priority when determining whom to target for these programs.

EFFECTS OF A SIX-WEEK STRENGTH TRAINING PROGRAM ON FUNCTIONAL FITNESS LEVELS AMONG OLDER ADULTS

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Introduction: Muscular strength, flexibility, aerobic endurance, and balance are well-known contributors to health and quality of life among older adults. Prior research has indicated older adult participation in resistance training provides foundational strength for performance of activities of daily living. Purpose: To investigate the effects of a six-week progressive resistance training program on strength, flexibility, aerobic endurance, and dynamic balance and agility among community-dwelling older adults. Methods: From 2010–2015, ten separate sessions of a six-week progressive resistance training program were implemented and resulted in a total of 95 community-dwelling older adult participants (37 male, 58 female; M=73.5 + 7.2). The resistance-training program included bi-weekly, 1-hour sessions targeting all muscle groups. Assessments included 30-second arm curl, 30-second chair stand, back scratch, chair sit-n-reach, 2-minute step test, and 8-foot up-and-go. Statistical Analysis: The Wilcoxon Signed-Rank Test was performed to evaluate group differences between baseline and post-program for upper- and lower-body strength, upper- and lower-body flexibility, aerobic endurance, dynamic balance and agility. Results: Significant differences between pre- and post-assessments were found for upper- and lower-body strength ($z = 6.81, p < .001$; $z = 6.46, p < .001$, respectively); upper- and lower-body flexibility ($z = 3.81, p < .001$; $z = 4.85, p < .001$, respectively), aerobic endurance ($z = 6.04, p < .001$), and dynamic balance and agility ($z = 5.52, p < .001$). Conclusion: The six-week progressive resistance-training program targeting all muscle groups resulted in significant improvements in strength, flexibility, aerobic endurance, balance, and agility among community-dwelling older adult participants.

IMPACT ON CARDIORESPIRATORY OUTCOMES OF HIGH VS. STANDARD DOSE INFLUENZA VACCINE IN U.S. NURSING HOMES

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Age and multiple morbidities increase susceptibility to influenza whilst responsiveness to vaccination declines. However, Fluzone® High-Dose, Influenza Vaccine (HD) reduces clinical influenza more than Fluzone vaccine standard dose (SD) among outpatient elderly. In 2013–2014 we randomized 823 nursing homes (NHs) to either SD or HD as their care standard. HD significantly reduced hospitalizations. We now report on diagnoses for hospitalization, using Medicare Fee-For-Service (FFS) discharge data. We compared primary and secondary discharge diagnoses for index hospitalizations for cardiac and respiratory illnesses using ICD-9 codes (acute myocardial infarction: 410.xx, 411.xx; heart failure: 428.x, 429.0, 429.1, 419.7; atrial fibrillation: 427.x; stroke: 433.xx–436.xx; and respiratory illness: 460–466, 480–488, 490–496, 500–518). We used marginal Poisson regression, accounting for clustering of NH residents and for pre-specified resident and facility baseline covariates: age and average age of NH residents, ADL and average ADL of NH residents, cognitive function, hospitalizations in prior year, and patients' chronic heart failure. On 11/1/2013, of 38,256 FFS NH residents living in their NH >3 months, and ≥ 65 years old, 19,126 were offered HD and 19,129 were offered SD. From November through April, 7,297 FFS residents were hospitalized (3509 HD, 3788 SD, $p=0.0110$). The difference in all-cause hospitalization was accounted for largely by hospitalization for the combination of cardio-respiratory outcomes (unadjusted RR=0.918, 0.861–0.980 95% CI, $p=0.0098$; adjusted RR=0.908, 0.858–0.961 95% CI, $p=0.0009$). In our prospective cluster-RCT, HD provided better protection than SD against both respiratory and certain cardiac conditions that lead to hospitalization.

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EARLY FRAILTY TRANSITION PREDICTS 17 YEARS OF MORTALITY AMONG NON-DISABLED OLDER MEXICAN AMERICANS

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Understanding frailty transitions over time and its impact on mortality is crucial for early prevention and long-term care for any individual who is going through aging process. We used 1995/96 to 2012/13 data from the Hispanic Established Populations for the Epidemiological Study of the Elderly (EPESE) survey to investigate the effect of early frailty status transition on 17-year mortality. This study included 1688 Mexican Americans aged 67 years and older and were non-disabled at baseline. Frailty was defined as meeting two or more following criteria: unintentional weight loss > 10 pounds, weakness, self-reported exhaustion, and slow walking speed. According to the frailty transition between 1995/96 and 1998/99, participants were divided into 9 transition groups: non-frail-non-frail, non-frail-pre-frail, non-frail-frail; pre-frail-non-frail, pre-frail-pre-frail, pre-frail-frail; frail-non-frail, frail-pre-frail and frail-frail. Using Cox proportional hazards regression, we estimated mortality as a function of early frailty transitions controlling for socio-demographics, comorbidities, and cognitive impairment. Participants who transitioned from pre-frail to non-frail status had 20% lower mortality risk [Hazard

Ratio (HR) = 0.80, 95%CI=0.64–0.99] compared to those who remained non-frail. Non-significant reduction in risk of mortality was seen among those who transitioned from frail to non-frail (HR=0.67, 95%CI=0.38–1.19). Non-significant high risk of mortality was found among those who transitioned from pre-frail to frail, frail to pre-frail and remained frail. This study demonstrated that non-disabled older Mexican Americans who transitioned from pre-frail to non-frail had significant lower risk of mortality over 17-years of follow-up. Intervention targeting older Mexican Americans in pre-frail status could potentially decrease mortality in a long run.

A CHOICE-BASED PHYSICAL ACTIVITY AND ACTIVE TRAVEL INTERVENTION FOR OLDER MEN

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Low levels of physical activity contribute to loss of mobility and independence in older men. We conducted a 12-week randomized controlled feasibility trial of choice-based physical activity (PA) and active travel. Participants were community-dwelling 'low active' men aged 60+ ($n=29$ intervention (INT), $n=29$ waitlist control). Trained activity coaches delivered: 1) one-on-one participant consultations to develop personal action plans for PA and active travel; 2) monthly group-based motivational meetings; 3) weekly telephone support; 4) complimentary recreation and transit passes; and 5) pedometers and diaries for self-monitoring. INT chose a wide range of group-based and individual PAs (e.g., group exercise classes, walking, cycling) and destinations (e.g., parks, cities, shops/restaurants) for their personal action plans. At 12 weeks, INT achieved 9.0 more minutes/day of moderate-to-vigorous PA ($p=0.06$) and 1140 more steps/day ($p=0.04$), engaged in 5.2 more moderate intensity PAs/week ($p<0.01$), and expended 1493 more kcal of energy/week from moderate PAs ($p=0.02$). INT was 4.2 times more likely to take at least one transit trip/week (95%CI:1.2–18.0) and 3.3 times more likely to meet national guidelines of ≥150 minutes/week of moderate-to-vigorous PA in bouts of ≥10 minutes (95%CI:0.75–16.3). At 24 weeks follow-up (12 weeks after intervention end), INT benefits relative to baseline were sustained for minutes/day of moderate-to-vigorous PA, number of moderate intensity PAs/week, and kcal of energy/week from moderate PAs. In conclusion, a choice-based model of PA paired with active travel may be an effective approach to promote PA among older men.

NUTRIENT INTAKE OF FEMALE RESIDENTS CONSUMING A PUREED DIET IN CANADIAN LONG-TERM CARE (LTC) HOMES

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Older adults residing in long-term care (LTC) face increased risk of malnutrition because of many factors, including decreased appetite, difficulty eating, and cognitive

impairment. Issues associated with pureed texture diets (e.g., dysphagia, poor dentition, lack of appeal, and extra menu planning) further contribute to this risk. The current study examined the adequacy of nutrient intake among female LTC residents prescribed a pureed texture diet. Making the Most of Mealtimes (M3) is a cross-sectional study of 639 residents from 32 LTC facilities across four Canadian provinces (AB, MB, NB, ON). Of these, 67 residents (10.5%) were prescribed a pureed texture diet, 51 of which were female (88±8 years old). Weighed food intake was measured on three non-consecutive days and analyzed using ESHA Food Processor software. Intake of energy and 25 nutrients were adjusted for intra-individual variability and compared to their corresponding Estimated Average Requirement (EAR) or Adequate Intake (AI) value. Mean energy intake among female consumers of pureed diets was 1487±376 kcal/day. Estimated inadequacies were found for vitamins D, E and folate (>95% of individuals below EAR); and vitamin B6, calcium and magnesium (>50% but <90% below EAR). For nutrients with an AI, median intakes of dietary fibre, potassium and vitamin K were below their AI. These findings indicate that female residents prescribed a pureed texture diet in Canadian LTC homes have low intake of several micronutrients. Careful menu planning and nutrient-dense options for pureed texture diets in LTC are recommended. (Funded by Canadian Institutes of Health Research).

SKILLED NURSING FACILITY TO HOME CARE TRANSITIONS: OUTCOMES OF EARLY OUTPATIENT FOLLOW-UP

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As hospital lengths of stay have decreased, more older adults have discharged to skilled nursing facilities (SNFs) prior to returning home. Patient characteristics and factors that prevent post-discharge adverse outcomes, such as hospital readmissions, are poorly understood. This study utilized a database comprised of data from one health system's Electronic Medical Record, matched to Medicare, Medicaid and the Minimum Data Set. Among patients who transitioned from hospital to SNF to home, we used survival analysis to examine whether a home health visit or outpatient visit within one week of SNF discharge was associated with reduced hospital admission. Out of 8,754 community dwelling, hospitalized older adults with a hospital stay of 3 or more days, 4,577 were discharged home (52.3%; hospital to home group) and 3,025 (34.6%) were discharged to a SNF, of whom 1,543 (51.0%) returned home (SNF to home group). Patients discharged after SNF stay were older (median age 77.82 years v. 73.75, $p<0.0001$), had more comorbidities (median 6 v. 5, $p<0.0001$) and a longer hospital length of stay (median 7 v. 4 days, $p<0.0001$). After SNF discharge, a home health visit within a week was associated with reduced hazard of 30-day hospital readmission (adjusted hazard ratio (aHR) 0.61, $p<0.0001$) but outpatient physician visits were not (aHR=0.67, $p=.8214$). Patients discharged to a SNF prior to returning home are a high risk group. The finding that a home health visit within a week of discharge is associated with reduced hazard of 30-day hospital readmissions suggests a potential avenue for intervention.

AGING IN CONTEXT: A MIXED METHODS INVESTIGATION OF PERSON-PLACE INFLUENCES ON WELL-BEING

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Aging occurs in context; yet, too often environmental characteristics are ignored. Seated and mobile interviews with community-dwelling older adults (n=124, mean age 71 years), combined with environmental audits, explored the everyday contexts of older adults living in three distinct areas of the Minneapolis (USA) metropolitan area. Convergent parallel analyses examined four constructs of wellbeing: (1) self-rated health, (2) isolation and loneliness, (3) sense of safety, and (4) happiness. Logistic regression models adjusted for age, gender, past occupation, race/ethnicity, living alone, street type, residential location, and building density were used to predict the wellbeing constructs. Qualitative thematic analyses probed individual perspectives and personal experiences. The sociodemographic qualitative findings generally converged with the quantitative results. For instance, the most consistent predictor of wellbeing in the quantitative models was living alone, which was negatively associated with all four aspects of wellbeing (e.g. odds ratio [OR] for moderate/poor/very poor vs. good/very good self-rated health = 3.08; 90% confidence interval [CI]: 1.31–7.20). This estimate paralleled the qualitative findings, in which numerous participants living alone voiced struggles with vulnerability, isolation, and poor health. However, individualized qualitative perspectives on environmental contexts problematized the quantitative results. Linear trends generated by regression modelling, which indicated that wellbeing steadily decreased when moving outwards from the city center toward suburban zones, diverged from nuanced qualitative data that captured significant variation in wellbeing within each residential context. Findings advance scholarship on health-place interconnections, and elucidate how interacting personal variables and environmental contexts 'get under our skin' to shape the experience of aging.

PNEUMONIA READMISSION IN OLDER ADULTS WITH DEMENTIA

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Pneumonia readmissions have significant quality of care and policy implications for patients and health care providers. Research suggests that initiatives to decrease readmissions should target high-risk subgroups. Older adults with dementia are known to be at an increased risk of contracting pneumonia and have higher hospitalization rates due to pneumonia, suggesting that older adults with dementia may be at high-risk of pneumonia readmissions. There is a lack of research addressing the relationship between dementia and pneumonia readmissions. The purpose of this retrospective study was to investigate pneumonia readmission rates and predictive factors of older adults with and without dementia. A nationally representative sample of 389,198 discharge records was extracted from the 2013 Nationwide Readmission Database. Significant differences were found ($p<.001$) when comparing patient characteristics of older

adults with and without dementia who were readmitted within 30 days of discharge. Older adults with dementia had a readmission rate of 23.5% and were 2.9 times more likely to be readmitted (OR; 95% CI, 1.93,4.40) than older adults without dementia. Predictive factors were calculated using a generalized linear model with dementia included as an interactive effect. Dementia significantly modified ($p < .05$) the relationship between pneumonia readmissions and four factors; (a) discharge disposition, (b) chronic conditions, (c) risk of mortality, and (d) median household income. Classifying older adults with dementia as a high-risk sub-group for pneumonia readmissions is supported by the findings of this study. Development of strategies to reduce pneumonia readmissions that are tailored to individuals with dementia should be considered.

HEALTH EQUITY PREDICTORS AMONG AGING PARENTAL CAREGIVERS OF ADULTS WHO HAVE AUTISM

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The principles guiding initiatives related to aging among individuals with intellectual disabilities (i.e., independence, participation, care, self-fulfilment and dignity) are based on the principles adopted in the United Nations Principles for Older Persons (resolution 46/91) (United Nations, 1991). This resolution must implicitly include their aging parental caregivers. Aging parental caregivers of adults with Autism Spectrum Disorder (ASD), may be particularly vulnerable as they balance their own needs that change as they age and care for their adult child. Policies and funding decisions directed at meeting the needs of people with ASD have tended to focus on the individual with the developmental disorder, yet implementation relies heavily on family caregivers, primarily parents. Little is known about the health impacts, both positive and negative, among aging parents caring for an adult with ASD.

It is necessary to consider the health of the parents of adults with ASD, as they are aging themselves. The province of Ontario has developed the Health Equity Impact Assessment (HEIA), a five-step model designed to identify the unintended health impacts, both positive and negative, of policies. The purpose of this research is to use the HEIA as a framework to identify the health impacts of community-based policy on aging caregivers of adults who have ASD.

Participants (N= 320), completed the World Health Organization Quality of Life – Brief, Caregiver Burden Inventory, ENRICH Social Support Instrument, Caregiver Reaction Assessment, and demographic questionnaires were analyzed using multiple regressions. Interviews were also conducted among parents (N= 50), age 50 years old and older, of adults diagnosed with to explore how the services and supports provided influenced the social determinants of health (SDOH).

Results: The findings demonstrated a negative correlation between burden experienced by the parents and various aspects of social determinants of health. Caregiver burden was a predictor of QOL. Subthemes, identified using line-by-line analysis of transcribed interviews used a grounded theory perspective, included: stress, fatigue, physical assaults,

worsening of chronic conditions, fear and helplessness experienced by these parents. This study highlights impediments to SDOH experienced by aging parental caregivers of adults who have ASD, which can be mitigated by service providers.

CHARACTERISTICS OF RESIDENTS IN NEED AND FAMILY PERCEPTIONS OF FAMILY CARE CONFERENCES IN LTC

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Few long-term care (LTC) homes follow a systematic process for communicating with families of residents near end of life (EOL). Barriers to communicate may include limited resources and difficulty prognosticating. A new program called 'Strengthening a Palliative Approach to Care' (SPA-LTC) examined Family Care Conferences (FCC) for residents who were nearing EOL as a way to increase communication between staff and families. The purpose of this study was to explore: 1) characteristics of residents who had FCCs compared to those who did not, and 2) family perceptions of FCCs through a mixed methods approach.

At study end, there were 39 families enrolled and 28% (n=11) of residents had died, all in the LTC setting. FCCs were held for 24 families and three additional residents died before an FCC occurred. Descriptive statistics showed residents who had an FCC tended to have dementia, higher Charlson Comorbidity Index, and were hospitalized more often during the last year. Eight families attending FCCs agreed to be interviewed. Participants reported feeling well-supported during FCCs, found conferences beneficial and all had identified EOL preferences. One interviewed participant recommended holding FCCs earlier in the course of illness.

Findings suggest that families of residents with specific characteristics (e.g., dementia diagnosis) may have increased need for communication or acceptance of FCCs at EOL. Overall, family members perceived FCCs as beneficial supporting the value of this intervention and participant suggestions can contribute to tailoring FCCs. Analysis of resident characteristics in particular should be repeated in additional studies to confirm findings.

THE EFFECT OF HEALTH ON THE TIMING OF RECEIVING RETIREMENT BENEFITS

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Health is one of major factors that cause people to retire. However, referring to the gender gap in pensions, empirical studies mostly focus on the influence of working years, occupation and education on the gap, instead of gendered health disparity. This study aims to understand how the effect of health on the timing of receiving retirement benefits are conditioned by gender, cohort and the institution.

This study will use the 1992–1998 and 2004–2014 waves of Health and Retirement Study (HRS) data and the 1989–1999 and 1996–2011 waves of the Taiwan Longitudinal Study in Aging (TLISA) to examine the effects of gender disparity in late adulthood health on the timing of SSB and pension receipts. Discrete-time event history analysis by logistic

regression models are adopted to investigate the hazard rate of receiving retirement benefits across individuals and cohorts.

Based on cumulative disadvantage or advantage approach in life course perspective, this study suggests the mechanisms “work incapacity”, “wage depressing”, “the limitation of job opportunity” and “anticipation of shorter life expectancy” could lead gender and cohorts to have dissimilar patterns of retirement income receipt timing. Additionally, the social policies and the institutions such as cash benefits and health insurance system could be pathways to change the opportunities structure and incentive structure in the timing of retirement benefit receipt. This study not only enriches life course perspective but also provides the implication of the policy “delaying retirement ages for full SSB” for the U.S. and the East Asia countries like Taiwan.

INSTITUTIONAL LTC FOR ELDERLY IN ASIA AND AFRICA: OWNERSHIP, RESIDENT CHARACTERISTICS, AND STAFFING

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The population aging is occurring at a faster pace in developing countries than in developed countries. By 2030, 80% of the world's elders will be living in developing countries. The demand for congregate long term care (LTC) in developing countries will accelerate due to the growing number of frail elders, limited financial security, and lack family support. Currently, little is known about the policies, programs, and characteristics of institutional LTC (ILTC) for elders in developing countries as defined by the UNO. To fill this gap, a systematic review was conducted using 9 databases and other non-peer review data sources with various combinations of the keywords elder care homes, old age homes, nursing homes and residential facilities to identify research published since 2000. Data was analyzed from 83 empirical sources on ILTC for elders in developing countries to assess the resident characteristics, funding source, and staffing. Findings confirm great diversity in provision of ILTC among developing countries. Asian countries far excel in ILTC policies and program (e.g. Hong Kong, Singapore, Taiwan) than other countries in Asian (e.g. Bangladesh, Pakistan, India, Philippines) and Africa. However, the characteristics of ILTC elderly residents (women, poor, chronic illnesses, disabled, very old, dementia diagnosis, developmental disabilities, mental illness), limited skilled staff (nurses, physicians), funding sources (government, NGO & Private) are common in most countries. Based on this review, recommendations are made for future research, policy, practice and educational training to improve LTC. Collaborative international partnerships are needed to develop solutions to the global gap in LTC.

COMMUNITY-ENGAGED SERVICE LEARNING HELPS RECENT REFUGEE ELDERLY RECONSTRUCT IDENTITY AND WORTH

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During Fall 2016 the University of Nebraska at Omaha partnered with a local non-profit branch of a worldwide faith-based refugee relief organization to design and test

a project to facilitate recent refugee elders' adjustments to America and to speed and deepen student understanding of human geography and the refugee experience. Student project participants were an honors cohort of freshmen enrolled in a gerontology course that was linked with an English composition course and a world human geography course. Elder refugee participants were from Afghanistan, Bhutan, Burma, and Sudan – four different regions of the world. The theoretical foundation of the project was Butler's basic work in the therapeutic value of life review. The goal of the project was for each student team (with an interpreter and a faculty member) to conduct lifespan review interviews of their elder that explained how and why the elder came to America, and to develop the elder's story into a brief but expandable book. Results of the first phase of project evaluation indicate that outcomes of the project include strengthening the elders' feelings of worth and agency, and deepening student understandings of both their home culture and that of the elder. This poster describes the model sufficiently to support consideration of its replication by other educational institutions in other communities. Given the domestic and global impact of recent developments in US immigration policies and practices, dissemination of this useful model seems imperative.

RESIDENTS' STRENGTHS AND INFLUENCING FEATURES IN A SUPER-AGED SOCIAL HOUSING COMMUNITY

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Purpose: This study aims to clarify the perceived difficulties and strengths of residents for aging in place in a super-aged social housing community and to explore the features influencing those difficulties and strengths. The Social housing community studied has been owned by the Tokyo Metropolitan Government since 1960, and its residents have a greater than 50% aging rate.

Data Collection: Using a mixed method approach, we conducted five focus group interviews with 44 residents and examined this result with a quantitative questionnaire survey given to all 3,150 households.

Methods and Results: The response rate was 33.9%, 1,069 respondents. Through factor analysis with varimax rotation, we found four valid factors: desire to age in place, mutual aid spirit, difficulties due to super aged society, and ambiguous anxiety, which were composed from 24 concepts derived from the interviews. All Cronbach's alpha were over 0.6. We also found five features of the residents: long term residence, many old single households, good social contact, little use of public facilities, and low income. After multi-variable step-wise regression analysis between each factor's score (dependent variable) and the five features (independent variables), the long term residence showed a significant influence on the aging in place factor ($\beta=.214$, $p<.01$), and good social contact showed a significant influence on the mutual aid factor ($\beta=.174$, $p<.01$).

Implications: Many researchers investigate super-aged societies without focusing on the residents' strengths, which we can empower efficiently for aging in place by promoting good social contacts among long-term residents.

INVESTIGATING COMMUNITY PSYCHOSOCIAL CARE FOR RURAL ELDERS WITH EARLY-STAGE DEMENTIA

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Early intervention for dementia is beneficial, but providing adequate care for elders with early-stage dementia is challenging, especially in rural areas. The study focuses on a newly developed and well-received program in Taiwan where intervention is delivered via a community care station in rural communities. To unpack the inner workings of the program and to derive a blueprint for the care model, the study aims to: (a) identify the goals and objectives of the community care station, (b) investigate the roles and functions of the stakeholders, and (c) construct conceptual frameworks of practice in the model, taking into account influences at both individual and structural levels. This qualitative study was conducted in a community care station primarily led by a community development center and local volunteers. The researcher conducted field observation and in-depth interviews with people from the primary stakeholder groups involved in the care station, including the elders, their caregivers, professionals, and volunteers for their perceptions and experiences. Findings showed that the station relied heavily on the collaboration among stakeholder groups, and their interactions created an uplifting atmosphere and a healing environment. They used various approaches to integrating local customs and mobilizing community resources. By recruiting professionals' support, the community care station provided health promotion activities. Additionally, the station provided family caregivers with respite support. Essentially, it was a model "developed in the community and delivered by the community," which materializes "aging-in-place," and fosters the potential of sustainability, important qualities to target in the search of long-term care models.

CAREGIVERS' BURDEN AND EDUCATION LEVEL: DOES SUBJECTIVE HEALTH MEDIATE THE ASSOCIATION?

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The present study investigated the following hypotheses: (1) Caregivers with high educational attainment show lower levels of perceived physical and mental burden than caregivers with low education. (2) The association between the caregiver's perceived burden and their education level is mediated by their subjective health status. The analysis was based on a population survey of 6087 residents of Germany aged 18 and over. 966 persons were identified as caregivers. Burden of caregiving, socio-demographic characteristics and subjective health were assessed using standardised questionnaires. Logistic regression and mediation analyses were performed. 50% of all caregivers reported an increased physical burden, while 71% felt mentally

burdened. Caregivers with a higher level of education had lower odds of feeling physically burdened by caregiving (OR: 0.66; CI: 0.48–0.92). This association diminished, if additionally adjusted for health status. Persons with a higher education level had increased odds of feeling mentally burdened by caregiving compared with caregivers with lower education level – even after adjustment for health parameters. In both models, subjective health was found to have a significant mediation effect, explaining 55% and 22%, respectively, of the total effect. Better educated caregivers had lower odds of feeling physically burdened by caregiving; this was related to their good health status. The greater mental burden of caregivers with a higher education level may result from feared losses of autonomy, which increase with higher investment in education. Support and counselling services should therefore be optimised, taking account of socioeconomic status, so that solutions tailored to caregivers' individual circumstances are provided.

MOVING FROM FRAGMENTED TOWARD AN INTEGRATED SYSTEM: A NEW LONG-TERM CARE POLICY IN FAST-AGING COUNTRY

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Taiwan, one of the fastest aging countries in the world, started its first long-term care (LTC) plan, version 1.0, in 2008. In 2017, the LTC plan version 2.0 began a new era with the goal of integrating Taiwan's fragmented LTC service system. The new plan aims to establish an integrated community-based LTC system with health care and disability prevention care included. The model comprises three tiers of service agencies, including community-based integrated service centers with a day care center as base (Tier A: flagship stores); service centers with specialties (Tier B: specialty stores); and LTC stations targeting frail community-dwelling older adults and providing drop-in services toward preventing further disabilities (Tier C: corner stores). In the new plan, the role of Tier A stores needs to coordinate the LTC services provided by Tier B and Tier C stores. Our study explored the challenges to implementing LTC plan version 2.0 through in-depth interviews with three tiers of facilities. The preliminary findings show four major challenges to implementing LTC plan version 2.0: (1) First, although three tiers of service are defined, the plan lacks a mechanism for integration across tiers. (2) The mechanism for payment across different tiers was unclear, which may jeopardize the integration of services. (3) The role and function of Tier C stores in the new plan also seemed unclear. (4) LTC plan version 1.0 remains a challenge for version 2.0.

PARTICIPATORY RESEARCH WITH MOBILITY ASSISTIVE TECHNOLOGY USERS: AUDITS AND PHOTO DOCUMENTATION

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Context: The neighbourhood environment influences mobility and participation of older adults especially those using mobility assistive technology (AT). Documentation of environmental barriers/facilitators in neighbourhoods by AT users can enable them to vocalize and advocate their needs for mobility and participation. **Methods:** The 89-item "Stakeholders Walkability/Wheelability Audit in Neighbourhoods" (SWAN) tool was developed to collect objective built environmental data across five domains: functionality, safety, destinations, aesthetics and social aspects. The tool was used by 24 participants with mobility disability to collect data in three municipalities of Metro Vancouver, British Columbia in Spring/Summer 2016. The audit was supplemented by photographs of barriers and facilitators in these five domains. **Results:** Audit and photographic data demonstrated that slopes, absence of or improperly designed curb cuts posed mobility hazards. This was further aggravated by uneven and poorly maintained sidewalks. AT users felt unsafe in areas shared with cars and bikes. Public spaces, amenities and street furniture, when present, were not always accessible creating participation barriers. Participants showcased these findings to other stakeholders at forums in their cities to highlight the need for more accessibly designed streets, sidewalks and infrastructure. The forums helped start the dialogue among different stakeholders to identify opportunities for partnerships and interventions. **Conclusion:** The SWAN tool is a resource for diverse groups of older adults to systematically document their neighbourhood environment with audits and photographs and engage other stakeholders to initiate environmental changes in their communities. The process can help them to be informed partners in neighbourhood physical planning and decision-making processes.

VOLUNTEERING AS PRO-SOCIAL BEHAVIOUR IN OLDER ADULTS: A PHOTOVOICE EXPLORATION OF PARTICIPATION

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The purpose of this community based research is to better understand the motivations and facilitators of volunteering as older adults engage in their typical life routines and environments. As part of a mixed-method multi-year project, this paper presents findings from the participatory photo-elicitation part of the study. Data from a community sample of 100 adults aged 51–85 years living in Metro Vancouver is presented here. During a 10-day period, participants used iPad minis to capture photos representing prosocial behaviour (i.e. to give of themselves to others) opportunities they encountered in their daily activities. They used the photos to reflect on their experiences by making voice recordings and completing questionnaires at the end of each day. Each participant captured, on average, 14 photos (range 4 - 55). Findings reveal that the majority (87 %) of photos captured times when participants chose to engage, rather than refrain, from behaving prosocially. Photo descriptions revealed a range of prosocial behaviours, e.g., support with instrumental activities of daily living (IADL), volunteer activities for organizations, symbiotic (reciprocal) social support, small acts of kindness, teaching activities, and support with activities of

daily living (ADL). Prosocial behaviour were typically with friends and family or those in a formal caregiving arrangement, but also included service providers and strangers. The findings demonstrate that a variety of volunteer pro-social behaviour takes place in diverse formal and informal social contexts. This finding will help develop community-based intergenerational programs for diverse groups of older adults.

MEASURING QUALITY IN THE UNITED STATES (U.S.) PROGRAM OF ALL-INCLUSIVE CARE FOR THE ELDERLY (PACE)

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PACE provides comprehensive medical and social services to certain frail, community-dwelling elderly individuals in the U.S., most of whom are dually-eligible for Medicare and Medicaid benefits. An interdisciplinary team of health professionals works with PACE participants to coordinate care; the comprehensive service package enables them to remain in the community rather than receive care in a nursing home.

Econometrica, under contract to the Centers for Medicare and Medicaid Service (CMS), is developing quality measures for PACE nationwide. This late-breaker will summarize efforts to date to develop, specify, and test the following performance measures relevant to PACE Organizations and their participants:

- Fall Rate
- Falls With Injury Rate
- Pressure Ulcer Prevalence Rate
- Pressure Ulcer Prevention Set for Participants With Pressure Ulcers
- 30-Day All-Cause Readmission Rate
- Percent of Participants with Advance Directive/Surrogate Decision Maker
- Percent of Participants with Annual Review of Advance Directive/Surrogate Decision Maker
- Percent of Participants Not in Nursing Homes
- Percent of Participants with Depression Receiving Treatment
- Influenza Immunization
- Staff Influenza Immunization
- Pneumococcal Immunization
- Emergency Department Utilization

All of the above measures are at different phases of development, which will be detailed in the poster along with the high level steps of endorsement by the National Quality Forum (NQF) in the U.S. Given the increasing interest internationally in the PACE model, the authors believe attendees will be curious about both the model and the intent to develop measures that are meaningful given the uniqueness of PACE.

REMOTE MONITORING TECHNOLOGIES IN LONG-TERM CARE, CARE TEAM ORGANIZATION, AND TRAINING

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Remote monitoring programs aim to enhance the patient's and provider's surveillance of chronic conditions to

anticipate and identify exacerbations, thus avoiding unnecessary emergency room visits, re-hospitalizations, surgeries, premature death, and excess costs. This study, which reports newly-completed qualitative data analysis, examines how remote monitoring programs are preparing and leveraging the health care workforce to manage patients with chronic illness and long-term care needs who are living at home. We conducted 20 semi-structured interviews with health care providers, managers/administrators, and technicians who are part of care teams that utilize remote monitoring technologies, and with authors of research trials investigating remote monitoring technologies. A multidisciplinary team approach was associated with more positive biometric and health care system outcomes. Because registered nurses' experience allows them the independence to perform assessments while simultaneously communicating and acting upon data, they are the primary health professionals involved in remote monitoring programs in the United States, with lower-skill health workers providing support. A range of clinical experience and skills are critical for successful telemonitoring programs. Nurses must rely on critical thinking skills and their ability to verbally assess patients, ask the right questions, and make clinical judgments. Protocols that include customizing parameters to the patient, close monitoring, and case management with input from the whole care team appear to be the best approach. To fully achieve the potential of remote monitoring, programs should invest robustly in training. An expanded effort to share information across remote monitoring programs would accelerate learning and enhance success.

FACTORS OF BURNOUT AND ITS SOCIO-DEMOGRAPHIC CHARACTERISTICS AMONG STAFF IN LOCAL CENTERS IN JAPAN

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Comprehensive Community Support Centers (CCSC) in Japan were established when LTCI Law was revised in 2006. The number of CCSC has been increasing and it is necessary to improve the quality of professional staff in CCSC because they have to work with various and complicated cases. This study aims to clarify factor structures of burnout and describe its socio-demographic characteristics among professional staff in CCSC in Japan.

Subjects were selected randomly and the survey was conducted by mail in February, 2011. There were 1145 respondents from social workers, care managers, and nurses who were working in CCSC. The revised Japanese version of the Maslach Burnout Inventory (MBI) was used as a dependent variable. Organizational factors such as social support, locus of control and so forth, were independent variables.

As a result of principal factor analysis, three factors such as "emotional exhaustion", "depersonalization", and "personal accomplishment" were extracted with 15 items. The reliability (Cronbach's alpha) was 0.794 for EE, 0.810 for DP, and 0.811 for PA. The results of one-way ANOVA using burnout scores by socio-demographic variables showed that there was a significant difference of their ages and years of experience.

The result indicated that three factors of burnout were extracted in this study. There was no significant difference among three professionals such as social workers, senior care

managers, and nurses. There was a significant difference of ages and years of experience. This result suggested that it has been necessary for local authorities to put experienced professionals in position in CCSC.

DETERMINANTS OF JOB-SEEKING STATUS AMONG THE ELDERLY IN TOKYO

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In Japan, the labor force participation rate between ages 65 to 69 are 52.2% for males and 31.6% for females in 2015. National survey showed that furthermore 32% of males and 24% of females can work depending on conditions for this age group. Promotion of employment for the elderly has become a major issue in Japan. To identify the job-seeking status among the elderly in Japan, we conducted a mail survey with questions about demographics, personal status, social activities, economic status, WHO-5, self-rated health, instrumental activities of daily living (IADL score of TMIG Index of Competence), and job-seeking status to 3261 people randomly extracted from 65–84 years old residents in Tokyo in 2016. We used data of 920 non-working people (338 male and 582 female) with a mean age of 74.3 (SD=5.6), excluding 400 working people out of 1320 who responded in all items. Only 53 people (5.8%) out of 920 were in job seeking. Binomial logistic analysis was conducted with job-seeking status as the dependent variable, with gender, age, educational status, economic status, number of chronic diseases, WHO-5, self-rated health and IADL score as independent variables. Only gender (male/female, RR=1.94), age (RR=0.842), and economic status (borderline/secure, RR=2.77, be in difficulties/secure, RR=9.97) were significantly related to job seeking status. It was thought that the working motivation of the elderly in Japan was very high, but job-seeking behavior rate was not so high. The study findings suggested that economic poverty was more important factor than functional capacity for job-seeking behavior.

ADULT DAY CENTRES AND THEIR OUTCOMES ON CLIENTS, CAREGIVERS, AND THE HEALTH SYSTEM: A SCOPING REVIEW

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Purpose of the study: Adult day centers (ADCs) offer a heterogeneous group of services that provide for the daily living, care, nutritional, and social needs of older adults. We sought to conceptually map and identify key gaps and findings from literature focused on ADCs, including the types of programs that exist and their associated outcomes on improving health and strengthening health systems.

Design and Methods: We conducted a scoping review by searching five databases for studies evaluating the outcomes of ADCs specifically for community-dwelling older adults. Included studies were conceptually mapped according to the methods used, type of outcome(s) assessed, study population,

disease focus, service focus, and health system considerations. The mapping was used to derive descriptive analyses to profile the available literature in the area.

Results: ADC use has positive health-related, social, psychological and behavioral outcomes for care recipients and caregivers. There is a substantial amount of literature available on some ADC use outcomes, such as health-related, satisfaction-related and psychological and behavioral outcomes, while less research exists on issues of accessibility and cost-effectiveness.

Implications: As the population ages, policymakers must carefully consider how ADCs can best serve each user and their caregivers with their unique circumstances. ADCs have the potential to help shape health system interventions, especially those targeting caregivers and people requiring long-term care support. Due to the variation among types of ADC programs, future research on ADCs should consider different characteristics of ADC programs to better contextualize their results.

COMMUNITY-LEVEL SOCIAL CAPITAL AND SOCIAL ISOLATION IN JAPAN: A MULTILEVEL PANEL STUDY

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Social isolation, which can result in solitary death, is one of major problem in Japan. Although individual characteristics among isolated individuals have been revealed, community-level factors remain unclear. Therefore, we examine the association between social isolation and community-level social capital. We used longitudinal panel data from 2010 and 2013 from the Japan Gerontological Evaluation Study, a nationwide survey involving 58,683 functionally independent older people nested within 381 communities. We defined social isolation as contact with friends less than “a few times a year”. Respondents were categorized to “continuous non-isolation”, “change to isolation”, “continuous isolation”, and “change to non-isolation”. Social capital was measured by community-level health related social capital scale including civic participation, social cohesion, and reciprocity (Saito et al. 2017) from the 2010 survey. Multi-level Poisson regression analysis was adopted, controlling for individual-level social capital, age, sex, educational attainment, marital status, IADL, household income, and population density. A marked difference was observed in the proportion of “change to isolation” at the community level (3.1% to 40.4%; mean: 14.8%). In addition, each individual-level social capital dimension showed protective associations with “change to isolation” and “change to non-isolation”.

Furthermore, even after controlling for the above variables, protective associations were observed between community-level reciprocity scores and “change to isolation” (prevalence ratio: 0.95, 95% confidence interval: 0.88–0.97). On the other hand, no association was found between community-level social capital and “change to non-isolation”. These results suggest the potential of a population approach for the prevention of social isolation among older people.

CROSS-NATIONAL COMMUNITY CASE STUDIES OF RESILIENCE AND AGING

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Resilience, the ability to recover from difficult or challenging situations is inherent to healthy aging. Contextual and social determinants of health influence the cultural capital that communities can access and resources that individuals might use to respond to aging challenges. This is particularly important in communities that are managing the double burden of disease, outmigration of the young and environmental uncertainty. Three ethnographic community case studies are described and compared; an immigrant community in the rural United States, a multi-ethnic urban community in the United States, and a rural Caribbean village. A description of the contextual background, life experiences and social networks of typical elders within these communities highlight the importance of neighbors, friends, family, and social organizations (both formal and informal) to resilience and aging. Contextual factors of social, political and economic uncertainty are highlighted. Conversely, inflexible social structures and rigid rules, impact on resilience of communities and individuals. Discussion and comparison of evidence-based community capacity building programs provides insight into how local community capacity emerges within diverse cultural contexts. Recommendations for culturally informed research, policy, and practice are highlighted.

FURTHER EDUCATION ON ABUSE OF PATIENTS IN NEED OF LONG-TERM CARE: DEMAND AMONG GERMAN FAMILY DOCTORS

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Previous surveys have asked local and regional samples of physicians about their demand for further education about elder abuse, and found majorities of respondents indicating such demand. We present results from the first nationally representative study of this topic. We focus on education about physical restraint and neglect of patients in need of long-term care. A postal survey of a probability sample of German family physicians was conducted. Respondents were randomly assigned to receive a questionnaire on either restraint or neglect, with analogous content in both questionnaires. Questionnaires had been pretested and their psychometric properties optimized. Response rates are 17% (n = 253) for restraint and 19% (n = 284) for neglect. About half of the respondents express an interest in education, with the share significantly higher for neglect than for restraint. Relative interest in specific topics is similar across conditions, with the topic “distinguishing signs of abuse from symptoms due to other causes” the most popular. In logistic regressions,

significant predictors of interest are attitudes towards preventing abuse of patients in need of long-term care as the family physician's responsibility, lack of confidence in one's abilities to tackle such abuse (both conditions), the proportion of the respondent's patients who are in need of long-term care, and the respondent's knowledge about patients' previous victimization (neglect condition only). We conclude that there is high interest in education about these topics and call for research that examines whether relatively positive attitudes towards restraint are due to a lack of knowledge about alternatives.

THE STRUCTURE OF PROFESSIONAL ADVICE NETWORKS IN LONG-TERM CARE: INFLUENCES AND IMPLICATIONS

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The Advice Seeking Networks in Long Term Care Study used social network analysis to understand the informal advice networks of senior leaders in Canadian long term care (LTC), with the goal of using this knowledge to inform future efforts to more effectively disseminate quality improvement innovations. In this abstract we describe one main component of the study, a quantitative analysis of the structure and determinants of interpersonal advice networks in the sector. At each of the 958 LTC facilities spanning 11 of Canada's 13 provinces and territories, we asked one senior leader to complete a survey identifying individuals who were informal sources of advice about quality improvement. Using exponential random graph modeling to analyze data from 482 respondents (RR, 52%), we found that a single advice-seeking network appears to span the nation, with opinion leaders and boundary spanners who act as key sources of advice located in each province and territory. Geographic proximity exerted a strong effect on network structure, with only 3% of advice seeking relationships crossing provincial boundaries. The effect of facility owner-operator model was more modest and varied across regions. A majority of individuals (61%) identified as sources of advice in the network were professionals who were outside our original sample and not employed in LTC facilities, such as regional and provincial health administrators.

USING INTER-ORGANIZATIONAL NETWORK ANALYSIS FOR QUALITY IMPROVEMENT IN LONG-TERM CARE

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The Advice Seeking Networks in Long Term Care Study used social network analysis to understand the informal advice networks of senior leaders in Canadian long term care (LTC), with the goal of using this knowledge to inform future efforts to more effectively disseminate quality improvement innovations. In this abstract we describe one main component of the study, a quantitative analysis of the structure and determinants of inter-organizational advice networks in the sector, and of how these networks compare with interpersonal advice networks. At each of the 958 LTC facilities spanning 11 of Canada's 13 provinces and territories, we asked one senior leader to complete a survey identifying individuals who were informal sources of advice about quality improvement, and LTC facilities that were seen as models for quality care. We used exponential random graph modeling and quadratic assignment procedure correlation analysis to analyze data from 482 respondents (RR, 52%). Compared with interpersonal advice networks, the inter-organizational networks were more dense and interconnected and featured more relationships that spanned provincial boundaries. As in the interpersonal networks, opinion leading and boundary spanning LTC facilities were identified in all provinces and regions, but opinion leadership in the inter-organizational networks was more centralized around a smaller number of facilities recognized as exemplars of quality residential care. These differences between the two types of advice networks suggest the value of understanding and utilizing both to disseminate best practices throughout the sector.

POPULATION AGING AND THE GLOBAL ECONOMY: WEAKENING DEMOGRAPHIC TAILWINDS REDUCE ECONOMIC GROWTH

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Expansion of the working age population has been a powerful engine of the global economy in recent decades, with the resulting demographic "tailwinds" accounting for 48% of annual economic growth from 1990–2015. These tailwinds will slow, however, with rapid global aging in upcoming decades. Building on detailed country-specific economic models and data on age profiles of labor, consumption and savings from the National Transfer Accounts project, we estimate how population changes will affect national incomes to 2040 under likely future demographic scenarios. We predict that global demographic tailwinds will be only 31% as strong in the 2015–2040 period as compared to 1990–2015. Tailwinds that added 1.3% per year to global economic growth during 1990–2015 will drop to only 0.4% per year from 2015–2040. Cumulatively, this projection implies that the global economy in 2040 will be 20% smaller under projected 2015–2040 population trends than it would have been if the population trends of 1990–2015 had continued. In the United States, tailwinds will drop by 0.8% per year, only slightly better than the 0.9% drop in other high income countries. Many low and middle income countries will experience similar

slowdowns to economic growth, although countries earlier in the demographic transition will see rising demographically-driven economic growth, such as a 0.4% increase in Nigeria's tailwind. A major exception is China, which we project will transition from a 1.5% annual tailwind to a 0.6% headwind as China's working age population actually began to shrink in 2016.

SESSION 915 (POSTER)

ARTHRITIS

PREDICTORS OF KNEE OSTEOARTHRITIS IN COMMUNITY-DWELLING OLDER WOMEN: A 4-YEAR LONGITUDINAL STUDY

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The present longitudinal cohort study was conducted to identify predictors of knee osteoarthritis in community-dwelling elderly Japanese women. Baseline data were collected in the autumn of 2008 and follow-up data were collected in 2012, both at the Tokyo Metropolitan Institute of Gerontology. One thousand two hundred eighty-nine women aged 75–85 years living in Itabashi Ward, Tokyo, participated in the baseline assessment; subsequently, 992 participants with no history of knee osteoarthritis at baseline were reexamined after 4 years. The follow-up assessment included 952 participants, 867 of whom provided information about knee osteoarthritis. Baseline assessment included measurements of anthropometry, physical fitness, blood components, lifestyle, and past history of diseases. A logistic regression analysis incorporating age and history of diseases as moderator variables (forced entry method) revealed that a higher body mass index ($\geq 22.25 \text{ kg/m}^2$), slower walking speed ($\leq 78.94 \text{ m/min}$), lower serum albumin level ($< 4.1 \text{ g/dL}$), higher serum creatinine level ($> 0.56 \text{ mg/dL}$), higher HbA1C ($\geq 5.4\%$), and low frequency of soy product consumption ($\leq \text{once/2 days}$) at baseline were independent predictive factors of knee osteoarthritis incidence during the 4-year follow-up period. This prospective cohort study suggested that parameters related to obesity, decline of motor, hepatic, and renal functions, and westernized dietary culture compose the causes of knee OA incidence in Japanese elderly women. These results could contribute to the design of knee OA prevention programs for elderly women.

COMPARISON OF PHYSICAL FUNCTION BETWEEN FALLERS AND NON-FALLERS AMONG OLDER ADULTS WITH ARTHRITIS

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Falls are the second leading cause of accidental death worldwide and are major cause of personal injury, especially for older people. Although arthritis has been identified as one of the risk factors of falls and its prevalence increases with age, there has been little information about

risk factors of falls for this group of population. The purpose of this study was to identify risk factors of falls, particularly physical function aspects, among older adults with arthritis. Using a sample of 3491 community-dwelling older adults with arthritis from the 2014 Korean National Older Adults Life Survey, this study investigated level of physical function of the subjects by comparing fallers ($n=1174$) from non-fallers ($n=2317$) group. Physical function of the subjects was evaluated by the Korean versions of Activity of Daily Living (K-ADL) and Instrument of Activity of Daily Living (K-IADL). Independent sample t-tests, ANOVAs, and Chi-square tests were mainly used. Significant differences ($p<.01$) between fallers and non-fallers were found for demographic and general characteristics such as age, sex, living with spouse, number of generations with living, education, working status, economic status, diagnosis with dementia, number of medication, smoking, drinking, and degree of exercise. Fallers had significantly ($p<.0001$) more ADL and IADL limitation (13.54% and 31.91%, respectively) compared to non-fallers (7.18% and 21.37%, respectively). The findings of this study suggest that interventions to promote physical function would be beneficial to prevent falls of older adults with arthritis. Correspondence to Jun-Ah Song (jasong@korea.ac.kr).

PSYCHOLOGICAL STATUS MEDIATES THE BIPHASIC RELATIONSHIP BETWEEN OSTEOARTHRITIS AND FALLS

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Several barriers have prevented adequate evaluation of falls in OA: the lack of homogeneity in OA diagnostic tools used and the heterogeneous nature of OA itself. Therefore, a holistic evaluation of OA and falls using analogous OA definitions to clinical practice is important. This was a case-control study involving 389 individuals aged ≥ 65 years (229 fallers, 160 non-fallers). Cases were fallers with ≥ 2 falls or one injurious fall over the past 12 months. Osteoarthritis was defined using three difference criteria: radiological (Kellgren-Lawrence (KL)), clinical and self-reported physician-diagnosed. Severity of symptoms were assessed using the Western Ontario and McMaster Universities Arthritis Index (WOMAC) questionnaire. The total WOMAC score was categorized to asymptomatic, mild, moderate and severe symptoms. Fear of falling (FoF) and psychological status were measured with the short falls efficacy scale-international (FES-I) and the Depression, Anxiety and Stress Scale (DASS-21) respectively. Individuals with radiological OA and 'mild' symptoms had reduced risk of falls compared to those with no reported symptoms [OR: 0.402 (0.172–0.940), $p=0.042$]. Individuals with clinical OA and 'severe' symptoms had increased risk of falls compared to those with 'mild' OA [OR: 4.487 (1.883–10.693), $p=0.005$]. The relationship between mild symptoms and reduced risk of falls

was attenuated after controlling for increased anxiety, while the association between severe symptoms among elderly with clinical OA and falls was no longer statistically significant when adjusted for increased FoF. Our findings suggest the previous conflicting evidence on OA and falls is explained by the apparent biphasic relationship based of different diagnostic criteria. The mediating effect of psychological factors for this relationship emphasize the urgent need to develop effective treatment strategies for psychological factors associated with falls.

CULTURAL ADAPTATION OF FIT & STRONG! FOR PORTUGUESE OLDER ADULTS—FIRST STEPS

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Osteoarthritis (OA) is a major cause of disability in older adults world-wide. Fit & Strong! (F&S) is an 8-week evidence-based physical activity program for older adults with OA that has significantly improved strength and mobility out to 18 months (Hughes et al., 2010). We are currently translating the program in Portugal. We have translated the program manual and materials and are examining acceptability using focus groups with participants, providers and experts, followed by a randomized pilot of the adapted program. The participant focus group examined opinions about group exercise, characteristics of F&S, knowledge of arthritis, barriers to exercise, and the advantages of translating the program name into Portuguese. Participants were a convenience sample from a Day Care Center with lower extremity joint pain (n=11; 54.5% female), a mean age of 79.5 (SD=8.0), 54.5% of whom attended school for 4 years. Results indicated good receptivity to the program with schedule being the main concern identified. Participants reinforced the importance of having music during the sessions, and suggested changes in the program name. These results and those forthcoming from focus groups with providers and experts, and the pilot, will help to inform the cultural adaptation of the program, its implementation and evaluation.

ENVIRONMENTAL FACTORS AND ONSET OF RESTRICTED MOBILITY OUTDOORS IN OLDER ADULTS WITH OSTEOARTHRITIS

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The study examines how environmental factors contribute to the onset of restricted mobility outside the home among older adults with osteoarthritis. This was a prospective cohort study of adults aged 50 years and over with osteoarthritis (N=1802). Logistic regression tested the association between the onset of restricted mobility outside the home and health, sociodemographic and perceived environmental barriers (hills and steep slopes, inaccessible public buildings, poor pavement condition, lack of access to public parks or sport facilities, heavy traffic or speeding cars, and poor weather). The potential moderating role of environmental

barriers on the association between health factors and onset was examined using interaction terms and stratified analysis. Of 1802 participants, 13.5% (n=243) reported the onset of restricted mobility outside the home at three-year follow-up. Walking disability, anxiety, depression, cognitive impairment and obesity, and all environmental barriers were associated with onset after adjustment for confounders. There were significant but less than multiplicative interactions between hills and steep slopes that make it difficult to move outdoors with walking disability (p=.030), anxiety (p=.037), depression (p=.002) and cognitive impairment (p=.029); poor pavement conditions and anxiety (p=.036), and heavy traffic or speeding cars and depression (p=.036). For older adults with osteoarthritis, environmental barriers have a greater role on its impact when associated morbidities and walking disability exist. Awareness of environmental barriers is important when aiming to maintain mobility and activities outside the home despite health conditions in older adults.

ALTERATIONS IN STEPPING KINETICS AND LEG STRENGTH ARE ASSOCIATED WITH KNEE ARTHRITIS ASYMMETRIES

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Knee osteoarthritis (OA) is a chronic disease characterized by articular cartilage damage, pain, and weakness. Ambulating stairs is a leading source of pain in people with OA, and disease progression may be marked by asymmetrical gait abnormalities. The purpose of this study was to assess relative peak knee extension torque and Step-Up-and-Over (SUO) test performance asymmetries in individuals with knee OA. Forty-six male Veterans with knee OA (age = 61.6 yrs. $\pm$ 5.6) enrolled in the study. Functional performance was assessed via the SUO test, which involves ascending/descending an 8-inch box on a force plate. SUO test outcomes included force-time parameters representing step-up force, step-down force, and force-time curve smoothness. Peak torque was measured using isokinetic dynamometry (180 deg/s). Self-reported symptoms and physical function were evaluated using the Knee injury and Osteoarthritis Outcome Score (KOOS). Force-time curve smoothness was the only SUO test outcome significantly different in the less involved leg (mean = -8.27 $\pm$.55) compared to the more involved leg (mean = -8.48 $\pm$.57, $p < .001$), and was not associated with KOOS subscale scores. Relative peak torque was greater in the less involved leg (mean = .27 $\pm$.12) versus the more involved leg (mean = .23 $\pm$.11, $p = .019$) and was directly associated with the pain ($r = .53$, $p < .001$) and function ($r = .41$, $p = .006$) KOOS subscale scores. While leg strength is an important component of physical status in those with knee OA, force-time curve smoothness may reflect an important aspect of lower-limb motor coordination that affects gait asymmetries during stair ambulation.

SESSION 920 (POSTER)

AVENUES FOR AGING IN PLACE II

ROLE AWARENESS OF HOME-VISIT NURSES IN MULTIDISCIPLINARY COLLABORATION

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To elucidate role awareness of home-visit nurses in multidisciplinary collaboration to enhance coordination between home medical and nursing care, self-administered questionnaires were mailed to 145 home visiting nursing station administrators and home-visit nurses in six municipal districts working to enhance coordination between home medical and nursing care. Survey items included home-visit nurses' characteristics and their reasons for participating in multidisciplinary collaboration. Analysis involved grouping subjects by years of experience at home visiting nursing stations (<10 or ≥10 years), and using SPSS Statistics Ver. 22 to compare reasons home-visit nurses participated in multidisciplinary collaboration. Sixty valid survey responses (41.4%) were analyzed. Home-visit nurses participated in five multidisciplinary collaboration situations (home medical care promoting councils, face-to-face meetings, multidisciplinary case conferences, community care conferences, public awareness-raising events) for six different reasons (resolving multidisciplinary collaboration problems, acquiring new users, sharing home medical and nursing care community problems, expanding home-visit nursing use, improving user care quality, educating one's own workplace staff). Comparing the results of the two groups regarding multidisciplinary collaboration situations and home-visit nurses' reasons for participating, those with ≥10 years of working experience gave significantly higher ratings ($P < 0.05$) for: community care conferences in "resolving multidisciplinary collaboration problems"; multidisciplinary case conferences, community care conferences and public awareness-raising events in "sharing home medical and nursing care community problems"; and home medical care promoting councils and public awareness-raising events in "expanding home-visit nursing use." Home-visit nurses with longer working experience were found to participate in multidisciplinary collaboration with an awareness of their different roles.

PROMOTING COMMUNITY-BASED ELDER CARE IN CHONGQING, CHINA

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This poster describes an ongoing, community-based, elder care project involving the University of Washington and the Seattle-Chongqing Sister City Association in partnership with the First Affiliated Hospital of Chongqing Medical University and the Qinggang Senior Care Center in Chongqing, China. While the number of quality skilled nursing and assisted living facilities is growing in Chongqing's greater metropolitan area of around 30 million residents, there are relatively few community-based services to support older adults aging in the community near their families and friends. The purpose

of this partnership is to introduce community-based care policy and program initiatives -- such as care transition models, aging friendly and dementia friendly communities, and evidence-based wellness programs -- to staff from the hospital and senior care facility and to learn from them about both the barriers to the implementation of such models and the strengths offered by other care models in their city. This multiphase project involves a multidisciplinary group of UW faculty visiting Chongqing to understand their elder care services and introduce current community-based care models; a Chongqing delegation visiting Seattle to attend a regional conference on Elder Friendly Futures and visit community-based services and facilities; a pilot testing of new care models in Chongqing; and sharing geriatric education programs and tools for enhancing low-cost elder care networks. This poster identifies the opportunities and challenges with such collaborations, lessons learned and strategies relevant to other groups seeking to develop similar partnerships that have policy-level implications.

PERCEPTIONS OF AGING IN PLACE: A FOCUS ON LOW INCOME AND OLDER ADULTS

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Many initiatives to support aging in place are based primarily on the views of policy makers, healthcare professionals, and researchers, rather than on the perspectives of representative samples of older adults, particularly those with low incomes who may have limited resources to age in place. Guided by community-based participatory research (CBPR) principles, in partnership with local aging services organizations, we surveyed a representative sample of adults aged 60+ and family caregivers ($N = 363$, mean age = 73) via computer-assisted-telephone interviews (CATI) that addressed health, caregiving, transportation, access to and utilization of a variety of community and health services/resources, community strengths/weaknesses, and other needs regarding aging in place. We found that most respondents indicated good/excellent health (67%), despite almost 50% also reporting at least one chronic condition or serious illness. This may indicate a future need for expanded support in remaining at home, yet only 44% of respondents were currently aware of aging support services in the region. Further, we found disparities in awareness of aging support services by education and income: specifically, those with high school or less education ($p = 0.04$) and with household incomes of less than \$30,000/year ($p = 0.02$) were significantly less likely to identify support that could help them to age in place. In order to develop more effective interventions to support aging in place for a diverse population of older adults, their perspectives, experiences, and input must be incorporated into practice and policy, especially for underserved and hard-to-reach populations.

MUTUAL SUPPORT HAPPINESS HOMES: AN ALTERNATIVE FORM OF AGING IN PLACE IN RURAL CHINA

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In 2007 a Mutual Support Happiness Home (MSHH) emerged as a grass-root movement in a rural village whose population was rapidly aging. By 2014, 79,521 MSHHs were established throughout rural China. Despite this rapid growth, little is known about MSHHs. This study describes MSHHs' history and key features and identifies their current challenges and future directions based on a two-month field research and a literature review. The first MSHH was born in a building with 12 rooms and 24 beds, converted from an abandoned primary school. The mission was to have older "empty nesters" live together and support each other to remain in their community as long as possible. This model appealed to rural governments looking for cost-effective ways to address rural seniors' needs, adult children with filial responsibilities, and older adults wishing to remain in their community. MSHHs quickly evolved into a governmental policy. Funds are provided by central and local governments for construction, by Village Collectives for daily operation, and by older residents and families for living and health care expenses. MSHHs have no paid staff. Older residents serve as administrators and staff. The agreement co-signed with the Village Committee facilitates adult children to fulfill their filial obligation through financial support and regular visits. MSHHs constitute an innovative and acceptable, yet transitional model for rural communities. To develop MSHHs into a sustainable model, they should be formally integrated into a rural old support system to serve as old-care resource centers for all villagers and informal caregivers.

EXPLORING COMMUNITY LIVING FROM A LIFECOURSE PERSPECTIVE: TOWARD LIFECOURSE POLICY OPTIONS

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Ageing and disability are part of the lifecourse trajectory, with disability adding another dimension to the ageing process. Older people and persons with disabilities share a common vulnerability in respect of community living and in relation to maintaining autonomy and independence. Further, the ability of people belonging to each group to connect and interact is often stifled through inadequate policies that leave them susceptible to heightened risks of institutionalization. The ageing-disability nexus provides the rationale for greater cooperation between actors in each sector in order to achieve common goals such as inclusive, accessible and age-friendly communities. This paper presents the results from an emerging conceptual framework that has arisen from a documentary analysis of key Irish and international community living law and policy as well as evidence relating to independent living, ageing-in-place and the lifecourse. Evidence from the international literature suggests that older people and persons with disabilities express a common desire to live and age in their communities. However, in many countries, policies have often developed from silo-specific perspectives that do not necessarily support the aspirations of those for whom they are enacted. Understanding the conceptualization of community living is therefore important for policy innovation that seeks to support older people and persons

with disabilities to realize, enhance and maintain meaningful community living. Exploring community living as refracted through the lens of the lifecourse perspective adds valuable depth of understanding to the interpretation of the intent and purpose of policy and how it may be better translated into practice.

ENVIRONMENTAL DESIGN, ACTIVITY AND INTERACTION IN CARE FACILITIES FOR OLDER PEOPLE

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Older people living in residential care facilities spend most of their time within the home due to high levels of frail health and are depending on the physical environment for their daily life activities and interactions. There is a need for a deeper understanding on the complex relationships between older people and the quality of the physical environment in long-term care. The aim of this study was to explore how environmental factors influence resident activities and interactions at two care facilities. A mixed-method approach was applied. The quality of the physical environment was assessed by the Swedish version of the Sheffield Care Environment Assessment Matrix (S-SCEAM). Activities and interactions of older people were assessed through an adapted version of the Dementia Care Mapping (DCM), and data on residents' emotional states were collected via the Observed Emotion Rating Scale (OERS). Walk-along interviews with older people, care staff and relatives were conducted and field notes were taken. The results indicate that the environmental design influenced activities and interactions among older people. Private apartments and dining areas had high environmental quality scores at both care facilities, and safety aspects was highly supported while the overall layout had lower quality. Despite high environmental quality in general, several factors were found to limit residents' activities and interactions. These findings stress the importance of optimising long-term care by focusing on environments that are accessible and can offer possibilities for residents to use the facility independently.

BUILDING AN AGING IN PLACE COMMUNITY IN URBAN SHANGHAI: AN ETHNOGRAPHIC ASSESMENT OF CCHC MODEL

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Under the auspices of the Shanghai Municipal Government, server programs aimed at building ageing in place communities have been piloted since 2014 for the purpose of providing community based services for home-bound elders. In actual practices, however, these well-intentioned programs failed to match the real needs of the ageing population owing to its lack of service options and narrow coverage. To address this problem, a "Continuing Care Home-based Community" (CCHC) model was piloted in a designated community in Yangpu District in March 2016. The CCHC model is essentially a joint venture between the government and social organizations. With its promises to

offer a comprehensive eldercare service package, the CCHC model is welcomed by the recipients at present. This paper offers an ethnographic assessment of the likely impact of the CCHC model on the everyday life of the elders in the community under study as well as a tentative discussion of its applicability in the near future.

TRENDS AND PATTERNS OF SELF-REPORTED ELDERLY MORBIDITY IN KERALA: FUTURE PROBLEMS AND POLICY PROSPECTS

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Kerala has achieved highest rank on literacy rate, life expectancy, emigration, HDI index and wage rates in India. The state is currently undergoing an epidemiological transition with a swift change in the disease profile of its population. We analyzed the trend and pattern of the burden of self-reported elderly morbidity (ICD classification) in the states of Kerala using three rounds of (52nd, 60th, and 71st) NSSO data. Descriptive analysis is carried out to understand the prevalence of self-reported morbidity variation over a period of two decades while the multivariate analysis is performed to identify the determinants of various types of ailments. The major concern is the considerable increase the trends of CVDs and NCDs. The results are quite alarming as there has been an eight fold increase in the prevalence of CVDs in the last two decades while the prevalence NCDs has risen by three times within last two decades. The rising incidence of CVDs and NCDs has been observed among the elderly and urban women in the state. Therefore, a huge pressure on the public health system is very likely shortly with the double burden of both communicable and non-communicable disease. Hence, an effective and responsive public health system is called for to make health care services available for NCDs and CVDs at the primary level. Health promotion measures may be taken to inform elderly people inculcate healthy habits. To ameliorate caregiving, the involvement of family will be most critical. So, Government needs to implement an elderly oriented policy to the betterment of their condition.

DEVELOPING A RESIDENCY PROGRAM FOR NOVICE THERAPISTS IN HOMECARE PRACTICE: THERAPY GATEWAY PROGRAM

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Background: The demand for homecare services has increased rapidly as the populations in the U.S. ages. A common perception is that homecare is not a suitable first job for new graduates, due to their lack of experience. We developed the Therapy Gateway Program (TWP) in 2012 as a pilot residency program to recruit young therapist to meet the growing need of workforce.

Aims: 1. To provide supportive structures to novice therapists to build upon their clinical experience and professionalism in the home health practice. 2. To promote home health as a meaningful and rewarding career to novice therapists.

Method: Eleven new-hired novice therapists went through the TWP homecare residency program from 2012 to 2016.

The program uses the ICF model, self-reflection journals, evidence-based practice, and ongoing mentorship. Novice therapists spent from 12 to up to 18 months of their employment engaged in various activities to help their transition to the home care environment.

Results: After four years, ten of the eleven novice therapists (91%) are successfully employed at this home health agency. All ten therapists have become independent and productive in their clinical positions. Eight therapists were promoted to higher clinical levels based upon their performance. One therapist left the program after one month to pursue a different job.

Discussion and implications: The TWP model provided the resources needed to assist new graduates in their transition from academics to homecare practice. This model may be further expanded and structured into a formal and widely accepted homecare residency program for novice therapists.

REDESIGNING AND RETROFITTING EXISTING COMMUNITIES TOWARD LIFETIME NEIGHBOURHOODS

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China has the largest number of the elderly among all ageing countries. However, little attempt has been made to accommodate the growing need for the elderly. This research aims to provide an insight into this phenomenon, focusing on issues relating to the built environment. Following the current trend of 'ageing-in-place', it intends to provide a critical view on the re-design and retrofits of existing communities, using projects located in Suzhou as examples, where the elderly (i.e. age over 60) has accounted for more than 24% of the local population by 2014. Based on literature review and case studies worldwide, a series of issues have been summarized as benchmark criteria for age-friendly communities. Then local communities (e.g. Zhuhui New Village, Living Bank Community, Olive Bay Community, etc.) are studied through such lens – by comparing the target communities against the benchmark criteria, it is found that several important issues (including necessary facilities and services) have not been well addressed in the existing communities, though they tend to be taken into account in the design processes more often from a longitudinal perspective. Onsite semi-structured interviews and focus groups have also been conducted to explore the relative importance of these issues in the given context, in line with the changing needs (e.g. physical and psychological needs) of different families over time. Some early findings (e.g. evidence on age-friendly communities) will be incorporated into the redesign/retrofit guidance for existing communities and thereby inform the transformation of local neighbourhoods towards lifetime standards.

ENVIRONMENTAL BARRIERS AND DISABILITY IN ELDERLY LIVING IN AN APARTMENT COMPLEX WITHOUT AN ELEVATOR

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The diversity and heterogeneity in aging is a challenge to public policy makers and services in order to provide “aging in place”, especially to developing countries such as Brazil. Objective: To identify and to analyze the association between disabilities and environmental barriers in older adults living in a multi-storey apartment complex with no elevator. Methods: a cross-sectional study with older adults living in a apartment building for lower-income families subsidized by the government in a neighborhood in a medium-sized town in Brazil. Semi-structured interview was conducted using environmental factors such as those proposed by the International Classification of Functioning, Disability and Health. To assess disability the WHODAS 2.0 (12 item) was applied. Results: 96 older adults were interviewed with mean age 69.9 (± 7.3) years, 68.8% were female, living in the same place for 14.1 (± 6.2) years. 35% of all of them were living on the first floor. The mean score of WHODAS 2.0 was 20.7 (± 17.7) points and the major disability identified was to walk long distances (32%). Environmental barriers were appointed by few people: 20% of them recognized stairs as a major problem, followed by the lack of accessibility in public transportation (25%) and sidewalk hazards (22.9%). The association between perceived barriers and disability was moderate ($r=0.41$). The need of an elevator was indicated by one person only. Conclusion: There is association between disability and environmental barriers. However it suggests that older people in Brazil have difficulties to detect the role of environmental barriers in their functioning.

THE IMPACT OF THE LOCAL ASSOCIATIONS FOR THE ELDERLY IN ISRAEL TO THE QUALITY OF LIFE OF OLD ADULTS

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This paper deals with the special contribution of the Local Associations for the Elderly in Israel. There are 124 such associations, who develop and operate a variety of services for the elderly people in the community, in cooperation with the local municipalities and the government.

The purpose of this paper is to present the special contribution of the associations by looking into the structure, their financial stability, the operation, their cooperation with the local municipalities and the unique contribution to the network of services for the elderly and coscenuently on the quality of life of the elderly.

The paper is based on a study which was not published yet. The data was collected from the year 2013 and was based on a questionnaire which was sent to the chair people and the CEO's of the associations, 84 where received. In addition, a different questionnaire was sent to the directors of the services for the elderly in the local municipalities.

The findings of the study show that that most of the associations are balanced financially with no deficit (64%). Most of the associations are providing a wide range of services for the elderly, 86%- day care centers, with the average of 130 participants, 81% - supportive communities, with the average of 312 participants, 67% - social clubs with 212 beneficiaries, and 66% physical activities programs with the average of 148 participants. The average number of

volunteers in these associations was 47 who contributed 424 hours per month, 82% of them of 65+. More than half of the associations employed professional volunteers.

Both, the leaders of the associations and the directors of services in the municipality indicated that the relationships are good. The directors of the associations indicated that the cooperation with the municipalities is average or high and 66% of the directors of the municipal services answered that the relationships are good.

The main conclusions from the study are that the associations are financially stable, administer a large spectrum of services, employ many volunteers and make a significant contribution to the quality of life of the elderly in the community.

USING A POLICY APPROACH TO FACILITATE EVOLVING NEEDS OF ACTIVE AGEING

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The continuously growing ageing population is both an opportunity and a threat on the quantity and quality of healthcare professionals and novice workers concerned. This comes along with an increasing demand on informal carers who could help facilitate elderly to age at their community. This study conducted in Hong Kong described healthcare issues that were associated with ageing in place. It also examined obstacles for the youths to join the elderly care workforce, and the crucial role of government's involvement. Targeting at allied health professionals, elderly and their relatives, and youths, both quantitative questionnaire survey and qualitative focus group were employed. Results revealed a high demand of paraprofessional care providers with appropriate therapeutic and soft skills. Since majority of the young old in Hong Kong was well-aware of their health conditions, community healthcare training programmes that are offered by nurses and allied health professionals were urgently required to facilitate self-care. Almost all youths participated in this study realised the challenges resulting from the ageing population and were eager to pursue t studies and careers in clinical healthcare. However, they had hesitation in joining the workforce as non-professional community healthcare workers with poor reputation and social status. Lack of professional recognition, clear career ladder and a transparent master pay scale were other key obstacles that avert youths from joining the field. Such information provided valuable insights to the Government and a comprehensive policy approach involving different level of governance was proposed to cater the needs of ageing population.

THE EFFECT OF INCREASE IN GERMAN LONG-TERM CARE INSURANCE SUBSIDIES FOR SENIOR-FRIENDLY HOUSING

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The market of home modifications for older adults is expanding, which is especially supported by German long-term care insurance. Based on §40 of Book XI of Social Code (SGB XI), this insurance system, which aims at “improvement of the home environment”, promotes home-based long-term care for older adults rather than nursing

home care. This research intends to examine the effect of the increase in German long-term care insurance subsidies for senior-friendly modification of older adults' living space. A qualitative research (semi-structured interview and participant observation) was conducted to investigate the impact of the subsidies for senior-friendly home modification, which has increased from €2,557 to €4,000 since January 2015. For data collection, two groups were included as study targets: eight experts working in the industry and public services and 12 insured older adults. With the eight experts, face-to-face interviews were conducted. The interviews were recorded, transcribed, and analyzed using the qualitative content analysis method developed by Kuckartz (2016). Participant observation was added to retrace the decision-making process of the insured people. This study found that after the increase in subsidies, the demand for senior-friendly home adaptations increased substantially. Following the increase in the requests for subsidies, the long-term care insurance funds began to examine applications more strictly to prevent abuse of subsidies. Furthermore, the price of home modification increased partially after the policy change; thus older adults have not received benefit from the increase in subsidies to the extent it was initially expected. The results of this study suggest the importance of improving market transparency in home modifications and reinforcing on-site assessment of housing environments of grant applicants so as to meet their actual needs and to achieve expected policy outcomes.

SESSION 925 (POSTER)

BIOLOGY OF AGING

EFFECT OF ZINC SUPPLEMENTATION ON SERUM ALBUMIN LEVEL IN ELDERLY

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Background: Aging has been associated with increased oxidative stress, physiological-biochemical changes and impaired organs function. Those changes, might alter albumin homeostatic level in elder population due to nutrient intake insufficiency, organs degeneration, and oxidation of pre-formed albumin. Zinc was an essential trace element which functioned as co-factor of enzymes, liver protector and present antioxidant activity inside human body. We suspected zinc supplementation would enhance elder's serum albumin level.

Aim: This study was to determine the effect of zinc supplementation on serum albumin level in elder populations.

Methods: In this randomized control trial, with pre and post-test control group design, we included 31 elder people who lived in Unit Rehabilitasi Sosial Pucang Gading Semarang. Samples were randomly divided into two groups. Treatment group (16 people) were daily supplemented with 40mg, whereas control group (15 people) were placebo supplemented. Both treatment last for 8 weeks. Albumin level analysis was performed before and after the trial. The data was then evaluated with Wilcoxon and Paired t-test.

Results: The result showed that the average level of serum albumin improved in both groups. Treatment group resulted in significant increase of mean albumin level by $0,5 \pm 0,23$ g/dl, $p < 0.001$ while the changes observed in placebo group were not significant ($0,2 \pm 0,61$ g/dl, $p = 0,175$).

Conclusions: Zinc supplementation could improve serum albumin level on elder subject.

SESAMIN AND SESAMIN COMBINED WITH ALPHA-TOCOPHEROL IMPROVE AGE-RELATED KIDNEY DYSFUNCTION

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Background/objectives: Oxidative stress is closely associated with aging. Sesamin, a natural ingredient contained in sesame (*Sesamum indicum*) seed and oil, has potent anti-oxidative activities in mice and humans, and could increase the bioavailability of α -tocopherol (VE). Kidney is an organ susceptible to aging, and often results in the age-related dysfunction. However, the effect of sesamin on aging kidney is unclear. The aim of this study is to clarify the effects of sesamin or sesamin+VE on age-related kidney dysfunction.

Methods: Twenty-months-old male C57BL/6N were divided into three groups. They were fed CRF-1 diet (old control; OC), CRF-1 containing 0.2% sesamin (SE) or 0.2% sesamin plus 0.2% VE (SE+VE) for five months. Six-months-old mice were fed CRF-1 (young control; YC). Blood and kidney samples were collected and blood urea nitrogen (BUN), histopathological changes and lipofuscin deposition were evaluated. Differential expression of genes related to oxidative stress and inflammation was examined.

Results: BUN level was significantly higher in OC (29.4 ± 3.65 mg/dL) compared to YC (19.1 ± 1.08 mg/dL, $p < 0.01$). SE+VE decreased BUN level compared to OC ($p < 0.05$). Lipofuscin deposition, an age-related change of kidney, was significantly reduced in SE or SE+VE. The gene expressions of NAD(P)H oxidase, chemokine and adhesion molecules were significantly elevated in OC and suppressed in SE or SE+VE compared to OC.

Conclusion: These results suggest that sesamin or sesamin combined with α -tocopherol are protective to age-related kidney dysfunction through its anti-oxidative and anti-inflammatory effects.

ASSOCIATION BETWEEN SERUM TESTOSTERONE AND BRAIN VOLUME AMONG COMMUNITY MIDDLE-AGED AND OLDER ADULTS

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Studies showed that testosterone is associated with cognitive function; However, few evidence proved the association between serum testosterone levels and brain volume of different area. The I-Lan Longitudinal Aging Study (ILAS), which randomly invited community-dwelling people aged 50 years and older for study, were retrieved for study. Free Testosterone (FT) levels were obtained from total testosterone, SHBG, and albumin by the Vermeulen method, and free androgen index (FAI) was defined as serum total testosterone (nM/L) divided by serum SHBG (nM/L). The total brain volume (TBV), gray and white matter volume, cerebrospinal fluid volume (CSF), and total intracranial volume (TIV) evaluated by MRI. Among 456 subjects (239 males, mean age: 64.0 ± 8.5), we found that serum testosterone, FT and FAI were lower in women than in men (30.1 ± 18.0 vs 491.6 ± 176.2 ng/dL, $p < 0.01$; 0.398 ± 0.284 vs 7.784 ± 2.269 ng/dL, $p < 0.01$; 2.242 ± 2.103 vs 37.015 ± 13.325 , $p < 0.01$). Multiple linear regression showed that TBV/TIV ratio, FT and FAI were significantly correlated in men, but not in women, after adjustment for age, educational levels, type 2 diabetes, hypertension and dyslipidemia, smoking, alcohol drinking, skeletal muscle mass, physical activities, cognitive function, depressive symptoms, and serum levels of homocysteine. Analysis of different parts of brain volume showed that FT and FAI were positively correlated with gray matter/TIV ratio and negatively correlated with CSF/TIV ratio. However, There was no correlation between serum testosterone levels and WMV/TIV ratio. Moreover, the FAI, compared with serum testosterone and FT, is more significantly association with multiple cognitive domain.

VITAMIN D INSUFFICIENCY AND MUSCULAR FATIGABILITY AMONG OLDER WOMEN

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Background: Vitamin D affects physical performance in older adults. Effects on muscles, notably on muscle strength, remain yet unclear. The objective of this cross-sectional study was to determine whether vitamin D insufficiency was associated with triceps brachii muscle fatigability in community-dwelling older women.

Methods: A randomized subset of 744 women aged ≥ 75 years from the French EPIDOS cohort was categorized into two groups according to vitamin D insufficiency (i.e., serum 25-hydroxyvitamin D concentration ≤ 30 ng/mL). Triceps brachii muscle fatigability was defined as the loss of strength between two consecutive maximal isometric voluntary contractions. Age, body mass index, comorbidities, use psychoactive drugs, physical activity, first triceps strength measure, hyperparathyroidism, serum concentrations of calcium, albumin and creatinine, season and study centers were used as potential confounders.

Results: Triceps fatigability was more prevalent among women with vitamin D insufficiency ($n=671$) compared to the others (27.3% versus 12.3%, $P=0.006$). The serum concentration of 25OHD was inversely associated with the between-test change of triceps strength (adjusted $\beta=-0.09$,

$P=0.044$). Vitamin D insufficiency was positively associated with triceps fatigability (adjusted OR=2.65, $P=0.009$).

Conclusions: Vitamin D insufficiency was associated with muscle fatigability in this cohort of community-dwelling older women. This is a relevant new orientation of research toward understanding the involvement of vitamin D in muscle function.

HDL-C AND LDL-C ARE ASSOCIATED WITH BMD IN PREMENOPAUSAL AND ELDERLY WOMEN RESPECTIVELY

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Recent studies have explored the association between serum lipids and bone mineral density (BMD). However, the results are inconsistent and studies for premenopausal women are very sparse. For the investigation without confounding effects of menopause, we analyzed the data collected from premenopausal women in early 40s and elderly women aged 70 and older, and comprehensive physiologic markers were included. Our Korean study population was consisted of 3,953 premenopausal women (age range 40~44, mean age 42.3 ± 1.3) and 986 elderly women (70~92, 73.8 ± 3.5). BMDs were measured by dual X-ray absorptiometry at lumbar spine (LS), femoral neck (FN), and total hip (TH). Height, percent body fat, and fasting serum measures of total cholesterol (TC), HDL-C, LDL-C, triglyceride, hsCRP, albumin, glucose, gamma-glutamyltransferase (GGT), estradiol, thyroid-stimulating hormone, and estimated GFR were included in the analyses. Multivariate linear regression models were used to examine relationships between BMD (dependent variable) and other variables. After adjusting for covariates, HDL-C was negatively associated with BMD at LS ($\beta = -0.052$, $p = 0.004$), FN ($\beta = -0.064$, $p = 0.000$), and TH ($\beta = -0.073$, $p = 0.000$) in premenopausal women. In elderly women, LDL-C was negatively associated with BMD at LS ($\beta = -0.104$, $p = 0.001$), FN ($\beta = -0.057$, $p = 0.068$), and TH ($\beta = -0.064$, $p = 0.042$). Our results suggest that serum lipids are inversely correlated with BMD and the pattern is different among young and old women.

AGING-DEPENDENT CG HYPERMETHYLATION D GENE EXPRESSION OF GSTM1 INVOLVED IN T CELL DIFFERENTIATION

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This study investigated whether aging was associated with epigenetic changes of DNA hypermethylation on immune gene expression and lymphocyte differentiation. We screened CG sites of methylation in blood leukocytes from different age populations, picked up genes with age-related increase of CG methylation content more than 15%, and validated immune related genes with CG hypermethylation involved in lymphocyte differentiation in the aged population. We found that 12 genes were associated with promoter or exon one DNA hypermethylation in the aged group. Two genes, GSTM1 and LMO2, were chosen to validate its aging-related CG hypermethylation in different leukocytes. Modulation of aging-associated GSTM1 methylation may be able to promote Th1 immunity in the elders.

HIGHER FREQUENCY OF MICRONUCLEUS IS ASSOCIATED WITH SARCOPENIA IN AN ELDERLY FREE-LIVING COMMUNITY

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Micronuclei is considered an important biomarker to monitor the health of individuals or populations exposed to different biological and environmental stressors. The aim of this present study was to verify the frequency of micronuclei lesions and the association with, muscle mass, lifestyle and health status in elderly residents in a free-living community. A cross-sectional observational investigation was performed on a sample of 168 elderly (60 males, 108 females) residents of a free-living community were included in this study. The blood sample was collected for a micronuclei assay. Social demographics, muscle mass, lifestyle and health status were also evaluated. The sample was categorized in two groups: lower micronucleus frequency (LM, < 5 micronuclei/1000 nuclei) and higher micronucleus frequency (HM, ≥ 5 micronuclei/1000 nuclei). In the percentile distribution, 50% of the sample presented ≥5 micronuclei/1000 nuclei (the HM group). The mean age of sample was 68.41±6.13. The mean micronucleus frequency was 5.87±2.75 micronuclei/1000 nuclei. Only smoking habit ($p \leq 0.002$) and sarcopenia ($p \leq 0.021$) were significantly associated with higher micronucleus frequency. Higher frequency of micronucleus is associated with sarcopenia, independent of sex, age and smoking habit in an elderly sample.

SESSION 930 (POSTER)

CANCER

EFFECTIVENESS OF ADJUVANT CHEMOTHERAPY FOR OLD PATIENT (70 YEARS OR OLDER) IN STAGE III COLON CANCER

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Background Surgery and postoperative adjuvant chemotherapy has been recommended for stage III colon cancer, especially in younger patients. In old patients (aged 70 years or older), the benefit is not so clear.

Methods This study was a retrospective observation of patients with stage III colon cancer who underwent curative surgery between January 1995 and December 2004 at the Chang Gung Memory Hospital. The disease-free (DFS) and cancer-specific survivals (CSS) of the old patients were calculated using univariate analysis with the Kaplan–Meier method and compared using the log-rank test. The Cox regression model was used for multivariate analysis for the confounding factors.

Results A total of 645 patients with stage III colon cancer were initially enrolled and stratified by age (≥ 70 , $70 >$ and ≥ 50 , younger than 50). The 50.5, 80.6 and 85.0 percent of three groups received adjuvant chemotherapy after curative surgery. No significant difference existed in 5-year CSS between old patients receiving adjuvant chemotherapy ($n=108$) and those who had surgery along ($n=106$) (72.2 vs. 65.2%, $P=0.323$, Fig. 1A), whereas adjuvant chemotherapy improved 5-year DFS (54 vs. 48.8%, $P=0.039$, Fig. 1B). However, multivariate analysis for 5-year DFS and CSS found an independent benefit for adjuvant chemotherapy in old patients with stage III colon cancer (in DFS, hazard ratio, 0.582, 95% confidence interval, 0.394–0.860, $P=0.007$; in CSS, hazard ratio, 0.035, 95% confidence interval, 0.035–0.960, $P=0.035$).

Conclusions A multimodal approach in old patients with stage III colon cancer improved oncological outcomes.

OUTCOMES AFTER BREAST CANCER SURGERY IN NURSING HOME RESIDENTS: A NATIONAL STUDY

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Background: Over 60% of cancer-related operations in nursing-home residents occur for breast cancer. We studied functional and mortality outcomes after breast cancer surgery in nursing-home women.

Methods: We identified long-term stay nursing-home residents age ≥ 65 who underwent inpatient breast cancer surgery in 2003–2009 using Medicare and Minimum Data-Set (MDS). We examined 30-day mortality and hospital re-admission rates, stratified by procedure (lumpectomy, mastectomy, lymph node dissection with lumpectomy or mastectomy [LND]). In multivariate analysis, we examined factors associated with 1-year mortality. Functional status was measured by assessing the degree of dependence in seven activities of daily living (ADL): MDS-ADL scale with a 2 point difference as clinically significant.

Results: We identified 4,180 subjects (age: 82 ± 7 , 48% dementia). Residents experienced significant functional decline that persisted 1 year after surgery (MDS-ADL score: lumpectomy: -3.4, mastectomy: -2.9, and LND: -2.5). Thirty-day readmission and mortality were high after surgery: lumpectomy: 26% and 9%, mastectomy: 14% and 4%, and LND: 15% and 2%, respectively. One-year all-cause mortality was high: lumpectomy: 42%, mastectomy: 31%, and

LND: 26%. In a multivariate analysis, poor baseline MDS-ADL score before surgery was strongly associated with 1-year mortality-- lumpectomy: HR 2.6 (95%CI:1.5–4.4), mastectomy: HR 2.1 (95%CI:1.5–2.9), and LND: HR 1.9 (95%CI:1.5–2.5).

Conclusions: Among nursing-home women residents who undergo breast cancer surgery, 30-day hospital readmission and mortality are high, as is 1-year all-cause mortality. Poor baseline function prior to surgery was strongly associated with 1-year mortality. Individualized goal-oriented care (i.e., hormonal therapy or symptom management only) should be considered.

ASSOCIATION BETWEEN FRAILTY AND READMISSION AFTER GASTRECTOMY IN OLDER PATIENTS WITH GASTRIC CANCER

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Background: The incidence of gastric cancer in older people has been increased. Because older patients are at increased risk of postoperative complications and mortality, preoperative risk assessment in this population is important. In this study, we want to know if preoperative assessment of frailty could be useful for predicting the postoperative outcome in gastric cancer patients

Methods: We investigated 223 patients (136 men and 87 women) over 65 years old underwent gastric cancer surgery from April 2012 to March 2015. We used the Study of Osteoporotic Fractures (SOF) frailty index to assess the frailty. In order to find the predicting factors for readmission within 1-year of discharge after gastrectomy, we used logistic regression model.

Results: Total 26 (11.7%) patients readmitted within 1-year after gastrectomy. Patients in “robust” group had a readmission rate of 4.4% and 19.1% in “pre-frail and frail” group. After adjusting age, gender, Eastern Cooperative Oncology Group (ECOG) performance statue (score ≥ 1), histological type and stage (III, IV), the frailty (pre-frail and frail) was revealed predicting factor for readmission within 1-year of discharge after gastrectomy (Odds Ratio (OR) 5.74, 95% Confidence Interval (CI) 1.78–18.48, $p=0.003$).

Conclusion: Preoperative risk assessment including frailty evaluation can predict the readmission within 1-year of discharge after gastrectomy. Thus, frailty assessment can help physicians to identify the risk and inform patients and their families of the risk for better decision making process in gastric cancer treatment

FACTORS CONTRIBUTING TO FALLS IN OLDER BREAST CANCER SURVIVORS

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INTRODUCTION: In older adults, cancer and its treatment affect multiple body systems, leading to functional impairments, limited balance and impairments in walking, and thus contributing to an increased falls risk. The purpose of this study was to examine the health-related factors (physical, cognitive) contributing to falls in breast cancer survivors who were actively being treated (Active) versus those

who were not receiving active treatment for their cancer (Non-Active).

METHODS: This cross-sectional study used data from the Surveillance, Epidemiology and End Results national cancer registry and Medicare Health Outcomes Survey linkage. Forward stepwise logistic regression analyses were completed to assess the contribution of health-related variables (difficulty walking or getting out of a chair, balance problems, and cognitive function) to falls in older breast cancer survivors.

RESULTS: Sample included 8187 cases. In the Active group ($n=4045$), 27% reported falling and 40% had balance/walking difficulties while those numbers were 35% and 24% respectively in the Non-Active group ($n=4142$). Impaired cognitive function (difficulty with memory/concentration) was present in 18% (Active) and in 13% (Non-Active). Logistic regression modeling indicated that difficulties with memory/concentration and balance problems were significantly associated with falls in the Active group. In the Non-Active group the presence of balance problems was the only significant variable contributing to falls ($p<0.01$).

CONCLUSIONS: In older breast cancer survivors under active treatment for cancer, cognitive function and balance/walking problems were both significantly associated with falls. Future research needs to delineate the impact of cancer-specific factors on functional mobility.

HEALTH CARE PROFESSIONALS' PERSPECTIVES OF CARING FOR PATIENTS WITH HEPATOCELLULAR CARCINOMA

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Background: Hepatocellular carcinoma (HCC) is the second leading cause of cancer related mortality in the world. It is often diagnosed at an advantaged stage. Due to the numerous physical and psychological symptoms and the number of treatments patients receive, management is extremely complex and may best be done by a multi-disciplinary liver tumor board. Research is lacking on these tumor boards and on health care professionals' (HCPs) perspectives on the challenges they face in caring for patients with HCC.

Aim: To examine challenges in symptom management, treatment therapies, and care of patients with HCC from the perspectives of urban and rural HCPs.

Methods: The study used a prospective, descriptive design. Semi-structured interview data were obtained from 10 HCPs employed at an urban hospital, and 8 at urban and 8 at rural primary health care clinics. Data were analyzed using conventional content analysis.

Results: Tumor boards are a trustworthy and valuable resource but high number of referrals, access to treatment, and lines of communication are barriers to care. Lack of knowledge, expertise, and specialties make it difficult for rural HCPs to manage and coordinate the care for patients. Lack of follow-up care with primary care providers, inability by specialists to manage non-cancerous issues, and lack of continuity of care jeopardize symptom management.

Conclusions: Focus should be on improving communication between referring providers, patients, and multi-disciplinary care groups. Referral to palliative care should happen early in the treatment process. Early screening and regular

surveillance should be implemented for patients with liver cirrhosis.

PARTITIONING OF TIME TRENDS IN MORTALITY OF LUNG CANCER AMONG OLDER U.S. ADULTS

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Direct evaluation of lung cancer mortality from SEER data is challenging because of uncertainties in evaluating the population at risk at the time of death. We overcome this problem by proposing a new approach for the calculation of cancer-specific mortality rates through the evaluation of multiple components contributing to total mortality and applying it to lung cancer patients. Specifically, the time-trend of lung cancer mortality is the result of three competing processes: changes in incidence rate, stage-specific survival, and ascertainment at early stages. Our approach estimates the contribution of each of the above components to the overall mortality trend. Using SEER data, we found that lung cancer mortality increases in females and decreases in males over the study period (1988–2012). The main contributions to the change in mortality trends for both genders are incidence rates (increasing in females and decreasing in males). Trends in incidence explain more than 50% of total lung cancer mortality trend. The remaining percentages are explained by increased ascertainment at early stages, improved survival, and prevailing trends in mortality for the general population. These patterns held for analysis of histotype-specific groups (adenocarcinoma, squamous-cell carcinoma, and small-cell carcinoma) with the exception of the increased role of incidence in adenocarcinoma in males and ascertainment at early stages for squamous-cell and small-cell carcinoma. The methodology developed in this study increases the range of analysis that can be accomplished with SEER data and can serve as an additional tool for improvement in the quality of health outcomes research.

DEFINING LUNG CANCER DIAGNOSTIC PATHWAYS IN THE PRIMARY CARE SETTING IN MONTRÉAL, QUÉBEC

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Lung cancer is the leading cause of cancer-specific mortality in Canada, with the highest mortality observed in Québec. Incidence rates for lung cancer peak at 80–84 years of age with a median age at diagnosis of 71. Thus, the death toll due to lung cancer is concentrated among the elderly. The five-year survival rate for lung cancer is a dismal 17%. This is because lung cancers are often diagnosed at a late stage of disease when treatment options are limited. Interventions to reduce delays in diagnosis require an examination of diagnostic pathways and an understanding of the factors that influence these pathways. As patients in Canada must present in primary care before being referred to specialist care, the primary care interval within the larger diagnostic interval is a fundamental component of the diagnostic pathway. This study aims to examine lung cancer diagnostic trajectories in the primary care setting, and explore patient, disease, and health-care system factors that contribute to the diagnostic process. An explanatory sequential mixed-methods design will be employed in two phases. Phase one will involve the

identification of diagnostic pathways through latent profile analysis using clinical and administrative databases along with structured patient interviews, while phase two will use semi-structured patient interviews to explore contributing factors to late diagnosis. The findings from this study will provide an evidence base from which targeted interventions can be formed to reduce or eliminate unnecessary and avoidable delays in lung cancer diagnosis.

THERAPEUTIC PATIENT EDUCATION AND COUNSELLING IN GERIATRIC ONCOLOGY

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Therapeutic patient education (TPE) has largely demonstrated its efficiency in the care of patients suffering from chronic conditions, as defined by the World Health Organization (WHO). At the same time TPE has been implemented in Oncology, particularly in the field of pain management but not only, considering cancer as a ‘chronic condition’. Moreover, in the early 2000s, Geriatric Oncology has begun to emerge as a discipline. Indeed, as the incidence of cancer regularly increases during the life, cancerous pathologies are prevalent in subjects over 65 years, and the care of these subjects is raising very different issues and challenges from those of younger patients (polypathology and co-morbidity, iatrogenesis, cognitive disorders and dementia, sensory deficits, role of caregivers...). TPE has secondarily followed this development in getting adjusted to the specific needs of this population. Because of its global, multidimensional and holistic character, TPE now appears as an interesting tool in Geriatric Oncology. Some educational programs have been created, implemented and evaluated but only a few are specifically addressed to the geriatric population. This communication is a brief review of Therapeutic Education Programs designed for geriatric patients suffering from cancer and hematological conditions.

CONTINUE OR STOP: A QUALITATIVE ANALYSIS OF MAMMOGRAPHY SCREENING DECISION FOR OLDER WOMEN

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There is insufficient evidence to determine the benefits and harms of screening mammography for women aged 75 and older. Therefore, guidelines emphasize on shared decision-making. This study aimed to understand older women's mammography screening decision, physician's role in their decision, and their willingness to discontinue screening. Using stratified sampling based on age (70–74 vs. 75+), race/ethnicity (Non-Hispanic Blacks, Hispanics, Non-Hispanic Whites) and education (≤high school vs. >high school), fifty-six older women with no breast cancer history participated in semi-structured interviews to discuss their decision-making process and preferences for screening. Iterative, comparative thematic analyses revealed that the majority of the older women desired to continue screening. Women aged 75+ tended to discontinue, whereas those aged 70–74

tended to continue screening. Seventy-seven percent of the older women stated that their physician initiated the discussion regarding continuing/discontinuing screening, whereas 18% initiated the discussion, 1% were influenced by a relative and only 4% stated involvement in shared decision-making, describing the process as a 'mutual thing between us' or 'both [of us].' Most women followed their physician's recommendations for screening. Nearly 80% of those continuing mammography had no personal desire to stop, even for those aged 75+ (38%). Some of the reasons why a continuer may discontinue mammography screening were health, physician recommendation, harms, evidence or beyond the age of 80. This study suggests a need for improved communication between physicians and older women regarding the benefits and harms associated with mammography screening.

SESSION 935 (POSTER)

CAREGIVING III

KINSHIP CAREGIVER STRESS, BURDEN, HEALTH, SOCIAL SUPPORT, AND NEEDS

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Background: Kinship caregivers including grandparents, other relatives, and friends increasingly assume greater responsibility of raising their "kin" children. These caregivers experience increased stress, depression, and poorer health. Because of limited legal relationship, kinship caregivers are often denied from obtaining services, information, and financial assistance.

Aims: 1. Assess the needs of primary kinship caregivers. 2. Compare levels of stress, caregiver burden, health status, and social support between grandparent and non-grandparent caregivers.

Methods: Two hundred fifty-five kinship caregivers completed mailed standardized questionnaires.

Results: Over half of the sample were responsible for caring for other kins living with them. Forty-eight percent expressed need for financial resources, followed by 36% being interested in information about foster care and adoption. Thirty-two percent were interested in learning about stress management. Preferred method for receiving information varied, including email, websites, workshops, newsletters, and video. The majority had access to a computer and internet service.

Although the majority of the caregivers were employed fulltime, grandparent caregivers were less likely to be employed, more likely to be widowed or divorced, were caring for more children, and had a lower level of education compared with non-grandparent caregivers.

Grandparent caregivers were significantly older, more stressed, and scored lower on physical and social functioning, role participation, and bodily pain. They also had significantly lower social support and social interaction, and more burden impact on health.

Conclusion: The needs assessment and comparison of kinship caregivers shed light on future studies, interventions, and services for these caregivers.

IN THEIR OWN WORDS: HOW FAMILY CAREGIVERS OF PEOPLE WITH DEMENTIA DEFINE RESILIENCE

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There is a growing body of research on resilience in family caregivers of people with dementia, but caregivers' voices are noticeably absent from it. The aims of this study were to explore: (1) caregivers' definitions of resilience; (2) the factors caregivers consider to be associated with resilience. Twenty-one in-depth interviews were conducted in Australia with people who were currently, or had previously been, caring for a family member with dementia. Transcripts were analysed thematically and three themes emerged: Being Resilient, Becoming Resilient, and Characteristics of the Resilient Caregiver. Although caregivers struggled to define resilience, the vast majority considered themselves resilient. Caregivers identified a range of traits, values, environments, resources, and behaviours associated with resilience, but there was no consensus on the relative importance or causal nature of these factors. Caregivers also considered resilience to be domain- and context-specific, but did not agree on whether resilience was a trait or a process. These findings highlight both the importance of including caregivers' voices in resilience research and the limitations of the extant literature. Future research on resilience in family caregivers of people with dementia must be theoretically sound, methodologically rigorous, and reflect the lived experience of caregivers. After this session, participants will be able to discuss the challenges of conducting research on resilience in family caregivers and identify directions for future research.

FINDING MEANING IN DEMENTIA FAMILY CAREGIVING: A PILOT STUDY

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Although there is a body of knowledge indicating that finding meaning has a positive impact on the caregivers' wellbeing, little is known about the actual process of how caregivers of persons with dementia find meaning in their caregiving experience. This pilot study has provided insights into how Chinese family caregivers of persons with dementia find meaning in their caregiving experience and adapt to their caregiving role. Grounded theory methodology was employed in this study. Unstructured, in-depth interviews were conducted with seven primary caregivers who were taking care of a family member with dementia at home. Data were analyzed using constant comparative method. The results showed that the process of finding meaning consists of four stages: questioning, exploring, accepting, and transforming. Caregivers went through these four stages as they struggled to regain a sense of control over the changing caregiving situation. Caregivers who could successfully go through the four stages have demonstrated a higher motivation to care and a better wellbeing. For those caregivers who could not progress through the four stages, they were trapped in the stages of questioning and exploring. They were struggling to find ways to manage the situation and felt hard to accept the situation. These caregivers were more depressed and had a higher level of caregiving burden. These

findings suggest that interventions can aim at assisting caregivers to regain a sense of control over the changing caregiving situation, in order to help caregivers find meaning in their experience and adapt to their caregiving role.

CAREGIVING TRANSITIONS AND LIFE SATISFACTION OF INFORMAL CAREGIVERS

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In the Western world, about two third of care recipients are in home care. This fact holds also for Germany: 70 percent of care recipients are cared for at home. Most of the caregivers are family members without any professional background in caregiving. To date, little is known about how caring for a close relative influences life satisfaction of caregivers in the long run. This study seeks to fill the gap by focusing on the process of transitions into and out of their caregiver role. Further, I examine how the caregivers' life satisfaction develops after these incisive life events.

The analyses are based on the data of the German Socio-Economic Panel, which provides annual information about caregiving situations in German households and life satisfaction since 1997. Using panel data allows to capture intraindividual changes by controlling time constant unobserved heterogeneity. The longitudinal research design also enables to identify effects of adjustment processes in terms of life satisfaction with respect to transitions into and out of caregiving situations.

As expected, life satisfaction decreases after transitioning into the caregiving status and—in contrast to the findings of the vast majority of cross-sectional studies—remains stable over the time of caregiving. When analyzing the period that marks the transition out of caregiving, the picture is rather heterogeneous. It seems that women recover more quickly than men from this strenuous event that is often associated with the death of the care recipient. After recovery, life satisfaction increases constantly for both genders.

FINANCIAL COSTS OF CAREGIVING OVER THE LIFECOURSE

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Many research studies have documented the balancing of work and family life among adults who have caregiving responsibilities. This balance is more tenuous when the care recipient has significant disabilities or special needs. While many parents reduce work hours while their children are young, the work force ties of those whose children have disabilities that affect functioning into adulthood remain weak for a longer period of time, moderated by lower health status among these caregivers. In the US, 70% of working-age adults with disabilities live with relatives; 55% with a parent who is age 60 or older. This paper examines the health and pension costs of caregiving, specifically whether women who are or have been caregivers are more or less likely to hold a pension in their own name, whether there is a significant difference in the value of private pension holdings, given age and health status, and whether these differences persist when total household pension values are compared among women

who are, or are not caregivers. Data for women aged 40–69, who have not yet retired, are drawn from the combined 2001, 2004 and 2008 panels of the US Survey of Income and Program Participation (n=40,552). Women caring for disabled or elderly relatives are significantly more likely to report fair/poor health status (28%) and more sick days (13 on average), and are less likely to have pension savings (23.6% & 32.2% respectively) than those caring for children or no one (15% report fair/poor health; 49.5% have pension savings). In addition, the odds of owning and value of pensions held by those caring for non-elderly, disabled family members are significantly lower than those of other caregiver types, controlling for socio-demographic characteristics. Additional testing shows health status is a significant mediating factor, accounting for just over 26% of the effect of caregiving on individual pension value if caring for an adult with disabilities. Caregiving for a working-age adult with disabilities is associated with poorer health status and lower pension savings at both the individual and household levels. Newly adopted policies such as the ABLE Act in the US may provide some support for these families. Additionally, caregiving could be rewarded through the Social Security system, as it is in several European countries, improving the financial strain on these households in their retirement years.

LONG-TERM EFFECTS OF DIFFERENT TYPES OF CAREGIVING ON DEPRESSION IN OLDER ADULTS

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Caring family member is a matter of stress and may increase depressive symptoms in elderly. This study aimed to examine the long-term effects of caregiving on depression of older adults and compared whether elder caregivers felt more depression than child caregivers, and whether child caregiving can ease depressive symptoms among dual caregivers. We used the dataset of nationally representative samples from Taiwan Longitudinal Study of Aging, and four waves of survey were analyzed, including 1996, 1999, 2003, and 2007. After excluding institutional older adults and poor physical functions (ADL>0), a total of 2250 sample was recruited. Caregivers were divided into 4 types: non-caregivers, elder caregivers, child caregivers, and dual caregivers (who care elder and children at the same time). Depression was measured by CESD scale. The generalized estimation equation (GEE) was used to analyze the long-term effects of repeated measured data.

Comparing with non-caregivers, elder caregivers had significantly higher score of depression (95% C.I.=0.25~1.89), child caregivers had lower score of depression (95% C.I.= -0.59~0.00), and dual caregivers appeared nonsignificant impact on depression. Regarding caregiving times, the child caregivers who provided 2 waves of caregiving had significantly lower depressive score (95% C.I.= -1.06~0.24), whereas the elder caregivers who provided 1 wave of caregiving had significantly higher depression score (95% C.I.=0.18~1.95). Taking care of older adults is more stressful than taking care of children. Child caregiving can significantly reduce depression in older adults; however, it is not enough to relief depressive symptoms for dual caregivers. Future policy should pay more attention on elder caregivers.

FINDING NEW MEANINGS AND CONNECTION IN FAMILY DEMENTIA CAREGIVING BY ENHANCING INTERNAL COPING

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Background: Caregiving for People with Dementia (PwD) is often a psycho-emotional challenge to family members. However, caregiver support addresses usually, if not entirely, only resource coping for family caregivers. This paper presents an approach focus on psycho-emotional coping as applied by a gero-counselling team based in Singapore. The team is part of a community based health and psychosocial care services specially for older persons and their family caregivers.

Method and result: Over a three year period, the team working with more than 70 family caregivers through individual counselling and support groups, we identified and intervened common issues affecting emotional well-being of caregivers. Two issues were the most challenging to family caregivers: communication breakdown with the PwD and the loss of meaningful family activities. As a result, family caregivers often experienced emotional distress including sadness, frustration and helplessness. Counselling focused on internal coping enabled acceptance and adjustment of expectations. The outcomes of counselling were usually positive. Many were able to find new possibilities and hopes in connecting with their loved ones, and were able to resume caregiving with more positive outlook.

CAREGIVING FOR GRANDCHILDREN AND DEMENTIA CAREGIVING: NOT THAT DIFFERENT AMONG HISPANICS

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Hispanic older adults assuming caregiving roles continue to increase in unprecedented numbers. Development of programs to assist these caregivers to manage their stress and the demands placed on them has also increased. However, the vast majority of these programs are developed focusing more on the specific needs and characteristics of the care-recipients than on caregiver commonalities determined by cultural values. At the core of Hispanic culture are: *Familismo*, collectivism, *personalismo*, *marianismo*, and *respeto*.

We aimed to compare the experience of older Hispanic family caregivers of relatives living with Alzheimer's disease or related dementias (ADRD), and Hispanic grandparents caring for their grandchildren as a result of parental substance abuse disorders. We conducted a content analysis of qualitative ethnographic interviews of these two populations of caregivers. While the realities of daily caregiving duties were of different nature (dementia vs. childrearing), regardless of care-recipient, caregivers provided narratives supporting the themes: duty to family first, sense of satisfaction, willingly sacrificing, sense of purpose, physically exhausting, emotionally draining, financially straining, role challenges, role captivity, legal stressors, fear, and major stressor. More commonalities than differences were found. Caregivers differed in the root cause of fear (institutionalization vs. children

placement in foster care), and the major stressor in their lives. For grandparents the stressor was the perceived or actual continued parental substance abuse. In addition to culturally congruent evidence-based programs to assist Hispanic caregivers to manage their levels of stress, urgent policy changes are needed to support Hispanic family caregivers regardless of age /type of care-recipient.

VOLUNTEER CARE FOR AN AGING POPULATION: HIGHER QUALITY OF LIFE FOR CARING AND CARE RECEIVING PEOPLE?

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Aging is increasingly accompanied by themes of care. While younger and fitter elderly are invited to participate in the context of voluntary activities the older take advantage of this offers.

The debate on the organization of care and treatment of an aging population follows two main lines of discussion:

One is on the context of social change and political necessities. While the number of aging people is increasing, welfare state security systems do not seem suitable to cope with the associated (expected) challenges. The other main line to these developments is that family support systems are precarious as less and less resources are available for the acquisition of necessary care due to an increasing focus on gainful employment.

From a feminist point of view "care" is understood as a social practice that involves the whole of the paid and unpaid care work. It has to be equipped with identifiable structural conditions such as material and time resources, in both the private as well as in public spaces.

This paper presents results of a qualitative research with people who are engaged as volunteers for support services for elderly in rural areas. The main question is how volunteer care manifests in and for an aging population and in which kind gender differences continue.

DEVELOPING A CARER IDENTITY AND NEGOTIATING EVERYDAY LIFE THROUGH SOCIAL NETWORKING SITES

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Research highlights that a key overarching reason why family carers do not utilize support services is that many people who perform the duties of caregiving do not necessarily self-identify as a carer. Understanding the development of carer identities may thus be understood as crucial for the utilization of different health services directed towards carers. Based on the EU funded Innovage project, this project aims to describe and analyse how older carers supporting and caring for an older person understand and socially negotiate their life situation and identity as carers on a Swedish online social forum. Theoretically the project departs from a constructionist approach and methodologically it has been inspired by a specifically designed method for studying the cultures and communities that emerge from online computer-mediated or Internet-based communications, called netnography. The results indicate that in the process through which a carer role is acquired, a significant change in self-perception occurs. The presence or absence of recognition for the older carers' capacity, is understood as filtered through the needs of the

cared for person, making the carer identity into an invisible self. At the same time, the opportunity for online communication may help to create a virtual space of social recognition through which negative and positive experiences attached to caring can be discussed. The significance of online communication is here understood as the possibility to be recognized, and feel empowered by other carers.

FRIEND CAREGIVERS OF OLDER ADULTS IN THE UNITED STATES: HOW DO THEY COMPARE TO OTHER INFORMAL CARERS?

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This study increases our understanding of the characteristics and contributions of friend caregivers of older adults, as well as the positive and negative consequences they experience as the result of providing care and the different supports they utilize in providing care. Similarities and differences between friend caregivers and various types of kin caregivers (e.g. adult children, siblings, grandchildren) and other non-kin caregivers were investigated using bivariate and multivariate statistical analyses. Data come from 928 unpaid, non-co-resident caregivers in the United States 2011 National Study of Caregiving. Friend caregivers were significantly different than certain types of kin caregivers on many, but not all characteristics, contributions, and consequences examined. For example, friend caregivers were more likely than certain types of kin caregivers to be female, to be single, to live alone, to receive emotional support, and to participate in caregiver support groups. They were less likely to be sole caregivers, to use respite, and to experience negative caregiving consequences. Multivariate analyses reveal potential explanations for differences in contributions and consequences. Implications for policy and practice related to informal caregivers are discussed, as well as the implications of study design on the population of caregivers being examined.

CAREGIVER FAMILY THERAPY: A PILOT STUDY OF TREATMENT FIDELITY, ACCEPTABILITY, AND EFFICACY

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Physical and psychological health problems associated with caregiving for a chronically ill family member are well documented (Connell et al., 2001; Magliano et al., 2005), and caregiver interventions are effective in reducing feelings of burden and increasing feelings of competence (Pinquart & Sörensen, 2006). Tailored interventions incorporating family systems are among the most effective treatments for family caregivers (Belle et al., 2006; Mittleman et al., 2004; Zarit, 2009). Caregiver Family Therapy (CFT) was developed over a 10-year period; however, it has not been evaluated for treatment fidelity or efficacy, the gold standard for assessing evidence-based practices. This study aimed to assess treatment fidelity, acceptability, and efficacy in a help-seeking population. 11 caregivers seeking services at the UCCS Aging Center between September 1, 2015 and May 1, 2016 were asked for their voluntary participation in this study. Treatment fidelity was assessed by therapists, clients, and expert raters throughout the intervention period.

Therapists adhered to and skillfully implemented CFT in weekly sessions with caregivers, Wilks' Lambda = .81, $F(1, 148) = 35.75$, $p < .01$, $\eta^2_p = .20$, and more time was spent in session on targeted than non-targeted goals. CFT was found to be highly acceptable ($M = 10.91$, range 0–18) and satisfying to caregivers ($M = 3.96$, range 0–4) in this study. Outcome data was positive, and improvement was found in positive aspects of caregiving, $t(9) = 3.44$, $p = .01$, $\eta^2 = .56$. CFT appears to be a promising approach to reducing burden and increasing competence in caregivers.

SESSION 940 (POSTER)

COGNITION

EFFECT OF SSRIS ON COGNITIVE FUNCTION OF GERIATRIC PATIENTS WITH OBSESSIVE COMPULSIVE DISORDER

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SSRIs are the most chosen treatment for obsessive compulsive disorder (OCD). Some studies have reported the effects of SSRIs on cognitive function, but the results are conflicting. Geriatric patients are usually more vulnerable to drugs that affect memory and cognitive function. The purpose of this study is the assessment of SSRI effect on cognition of geriatric patients with OCD.

Patients aged 65 years and above, diagnosed with OCD and naïve to therapy, with no complaints or history of memory loss, were eligible for entering this study. Cognitive functions of those who were willing to participate and an SSRI drug was prescribed for, were assessed by Mini-mental state examination (MMSE) test. MMSE scores of patients were recorded at four points, before taking the drug, after 3, 5 and 8 weeks of drug therapy.

25 patients with the mean age of 67 ± 1.8 years (68% male and 32% female) entered our study. Their mean MMSE score prior to medication was 24.3. At 3, 5 and 8 weeks of treatment, the mean scores were 22.9, 21.04 and 20.66 respectively. With a p-value of <0.0001 , the gradual decline was significant. Gender, level of education, onset of disease, patient's response to the treatment, or drug agent did not have a relationship with this decline.

The MMSE scores of our patients over the consecutive weeks of taking SSRI drugs lowered significantly. It seems that the use of SSRIs in geriatric patients with OCD, can cause cognitive dysfunction in the acute phase of treatment.

USE OF THE GOLDSMITHS MUSICAL SOPHISTICATION INDEX IN OLDER AMERICAN ADULTS: A FEASIBILITY STUDY

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The purpose of this feasibility study was to determine older American adults' ability to understand the terminology used in the Goldsmiths Musical Sophistication Index

(Gold-MSI). The Gold-MSI was designed in the United Kingdom to measure musical sophistication on a broad range of musical expertise, skills, achievements and related behaviors. The Gold-MSI is different from its predecessors in that it assesses musical behaviors outside of instrumental practice and years of formal music training. We administered the Gold-MSI to 32 community-dwelling older adults (age 55 and older) living in the Northeast. The sample consisted of older adults from a Program of All-inclusive Care (PACE) (n=8), five participants from the Alzheimer's Disease and Research Center's choral group and nineteen were recruited using snowball sampling. The sample consisted of 25 females and 7 males with an average age of 68.3 and mean 15.5 years of formal education. The majority of adults were White (n=15), or Black (n=14), with one Hispanic, one American Indian and one who chose not to answer. Participants varied in their musical background. On average, participants scored lower (70.43) compared to the average scores reported in the norms (81.58) established in the original reliability and validity study in the UK. Three PACE participants identified minor difficulties in answering questions with double negative statements. The participants did not indicate any difficulty understanding the meaning of the questions when filling out the index. This feasibility study supports the use of the Gold-MSI with older adults living in the US.

CHRONIC PAIN PREDICTS ACCELERATED MEMORY DECLINE AND DEMENTIA

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Chronic pain is highly prevalent among the elderly and in cross sectional studies is associated with cognitive deficits upon detailed neuropsychiatric testing. Using a nationally-representative population-based study, we investigated the association between pain at cohort inception and longitudinal measures of memory and dementia probability over the following 12 years.

We studied Health and Retirement Study (HRS) participants who were interviewed in both 1998 and 2000. "Chronic pain" was defined as being often troubled by moderate or severe pain in both the 1998 and 2000 interviews. Based on data from each biennial telephone-based HRS evaluation through 2012, memory z-score and dementia probability were calculated from the validated HRS cognitive battery using published methodology. Linear mixed effects models were used to estimate the effect of chronic pain on the slope of an individual longitudinal cognitive trajectory, adjusted for baseline demographic, economic and health factors.

The 10,065 subjects (mean age 73 in 2000, 60% female) underwent a median of 5 biennial cognitive evaluations. Of these, 1,120 (11%) reported chronic pain. After controlling for other predictors in the model, chronic pain was associated with 7.5% (95% CI 2.8–12.2%) more rapid relative increase in dementia probability, and 10.3% (95% CI 3.9–16.8%) faster memory z-score decline, compared to those with no pain.

We conclude that, at a population level, there is a modest but significant independent association between chronic pain and subsequent accelerated cognitive decline. Chronic pain may place elders at risk of accelerated memory loss and dementia.

BENEFICIAL EFFECTS OF PERILLA OIL AND BRAIN TRAINING INTERVENTION ON COGNITION IN ELDERLY JAPANESE

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Perilla oil contains 60% α -linolenic acid and exhibits the function of ω -3 fatty acids. It is utilized as an energy source in the brain. In this 6-month randomized, placebo-controlled trial, we verified the effects of perilla oil and brain training on the cognitive function and mental health of healthy elderly Japanese individuals.

Independent elderly individuals aged ≥ 65 years (n = 158, 71.4 ± 0.4 years) were randomized to four groups (placebo, perilla oil, brain training, and brain training with perilla oil). Perilla oil (7 [Editor1] g) was administered every day for 6 months. Brain training was performed according to Shichida brain training. Cognitive function was assessed at baseline and after 6 months of intervention using the Mini-Mental State Examination and Frontal Assessment Battery (FAB). Mental health was assessed using the apathy and Zung self-rating depression scales; biochemical factors were measured in the participants' blood.

The plasma and erythrocyte plasma membrane α -linolenic acid levels significantly increased in the perilla oil and brain training with perilla oil groups. The mean changes in FAB "intellectual flexibility" scores from baseline to month 6 were significantly greater in the brain training with perilla oil group.

These results suggest that a combination of brain training and perilla oil improves age-related cognitive decline in elderly people with very mild cognitive impairment.

EFFECTS OF COGNITIVE LEISURE ACTIVITY PROGRAMS ON COGNITION IN MCI: A RANDOMIZED CONTROLLED TRIAL

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Participation in cognitive leisure activities is reported to be associated with reduced risk of dementia in older adults in observational studies; however, there are no definitive clinical trials examining whether cognitive leisure activities reduce the risk of cognitive decline. To test the hypothesis that a long-term, structured cognitive leisure activity program is effective on cognition in older adults with mild cognitive impairment (MCI), a high risk for dementia. The study was designed a 3-arm, single-blind randomized controlled trial.

Participants were 201 Japanese adults with MCI (mean age: 76.0, 52% women). Participants were randomized into 1 of 2 cognitive leisure activity programs (60 minutes weekly for 40 weeks): dance ($n = 67$) and playing musical instruments ($n = 67$), or a health education control group ($n = 67$). At 40 weeks, the dance group showed improved story memory recall scores compared with controls (mean change dance group 0.73 vs. controls 0.01; $P = .011$), whereas the music group did not show an improvement compared with controls (mean change music group 0.35; $P = .123$). Both dance (mean change 0.29; $P = .026$) and music groups (mean change 0.46; $P = .008$) showed improved Mini-Mental State Examination scores compared with controls (mean change -0.36). Long-term cognitive leisure activity programs involving dance or playing musical instruments resulted in improvements in memory and general cognitive function compared with a health education program in older adults with MCI.

MONTREAL COGNITIVE ASSESSMENT VS. ROWLAND UNIVERSAL DEMENTIA ASSESSMENT SCALE FOR COGNITIVE SCREENING

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Our study involved 208 consecutive patients seen in an outpatient memory clinic in London, Ontario, Canada (63 with diagnosis of mild dementia, 86 with diagnosis of mild cognitive impairment, 59 with normal cognition) for whom both a MoCA (Montreal Cognitive Assessment) and RUDAS (Rowland Universal Dementia Assessment Scale) could be completed. The sensitivity and specificity of both measures were assessed for detection of mild cognitive impairment and dementia. Using a cutoff score of 25 or less for both, the MoCA had a sensitivity of 97 % to detect dementia, with only 31% specificity, while the RUDAS had a 94% sensitivity to detect dementia, with 54% specificity. The MoCA at 25 or less had a sensitivity of 95% and a specificity of 69% to detect mild cognitive impairment, while the RUDAS at 25 had a sensitivity of 81% and a specificity of 88% to detect mild cognitive impairment. RUDAS score variation with educational attainment is significantly smaller than MoCA score variation ($P < 0.01$). The RUDAS is significantly briefer than the MoCA as a cognitive screening tool, and demonstrated similar sensitivity for dementia, with much better specificity for dementia and mild cognitive impairment, in an outpatient memory clinic.

COGNITIVE PATTERN ACCORDING TO AGE

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Introduction: when comparing patients with early-onset Alzheimer's disease (EOAD) (before 65 years) and late-onset Alzheimer's disease (LOAD), there have been conflicting results. In general, EOAD patients have more difficulties in non-memory domains including language, visuospatial skills and executive functions. We tested the effect of age on cognitive patterns among our geriatric population of AD, with higher ages than in the literature.

Method: prospective data collection on consecutive patients with mild AD (MMSE >20). Individualization of two groups: young patients (YP) ≤ 75 years, elderly patients (EP) ≥ 85 years. All patients underwent clinical examination, neuropsychological assessment, laboratory workup and brain imaging.

Results: 22 YP and 52 EP (72.8 ± 2 and 87.6 ± 2 years) were included. Groups were comparable for socio educative level, ADL and IADL scores, geriatric depression scores, neuropsychiatric inventory scores and MMSE scores (24.1 ± 2 and 24.0 ± 2). We mainly observed that EP had poorer results for semantic fluencies (Isaac set test, animals) and recall of social events. There were no differences for phonetic fluencies and executive functioning. We also observed that EP were slower on the TMT A, had worse performance in abstract praxis and Rey figure copy. There was no significant difference in episodic memory.

Conclusion: In patients with mild AD, cognitive patterns differ between patients younger than 75 years and those older than 85 years. The main finding is a more pronounced semantic impairment in older patients, in accordance with a previous literature report comparing EOAD (mean age 60.6 years) and LOAD (mean age 77.9 years).

THE CONSTRUCT OF RESILIENCE IN THE FACE OF HEALTH-RELATED ADVERSITY AMONG COMMUNITY-LIVING ELDERLY

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Decline of physical, psychological, and life functions is an inevitable consequence of aging. Interestingly, it has been reported that psychological factors, such as the purpose in life, has an effect on physiological aspects of aging, such as cognitive decline. This study, based on previous research, the purpose in life was considered as one construct of resilience. Resilience, defined as a psychological trait that promotes recovery and maintains life functions in the face of health-related adversities including illnesses, was investigated among community-living elderly people in Japan. Participants ($N=20$, mean age 81.45 years, Age range 72–92 years, 80% women) were recruited for the study by community care managers and volunteer workers. Episodic interviews were conducted with the participants about their thoughts, efforts and ideas for promoting recovery and maintaining life functions in the face of health-related adversity that they had experienced after approximately 60 years of age, following even a slight recovery. Responses from transcripts revealed four themes: Activation (acceptance of novelty, resolute will, natural pose, and trust of intuitions), Purpose in life (affirmative acceptance, meaning, past feelings in overcoming difficulties, and goals in life), Relationship preferences (enjoyment of contact with others, support seeking, and willingness to serve), and Health consciousness (health for life, industrious attitude, assessment, and sensitivity to information). It is suggested that these four constructs are linked in a chain reaction. The results of this study will contribute to the development of

preventive psychological interventions for dementia among the aging population in Japan.

VITAMIN D INSUFFICIENCY AND COGNITIVE TRAJECTORIES IN OLDER ADULTS: THE RANCHO BERNARDO STUDY

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Evidence of a role for vitamin D in cognitive aging is mixed and based primarily on extreme vitamin D deficiency. We evaluated the association of vitamin D with patterns of change in cognitive function in community-dwelling adults living in a temperate climate with year-round sunshine. This is a longitudinal study of 1058 older adults (median age 75) who had cognitive function assessed and serum vitamin D (25(OH)D) measured in 1997–99 and were followed with up to three repeat cognitive function assessments over a 12-year period. Overall, 13.5% (n=145) of participants had vitamin D insufficiency (<30 ng/ml); only 3% had vitamin D deficiency (<20 ng/ml). Adjusting for age, sex, education, and season of blood draw, vitamin D insufficiency was associated with poorer baseline performance on Mini-Mental Status Exam (MMSE) ($P=0.013$), Trails Making Test B (Trails B) ($P=0.018$), Category Fluency ($P=0.006$) and Long Term Retrieval ($P=0.016$), but was not related to the 12-year rate of decline for any test. For those with vitamin D insufficiency, odds of poor cognitive function at baseline were 63% higher ($P=0.033$) for MMSE, 78% higher ($P=0.013$) for Trails B, and 2-fold higher ($P<0.001$) for Category Fluency and Long Term Retrieval, and the risk of developing impaired Trails B performance during follow-up was 67% ($P=0.013$) higher. Although the possibility of confounding by concomitant poor health cannot be excluded, these results suggest that even moderate vitamin D insufficiency may contribute to reduced cognitive function in older adults.

MOTOR IMAGERY OF GAIT WITH AGING: MENTAL IMAGERY STRATEGY AND BODY POSITION MATTER

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The imagined version of Timed Up and Go test (iTUG) is an efficient clinical way to assess age-related changes in highest levels of gait control. This study aims 1) to examine the effects of the MI strategy (i.e., egocentric versus allocentric representation) and the body positions (standing, sitting, lying down) for the time needed to complete the iTUG, and 2) to compare TUG performances under different MI strategies and body positions in healthy young and older adults. A total of 60 healthy individuals (30 young participants 26.6 ± 7.4 years with 48.3% women, and 30 old participants 75.0 ± 4.4 with 40.0% women) were recruited in this cross-sectional study. Times of the pTUG and iTUG and the TUG delta time, used as outcomes. The strategies of gait MI (i.e., ego versus allocentric representation) were recorded. Older participants used more frequently the allocentric representation compared to young adults, regardless the body position ($P \leq 0.001$). Multiple linear regressions showed a significant increase of iTUG time with age ($P \leq 0.008$), except in model

non-adjusted on MI strategy. Allocentric MI strategy was associated with significant decrease in iTUG ($P \leq 0.015$), whereas lying down position was associated with increase in iTUG ($P \leq 0.04$). The results showed an aging effect while imagining gait characterized by a change in representation from ego to allocentric representation. Furthermore, lying down position represents the more accurate position of the real performance in comparison to other positions.

THE RIGHT KIND OF SMART? EMOTIONAL INTELLIGENCE AND COGNITIVE IMPAIRMENT IN OLDER ADULTS

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Background: Health psychology, emphasizes the potential of individual resources in effectively adapting to health challenges. Older adults with cognitive impairment (CI) suffer depletion of individual resources (e.g.: intelligence, certain personality traits, etc.) that jeopardizes their ability to adapt and function. Emotional intelligence (EI), a relatively new concept, holds promise as a pivotal resource for health challenges that until recently went unnoticed. In this pilot study we examined the distribution and inter-correlations among individual resource measures against a cognitive impairment measure to test EI's potential role as a resource for older adults coping with CI.

Methods: Applying a correlational study design, 66 older adults (mean age 77.92 ± 6.83), 60% of whom were women, were recruited from a memory clinic in central Israel. The participants showed a broad spectrum of cognitive function on Montreal Cognitive Assessment (MoCA scores 15–30), ranging intact through Mild Cognitive Impairment to dementia. General intelligence (GI), EI, Instrumental ADL (IADL), social support and comorbidities were assessed.

Results: EI positively associated with IADL ($r=.37$; $p<.01$) GI ($r=.26$; $p<.05$) and social support ($r=.27$; $p<.05$). In a regression analysis controlling for intervening factors EI did not correlate with MoCA while showing associations with GI ($\beta=.26$; $p<.05$), IADL ($\beta=.21$; $p<.05$) and education level ($\beta=.42$; $p<.01$).

Conclusions: As GI decreases with CI, EI remains relatively intact as an individual resource. This first of its kind evidence supports the possibility that EI may serve as a resilient resource in older adults with CI that may facilitate coping with the challenges of this condition.

COGNITIVE FUNCTIONING IN LATER LIFE: BENEFITS OF SPIRITUAL RESOURCES

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Spiritual resources have been used by human beings from time immemorial to reduce psychological distress and in healing. Primarily based on racially homogenous smaller clinical studies, previous research have suggested positive influence of meditation and prayers on memory and brain functioning

associated with cognition. Despite extensive research on its role in enhancing mental health, there has been relatively little attention paid to its significance in mitigating cognitive decline in later life. This study synthesizes Proactive Adaptation Model and Resourcefulness Theory to explore whether spiritual resources can be proactively utilized to reduce the later life risk of cognitive decline. Drawing from a racially heterogeneous subsample ($n=1159$) from Health and Retirement survey, this study investigated the effect of meditation and prayers on changes in cognitive functioning among older adults. Results based on generalized estimating models suggest statistically significant positive effect of prayers ($0.50, p<0.05$) on cognitive functioning at baseline. While positive, the effect of meditation on cognition at baseline was not statistically significant ($0.15, p=0.4$). We also observed slight gain in cognitive functioning among older adults practicing meditation ($0.03, p<0.05$) and prayers ($0.03, p=0.08$). Furthermore, we documented significantly higher cognition among older adults with higher level of education and lower cognitive functioning among African American. Consistent with prior literature, our study highlights positive cognitive health benefits of spiritual resources and provides much needed research evidence to design effective community level interventions to reduce the risk of cognitive decline in later life.

OLDER VETERANS WITH TYPE 2 DIABETES: A1C AND COGNITIVE FUNCTION

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Poor glycemic control (i.e., high A1c) among older adults with type 2 diabetes (DM) is associated with high risk of cognitive impairment across various domains of cognitive assessments. Older Veterans with DM have not been well studied. We hypothesized that high A1c is associated with worse executive function among older Veterans with DM.

We performed preliminary analysis of the baseline data from 61 Veterans with DM (aged 60 years or older) recruited from 2 VA health systems for a computerized cognitive training study. None had dementia diagnosis or Clinical Dementia Rating scale ≥ 1 . A finger-stick blood sample was analyzed using a point-of-care A1c analyzer to obtain A1c results. Five cognitive domains were assessed - Episodic Memory, Executive Function, Attention/Working Memory, Language/Semantic Categorization, and Psychomotor Speed. The association between A1c and cognition was examined using multiple linear regressions, adjusting for age and education.

For 61 Veterans (2 females), means were age 70 years, 14 years education, and 7.4% A1c. A1c was significantly associated with cognition only for Executive Function at one VA center ($n=31$, mean $7.9\% \pm SD 1.4$, range 6–11%). Higher A1c was associated with better executive performance ($\beta = 0.40, t = 3.61, p = 0.001$, partial $r = 0.59$), explaining 0.31 of the variability in performance ($R^2 = 0.41$).

This preliminary result of unexpected positive association of executive function with higher A1c may reflect recruitment of Veterans with high and variable A1c at that center.

Ongoing recruitment and increased sample size will be needed to verify this result.

BRAIN GAMING EFFECTS ON MILD COGNITIVE IMPAIRMENT: A SYSTEMATIC REVIEW

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Objective: To systematically review and synthesize the research findings regarding the effects of brain gaming interventions on cognitive function of older adults with cognitive impairments (CI).

Methods: A systematic search was conducted using PRISMA guidelines. A combination of key terms (i.e. brain gaming, older adult, dementia, cognition) were used to search for relevant literature on common electronic databases (MEDLINE, PubMed, EMBASE, CINAHL, PsycInfo, Cochrane Library Databases). Two level eligibility criteria were used to identify potential peer-reviewed manuscripts: 1) titles and abstracts were carefully reviewed by reviewers; and 2) full manuscripts that passed Level 1 review were retrieved for inclusion consideration. Frequencies, ranges, means and standard deviations were used to evaluate the studies characteristics and quality.

Results: 766 studies were identified as potential for inclusion. 215 studies were excluded as duplicates. 515 abstracts were screened for Level 1 review accordingly to a priori criteria. 51 abstracts passed level 1 review and underwent full manuscript review (Level 2). Seven articles met full eligibility criteria for data extraction. Total sample of 396 older adults ($77 \text{ yrs} \pm 6$) with CIs including dementia were analyzed. Studies' treatment ranged from 20 minutes session to 100 minute session. Primary outcomes were memory, learning, executing function, and visuospatial attention and depression as secondary. Five out of seven studies showed positive cognitive effects from the brain gaming interventions.

Conclusion: Our results suggest that brain gaming has an overall positive effect on the cognitive function of older adults with CI. Although, high level of evidence-based research studies are recommended to reach conclusive results.

IS GAIT USING DUAL TASK POSSIBLE TO DETECT COMMUNITY DWELLING ELDERLY WITH COGNITIVE DECLINE?

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In Japan, due to the increase of old-old, Aging-Associated Cognitive Decline (AACD; Levy, 1994) qualifiers are rapidly increasing. The number of AACD group was 13 (age 74.7 ± 2.8), and the healthy group was 6 (age 71.8 ± 3.7). We had the participants to walk a 9m walking way, of 5m measuring distance made by connecting 2 "Walk Way" (ANIMA Corp.), plus 2m acceleration distance and 2m deceleration distance, 2 trials each of fastest possible gait (Speed up walking; S) and dual task gait of calculating while walking (Dual

task walking; DT) in the respective order. Further, intervention task for the DT group was, to chant the answer of calculation starting from 70 minus 7 for the first trial and 50 minus 7 for the second trial, and continue to take away 7. We carried out “Five Cog” for detection of AACD elderly (Yatomi, 2006). The significant differences in gait characteristics between the two groups within the DT task were, gait speed ($P=0.037$), cadence ($P=0.058$), stride ($P=0.149$). On the other hand, there were no differences seen in the S task (n.s.). The S task (Shinkai, 2000), said to be beneficial as a good predictor of vital functions, could not detect AACD elderly. Within the DT task, since there was a gait speed decrease, it is possible to be beneficial as one of screening tasks to detect AACD elderly. It could be possible even for non-specialists, in a short time to detect AACD elderly, by adding a DT task to widely popular gait test.

EFFECTS OF DUAL TASK SWITCHING WORKING MEMORY TRAINING ON COGNITIVE FUNCTIONS IN THE ELDERLY

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Objectives: Several studies suggest that the human ability to rapidly and accurately switch between tasks multiple times and to focus attention on the currently relevant response set employs working memory capacity. This ability decreases with age and that’s why older people have great difficulty in dual-task performance and TMT part B tests. Moreover, TMT-B has been proven to be a single predictor to predict dementia. We hypothesized that Dual Task Switching Working Memory Training (Dual Task-SWMT) where both motor and cognitive task requires working memory might improve not only task-switching ability but also the working memory capacity in healthy older adults. The purpose of this study was to examine the benefits Dual Task-SWMT on cognitive functions specially in the working memory capacity in healthy subjects

Methods: The study subjects were 50 healthy adults, 21 men and 29 women, aged ≥ 73 years, cognitive status screened ($MMSE > 25$). We proposed them to perform Dual Task-Switching Working Memory Training that we have created one hour twice a week for 24 weeks. At the beginning and at the end of treatment, participants received a cognitive assessment that included Mini-Mental State Examination (MMSE), Forward and Backward Digit Span Test, Rey’s Auditory Verbal Learning test, TMT-A, TMT-B.

Results: The cognitive assessment showed statistically significant improvement in all the scores tested (t-test performed), including the TMT-B ($p < 0.05$).

Conclusions: These findings indicate that Dual Task-SWMT where both motor and cognitive task requires working memory may serve as an efficient way to improve cognitive performance on healthy adults.

MOTOR-COGNITIVE TRAINING IMPROVES BALANCE AND COGNITION OF PATIENTS WITH PARKINSON’S DISEASE

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Objective: To investigate the effects of motor-cognitive training on individuals with Parkinson disease (PD) compared with community dwelling elderly. **Method:** This is a randomized clinical trial, in which participated five elderly people [mean age 68.3 (2.03) years] and five patients with idiopathic PD [mean age 67.7 (2.1) years, stages 1–3 in the Hoehn and Yahr scale]. Participants underwent 14 training sessions of one hour of duration each one, twice a week. Training was conducted in groups with a maximum of five elderly. The program included challenging exercises for balance and cognition, including warming up, strengthening, flexibility, aerobic training, gait, balance and transfer training. Participants were assessed pre and post-test and after 30 days [follow-up (FU)]. Cognition and balance were assessed by the Montreal Cognitive Assessment (MoCA) and Mini-Balance Evaluation Systems Test (Mini-BESTest), respectively. Study was registered in Brazilian Registry of Clinical Trials (RBR-27kqv5). **Results:** Both groups showed improvement on balance and cognition post-test with maintenance of its effects on the FU. However, this improvement was substantial in the elderly group, but there was is not difference between groups. The mean (SD) scores in scales evaluated in the elderly were: Mini-BESTest were: 26.9 ± 3.4 (pre-test), 29.4 ± 3.7 (post-test) and 28.7 ± 2.8 (FU); MoCA were 24.0 ± 5.2 (pre-test), 26.7 ± 3.3 (post-test) and 26.9 ± 4.4 (FU). The mean (SD) scores of PD patients on Mini-BESTest were: 24.0 ± 3.9 (pre-test), 24.4 ± 4.1 (post-test) and 26.3 ± 3.7 (FU); MoCA were 21.3 ± 4.5 (pre-test), 23.6 ± 5.5 (post-test) and 23.4 ± 4.5 (FU). **Conclusion:** The proposed intervention promoted improvement on balance and cognition in PD patients and community dwelling elderly.

ASSESSMENT, HOME SAFETY AND THE COGNITIVE PERFORMANCE TEST: A DISCONNECT IN PRACTICE OR PURPOSE?

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Home safety is crucial for older adults. Occupational therapists use performance-based assessments (PBAs) to predict clients’ occupational capacity and provide recommendations for needed supports to ensure safety. Occupational therapists face barriers with using PBAs in practice due to their complexity and variability. The Cognitive Performance Test (CPT) is a widely sourced standardized PBA, regularly utilized with the older adult population, and is reportedly challenging to administer and score. Currently there is a lack of knowledge about challenges associated with the use of PBAs. This study will explore occupational therapists’ perspectives on challenges they experience when using the CPT, and aim to produce strategies to remediate the disconnect of the CPT’s use in practice. Six occupational therapists, from various clinical programs at a geriatric hospital, participated in scoring of a recorded CPT administration and an audio-recorded focus group. Participants discussed the challenges and strategies associated with the CPT in practice. Using multiple analyst triangulation, the transcribed recordings underwent thematic analysis to uncover main themes.

Clinicians expressed personal qualities influencing their practice of “being” an occupational therapist, influences of the environment affecting their use of the CPT and identified patterns that they noticed while participating in the occupation of “doing” the CPT. The knowledge gained from this study can enhance clinician awareness of challenges associated with using the CPT and provide opportunity for occupational therapists to reflect upon their fit as clinicians within their practice environment, while utilizing a standardized assessment to help with the significant challenges that often accompany discharge.

CESSATION OF WALKING DURING DIVIDED ATTENTION TASK IN OLDER ADULTS WITH COGNITIVE IMPAIRMENT

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The aim of the present study was to evaluate if older adults with Mild Cognitive Impairment (MCI) and mild Alzheimer's Disease (AD) patients stop walking during a functional mobility test with or without divided attention (dual task paradigm). We examined functional mobility in 104 older adults (42 with MCI, 26 with mild AD, and 36 cognitively healthy controls) using the Timed Up and Go test (TUG) under four experimental conditions: TUG single task, TUG plus a cognitive task (listing animals), TUG plus a manual task (holding a full glass of water) and TUG plus a cognitive and a manual task (performing the listing animals while carrying a full cup of water). Statistically significant differences between the mean time of execution were found in all four experimental conditions when comparing MCI and controls ($p < .001$), AD and controls ($p < .001$), and when comparing MCI and AD patients ($p < .05$). However members of all groups stopped walking while talking in TUG cognitive dual task (controls: $n=02$; 5.6%, MCI: $n=17$; 40.5% and AD: $n=19$; 73.1%; $p < .001$) and TUG plus a cognitive and a manual task (controls: $n=02$; 5.6%, MCI: $n=21$; 50% and AD: $n=19$; 73.1%; $p < .001$). These findings demonstrate the influence of cognitive impairment in divided attention task, especially cognitive dual task, during functional mobility. This data is relevant, because the termination of walking during the TUG indicates a loss in executive function and, consequently, increased risk of falls in older adults with cognitive impairment.

IS COMBINED MOTOR LEARNING COGNITIVE TRAINING THE EFFECTIVE TOOL TO IMPROVE COGNITIVE FUNCTION?

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Objectives: Several studies suggest that the brain maintains neuroplasticity even in older age and can benefit from mental training. A successful brain training program should preferably include a range of different tasks, that should be less automatic and more complex, in order to involve a multitude of functions. Numerous studies have claimed evidence that motor learning provides a great variety of exercises and offers neuroplastic benefits to the brain. We hypothesized

that combining cognitive exercises with motor learning training might improve cognitive functions in healthy older adults.

The purpose of this study is to examine the benefits of combined motor learning and cognitive exercises training on cognitive functions in healthy subjects.

Methods: The study subjects were 48 healthy adults, 17 men and 31 women, aged ≥ 74 years, cognitive status screened (MMSE >25). We proposed them to perform one hour of motor learning activity combined to cognitive stimulation exercises based on novelty and variability twice a week per 24 weeks. At the beginning and at the end of treatment, participants received a cognitive assessment that included Mini-Mental State Examination (MMSE), Digit Span Test, Rey's Auditory Verbal Learning test, TMT-A, TMT-B.

Results: The cognitive assessment showed statistically significant improvement in all the scores tested (t-test performed), the most significant was in MMSE (mean=1,6; $p < .001$).

Conclusions: These findings indicate that motor learning combined to cognitive stimulation exercises may serve as an efficient way to improve cognitive performance on healthy adults. We also discussed several directions for future combined training studies.

SUBJECTIVE COGNITIVE IMPAIRMENT IN INDIAN OLDER ADULTS: CLINICAL AND SOCIAL PROFILE

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Aims & objectives: To detect cognitive impairment among older people with subjective memory complaints in a tertiary hospital setting AIIMS.

Methods: In a cross-sectional study involving patients attending the “Memory Clinic” of the Department of Geriatric Medicine 200 patients, aged 60 and above, with subjective memory complaints were included. A detailed evaluation of the cognitive status, functional status and co-morbidities was done as per various validated scales. Socioeconomic and other demographic characteristics were obtained from the caregivers. The diagnosis, management and follow up of patients were carried out in the memory clinic.

Results: Out of 200 patients, 158 were males and 42 were females. Mean age was 67.5 years and the number abruptly declined after the age of 85 years. Most of the patients were living with their spouse and children, economically dependent and were from middle income group. GDS score was significantly associated with cognitive impairment. Cognitively impaired patient were more depressed as compared to normal participants (p value -0.000). Polypharmacy, urinary incontinence, vision and hearing impairment are also significantly associated with cognitive decline. Previous history of falls and dental problems were also found to have significant effect on cognitive performance of the patients. Alzheimer's disease (AD) (49%) and Vascular dementia (42%) were the main causes of dementia in cases. The common co-morbidities were hypertension, diabetes mellitus, cerebro-vascular accidents, and COPD. The most interesting result was that patients who themselves were concerned about cognitive decline had better scores than those who were presented by family members.

Conclusions: Subjective cognitive impairment is the very serious evolving issue in elderly and it should not be ignored as it may help to focus on future dementia cases. Geriatricians should develop clinical protocol to manage cognitive decline in old age without depending on neurologist and psychiatrists.

HIGH ANTICHOLINERGIC COGNITIVE BURDEN IS ASSOCIATED WITH URGENCY INCONTINENCE IN ELDERLY POPULATION

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Urgency urinary incontinence (UUI) is involuntary leakage of urine associated with urgency. Medications with anticholinergic cognitive burden (ACB) are considered as a risk factor for cognitive limitations and decreased physical functionality. Our aim was to investigate whether high ACB will be an independent risk factor for UUI in elderly or not.

The analysis was carried out on 1050 subjects aged ≥ 65 years. Out of those, 189 were eligible to meet the study criteria. They were divided into two groups: The study group included subjects with UUI (n:82) and the control group included those without UUI (n:107). ACB was calculated for each subject by adding the score of each drug and classified as having absent (ACB=0), low (ACB=1 or 2), and high (ACB ≥ 3) anticholinergic properties based on ACB scale.

Age, gender and cognitive status did not differ between groups. There was more subjects with definite and possible ACB in the study group compared to the control group (17.3% and 29.6% vs. 1.9% and 25%; $p < 0.001$). In multivariate regression analysis high ACB was found to be a risk factor for UUI (OR: 11.2; CI: 2.333–53.776; $p = 0.003$) while low ACB not (OR: 1.652; CI: 0.809–3.376; $p = 0.168$).

We found that high ACB is an independent risk factor for UUI. Central effects of medications with ACB and their functionality-limiting effects are possible causes of UUI in this population. Further randomized and controlled studies are needed to enlighten the causal relationship between ACB and UUI.

SESSION 945 (POSTER)

COGNITION III

THE IMPACT OF THREE COGNITIVE TRAINING INTERVENTIONS ON OLDER ADULTS' LIFESPACE ACROSS FIVE YEARS

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Lifespace is the purposeful movement throughout one's environment and is a central aspect of healthy aging. As fluid cognitive abilities are strongly linked to lifespace, targeted cognitive interventions may preserve lifespace in older adults. The objective of this study was to assess the effects of three

separate cognitive interventions (reasoning training, speed of processing training, and memory training) on changes in older adults' lifespace across 5 years. Participants (age range 65–94, $M = 73.64$) randomized to a no-contact control condition (n=698) were compared to those randomized to: reasoning (n=694), speed of processing (n=702), and memory (n=703) training using multilevel modeling. Intention-to-treat (ITT, randomization to training conditions) and dosage (treatment-received via number of training sessions) analyses were conducted. Models were adjusted for age, race, attrition, gender, mental status, driving status, study location, and residential status (i.e. living alone or not). Results revealed no significant group differences in the ITT analyses. However, dosage models revealed that more sessions of speed of processing [95% CI: .0002, .0098] and reasoning [95% CI: .0002, .0100] training predicted greater lifespace across the five years relative to the control group. Participants randomized to memory training did not differ from the control group in lifespace across five years [95% CI: -.0044, .0055]. This is the first study to show that two cognitive interventions (reasoning and speed of processing training), but not memory training, transferred to maintained lifespace across five years. Future research should investigate the mechanisms of these far transfer effects.

MODERATE ALCOHOL USE AND COGNITIVE PERFORMANCE OVER TIME AMONG OLDER ADULTS

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Individual trajectories of cognitive aging can vary widely and are affected by numerous lifestyle factors¹. Moderate alcohol use among older adults is known to confer protective effects with regard to cognition and other health outcomes²⁻⁵. However, less is known about how moderate drinking relates to rate of change between cognitive domains and the timing of emergence of moderate use-associated benefits.

The purpose of this study was to explore older adults' self-reported alcohol use over time in relation to their cognitive performance over a period of eight years. Data for the 856 participants was obtained from the ADAMS sample of the HRS, a longitudinal, cohort study on health, retirement, and aging conducted by the University of Michigan. Participants were predominantly female (58.6%) and Caucasian (76.9%). The mean age at baseline was 81.56 years ($SD = 7.17$) and average years of education was 10.03 years ($SD = 4.35$).

A series of latent growth curve models examined the effects of moderate use on rate of change in cognitive performance over time for each measure (relating to domains of Fluency, Executive Functioning, Visuospatial, and Memory). After controlling for education, medical burden, and marital status, moderate drinking was consistently significantly associated across cognitive measures with increased baseline functioning ($p \leq .05$), but did not have a significant effect on rate of change over time.

These findings suggest that the effect of moderate alcohol use on cognition emerges prior to the time period captured by available data (age 73), and that these differences appear to persist throughout later life.

ALCOHOL INTAKE AND COGNITIVELY HEALTHY LONGEVITY: THE RANCHO BERNARDO STUDY

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Moderate alcohol consumption has been associated with reduced mortality, but the association of alcohol with cognitively healthy longevity has not been well characterized. Here we explored the association between alcohol intake and cognitively healthy longevity among 1353 community-dwelling adults. Frequency and amount of alcohol intake was assessed by questionnaire in 1984–1987. Cognitive function was assessed at approximate 4 year intervals beginning in 1988–1992 through 2007–2009. Multinomial logistic regression was used to examine the association between alcohol intake and a three level outcome: cognitively healthy longevity (living to at least age 85 without cognitive impairment), survival to age 85 with cognitive impairment (defined as an MMSE score > 1.5 standard deviations below expectation for age, sex, and education), or death before age 85, with adjustment for numerous health and lifestyle factors. Only 17% of participants reported no alcohol intake; 48% reported drinking near-daily. Most drinkers (48% of the sample) consumed a moderate amount of alcohol (≤ 1 drink/day for women and those over age 65; ≤ 2 drinks/day for men under age 65). Relative to nondrinkers, those who drank near daily had 2–3 fold higher odds of cognitively healthy longevity versus cognitive impairment ($p < .05$) or death before 85 ($p < .001$). Compared to nondrinkers, moderate or heavy drinkers had significantly higher odds of cognitively healthy longevity versus cognitive impairment or death before age 85 (p 's < .05). Although excessive drinking is associated with significant mortality and morbidity, our results suggest that frequent, moderate alcohol intake may play a role in promoting cognitively healthy longevity.

UNDERSTANDING THE RELATIONSHIP BETWEEN RETIREMENT AND COGNITIVE HEALTH

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Researchers have examined the association between cognition and retirement; however, results are inconsistent and the direction of the relationship is unclear. Risks may be context dependent. Retirement may be viewed by some as an opportunity to pursue interests and hobbies, whereas others may derive meaning and benefits from employment. Our purpose was twofold: 1) examine whether cognitive impairment predicts future employment status (i.e., retirement) and whether employment status predicts future cognitive impairment; and 2) explore predictors of cognitive impairment in employed, retired, and not employed individuals over the age of 50. We conducted secondary analyses of data from the first five waves of the English Longitudinal Study on Aging. In cross-lagged growth curve models ($N=6492$) adjusted for age, sex, education, social vulnerability, frailty, and baseline cognition or employment status, being retired was associated with better future cognitive function ($b=-.19$, $p<.001$) and a 10% unit increase in cognitive impairment was associated

with lower odds of being retired in the future ($OR=0.93$, $p<.05$). In nonlagged growth curve models ($N=10125$), on average retired individuals had less cognitive impairment ($b=-0.93$, $p<.01$), but accumulated cognitive deficits more quickly than employed individuals. In general, cognitive deficits accumulated with age ($b=0.64$, $p<.01$); however, being employed and having higher education offered some protection. Increasing frailty was associated with faster cognitive decline. Retirement does not necessarily lead to decreasing cognitive function. Understanding the link between retirement and cognition can facilitate the development of appropriate interventions to help people maintain cognitive health in retirement.

IQ, REPETITIVE THOUGHT, AND INFLAMMATION IN OLDER ADULTS: REPETITIVE THINKING MAY BENEFIT HEALTH

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Higher IQ correlates with lower systemic inflammation, which in turn reduces risk for disorders of aging. The present study examined the role of repetitive thought (RT) in the relationship between IQ and interleukin (IL)-6, an inflammatory marker. RT is thinking attentively, repeatedly, and frequently about oneself and one's world and is characterized by Valence (positive-negative), Purpose (searching-solving), and Total quantity (much-little). Estimated IQ and RT dimension scores were assessed at baseline in a sample of older adults ($N=120$, $Mage=74$ years), who had blood drawn up to 10 times semiannually ($n=799$). Models included IL-6 covariates: BMI, chronological age, and statin medication. Higher IQ was associated with lower IL-6 ($t(120)=2.03$, $p=.045$). Of the RT dimensions, only more Total RT predicted lower IL-6 ($t(124)=3.26$, $p=.001$), an effect that was not moderated by Valence or Purpose. In a test of mediation, more Total RT accounted for part of the effect of IQ on IL-6 (indirect effect = -0.06 [$CI = -0.14, -0.002$]). There was also a significant interaction between IQ and Total RT ($t(119)=2.64$, $p=.009$), in which more Total RT was more strongly associated with lower IL-6 for people with lower IQ. Although some forms of RT such as worry may have negative health correlates for older adults, engaging in RT *per se* can be healthy insofar as it also encompasses planning, cognitive processing, and coping. Older adults with higher IQ were more likely to engage in RT, but older adults with lower IQ benefitted the most in terms of systemic inflammation.

LONGITUDINAL CHANGES IN PHYSICAL FUNCTION-COGNITIVE FUNCTION RELATIONSHIPS IN OLDER ADULTHOOD

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Evidence suggests increasing interconnectedness of physical and cognitive functions in older adulthood, and possible co-occurring terminal declines on approach to death. Newer statistical techniques such as time-varying effects modeling (TVEM) allow researchers to explore how the magnitudes of these relationship differ across time without imposing traditional assumptions like linearity. Using time-to-death

in years as the time-varying metric, we examined relationships between physical function (Turn 360, grip strength) and specific cognitive domains (processing speed, reasoning, and memory) in a subsample of 429 healthy community-dwelling older adults aged 65–91 (mean age = 76.0, 62.7% female, 82.3% Caucasian, mean MMSE = 27.4). After controlling for baseline age, sex, education, race, and general health, associations between Turn 360 and processing speed strengthened and then stabilized around 7.5 years prior to death (estimate = $-.1$, $p < .05$). Increases in relationship magnitudes followed by stabilization were also found between grip strength and memory (estimate = $.1$, $p < .05$), processing speed (estimate = $.1$, $p < .05$), and reasoning approximately at 7.5, 10 and 12 years prior to death, respectively. These results partially support prior findings that time-to-death may be an important time metric to examine relationships between physical and cognitive function in older adults. Although the relationship magnitudes remained stable until death, these results may not generalize to less healthy samples. These results also demonstrate the utility of TVEM as an exploratory tool. Future work should replicate and extend these findings to more diverse, at-risk samples.

APOE EFFECTS ON COGNITION FROM MIDDLE CHILDHOOD TO THE CUSP OF MIDDLE ADULTHOOD

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APOE is a well-established genetic risk factor for cognitive aging and dementia, but its influence on cognition in childhood through early adulthood is inconclusive. We examine cross-sectional and longitudinal relationships of APOE on cognitive performance in individuals now approaching midlife (30–45 years) from the ongoing Colorado Adoption/Twin Study of Lifespan behavioral development and cognitive aging study (CATSLife), with over 30 years of follow-up from parent studies (Colorado Adoption Project, Longitudinal Twin Study). We conducted an analysis on a subset of participants who participated in cognitive assessments between middle childhood and early adulthood with available APOE genotyping. Cross-sectional analyses of WAIS subtests in adolescence ($M_{age} = 16.42$, $SD_{age} = .73$; $N = 401$) accounting for sibling clustering, sex and age suggested that APOE e4 carriers perform significantly more poorly at age 16 on the WAIS Vocabulary, Digit Span, Picture Completion and Object assembly subtests ($p < .05$; d 's $.27$ – $.34$). Longitudinal growth analyses of specific memory, spatial and speed abilities between middle childhood and early adulthood (7–35 years; $N = 436$) suggested that APOE e4 alleles were associated with poorer memory performance on a paired associates task (Names and Faces delayed, $p < .05$), and with dampened nonlinear gains on a spatial rotations task across age (ETS Card Rotations, $p < .02$). These findings suggest that APOE is associated with differential cognitive performance earlier than midlife, particularly for memory and spatial abilities. We will extend analyses to the entire CATSLife sample ($N=1600$) and compare results to the international context.

DO MULTIPLE CONSTRUCTS EXPLAIN INCONGRUENT ASSOCIATIONS BETWEEN SUBJECTIVE MEMORY AND COGNITION?

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Many studies have demonstrated no (or weak) associations between self-evaluated and objective memory. The purpose of this study is to investigate whether such incongruent associations between the two constructs could be explained by better or worse self-assessments in reporting subjective memory. Participants from the 2000 wave of the Long Beach Longitudinal Study ($N=916$; age range: 29–98; mean age=69.17) were utilized. The four factors (frequency of forgetting, retrospective functioning, seriousness of forgetting, mnemonics usage) of the Memory Function Questionnaire (MFQ; Gilewski, Zelinski, & Schaie, 1990) were used for subjective memory. Four groups were created based on quartiles of scores across three cognitive domains (Immediate recall, Vocabulary, and Recognition Vocabulary). ANOVAs were used to analyze the data. Results indicated significant mean differences in frequency of forgetting for the groups based on immediate recall ($p<0.001$), vocabulary test ($p<0.05$), and recognition vocabulary ($p<0.001$) performance, suggesting that people with higher scores in the various cognitive domains rated their subjective memory in frequency of forgetting higher. Significant mean differences in retrospective functioning emerged for the groups categorized based on vocabulary ($p<0.001$), and recognition vocabulary ($p<0.001$), suggesting that people with higher scores in these cognitive domains rated their subjective memory in retrospective forgetting poorer. People with better cognitive abilities appeared to be more optimistic about their frequency of forgetting and more pessimistic about their retrospective functioning. The findings support the work of Gilewski et al. and others that subjective memory is not a single construct; it comprises multiple factors that are highly distinctive.

FLUID COGNITIVE ABILITIES AND AUTONOMIC AND AFFECTIVE RESPONSE TO ACUTE STRESSORS IN OLDER ADULTS

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There is a need for more integrative understanding of the self-regulatory systems that promote older adults' stress adaptation. This study examined associations among three domains hypothesized to support adaptive capacity in response to challenge: fluid cognitive abilities, particularly attention and processing speed; flexible parasympathetic nervous system activity, indexed by high frequency heart rate variability (HF-HRV); and affect regulation. In a sample of 100 healthy adults 50 to 87 years of age (mean age = 60.7 years), controlling for age and education, better attention ability from the Repeated Battery for Neuropsychological Status was associated with greater HF-HRV decline and lower negative affect response to acute laboratory stressors, suggesting greater adaptive capacity. Stratifying the sample as more or less stressed based on Perceived Stress Scale scores, less stressed older adults showed no significant associations among fluid cognitive abilities and HF-HRV and negative affect in response to stressors. By contrast, among the more globally stressed participants, worse processing speed was

associated with smaller HF-HRV decline and larger increase in negative affect response. These findings support the growing recognition that the capacity to adapt to stressors is a function of multiple, overlapping regulatory systems. Further, there may be stronger functional dependencies among regulatory domains in the context of stress. Aging affects multiple regulatory domains, and can be accompanied by exposure to chronic stressors known to affect health, such as spousal dementia caregiving. As such, integrative models of stress adaptation are needed to identify intervention targets that promote adaptive capacity and well-being in older adults.

DTLA-A NEW SCREENING TEST FOR LANGUAGE IMPAIRMENT IN AGING

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Compared to cognitive functions such as working memory and executive functions, language appears to be mostly resistant to age-related decline. However, language is affected in the early stages of major forms of dementia and language deficits are at the core of the clinical portrait of primary progressive aphasia. Primary care providers are frequently faced with patients whose main complaints concern language problems in everyday and professional life. Up to now, no brief, accurate, screening test, which could be applied during routine office visits, was available for language deficits in neurodegenerative diseases. The aim of this study is to fill this important need by developing a handy, sensitive and brief detection test for language impairments in adults and aging. In this presentation, we describe the psychometric properties of the DTLA (Detection Test for Language impairments in Adults and Aging), a new screening test developed in four French-speaking countries (Belgium, Canada, France and Switzerland). We first present the development phase of the DTLA, then we provide normative data for healthy, community-dwelling, French-speaking people from the four countries. Finally, we report data on the convergent and discriminant validity of the DTLA as well as on its test-retest and internal consistency reliability. The use of the DTLA could improve the diagnosis of neurodegenerative diseases, especially those in which language is primarily affected. Ultimately, this will permit patients and their families to receive adequate services at an earlier stage of the disease.

EFFECTS OF MILD COGNITIVE IMPAIRMENT ON LINGUISTIC COMMUNICATION: A PILOT STUDY

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Mild cognitive impairment (MCI) is a nosological entity increasingly recognized as a prodrome of dementia. As distinct types of MCI have been identified, it is well recognized that other cognitive functions besides memory are frequently affected. Linguistic communication measures are important cognitive biomarkers and our objective was to study the

effects of healthy older adults and persons with MCI on a language battery. Our secondary objective was to identify which language tasks might have greater clinical utility in identifying and quantifying MCI.

Subsequent to obtaining informed consent, we assessed 10 persons with MCI and compared their performance to healthy older adults and published norms for persons with Alzheimer's disease. Participants' medical history was obtained; hearing, vision and affect screened; cognitive function assessed, followed by administering a standardized language battery - the Arizona Battery for Communication Disorders of Dementia (ABCD; Bayles & Tomoeda, 1993). This test has been especially validated for distinguishing between the linguistic communication profile of young and old controls versus persons with AD.

Performance of persons with MCI was documented on 14 subtests of linguistic communication, mapping onto 5 broad constructs of Mental Status, Memory, Language Expression, Language Comprehension and Visuospatial Construction. Our results demonstrated that linguistic communication tasks that require episodic recollection (e.g. word learning, story recall), and more generative, narrative responses on discourse tasks (e.g. tasks requiring object description and concept definition) were especially sensitive to language changes accompanying MCI. Simpler tasks of linguistic communication (e.g. word or sentence reading comprehension; confrontation naming) did not reveal any differences from healthy older controls. Implications of these results for clinical assessment of persons with MCI will be discussed.

THE IMPACT OF NOISE AND WORKING MEMORY ON ONLINE PROCESSING OF SPOKEN WORDS: EYETRACKING EVIDENCE

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Among the complaints of older adults is a difficulty in speech recognition, especially in noisy backgrounds. This difficulty can interfere with maintenance of health and quality of life and can potentially affect the rate of cognitive decline. A central research question in speech recognition in older adults is the extent to which difficulties stem from bottom-up, sensory declines that degrade the speech input, and to what extent they stem from an age-related reduction in working memory.

We used eye-tracking as an on-line measure of spoken word recognition. Listeners hear spoken instructions that relate to an object presented in the visual display, while their eye movements are recorded. For example, hearing "touch the candle," with four objects displayed: candle, candy, dog and bicycle. As the speech signal unfolds, several alternatives are activated in response to phonemic information, i.e., CAND leads to *candy* and *candle*. In order to successfully achieve word identification, one has to inhibit phonological alternatives. Using eye-tracking, we tracked, in real-time, as the listener shifts his or her focus between *candle* and *candy*. We manipulated working memory load by using the digit pre-load task, where participants have to retain either one

(low-load) or four (high-load) spoken digits for the duration of a spoken word recognition trial.

We will present three separate studies. The data show that both noise and working memory can delay speech processing. With younger adults, data suggest that the two effects may interact. Preliminary data with older adults will be discussed.

THE SURVIVAL ADVANTAGE OF READING BOOKS

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Although books can expose people to new people and places, whether books also have health benefits beyond other types of reading materials is not known. This study examined whether those who read books have a survival advantage over those who do not read books and over those who read other types of materials, and if so, whether cognition mediates this book reading effect. The cohort consisted of 3635 participants in the nationally representative Health and Retirement Study who provided information about their reading patterns at baseline. Cox proportional hazards models were based on survival information up to 12 years after baseline. A dose-response survival advantage was found for book reading by tertile ($HR_{T_2} = 0.83$, $p < .0001$, $HR_{T_3} = 0.77$, $p < .0001$), after adjusting for relevant covariates including age, sex, race, education, comorbidities, self-rated health, wealth, marital status, and depression. Book reading contributed to a survival advantage that was significantly greater than that observed for reading newspapers or magazines ($t_{T_2} = 98.8$, $p < .0001$; $t_{T_3} = 4956$, $p < .0001$). Compared to non-book readers, book readers had a 4-month survival advantage at the point of 80% survival. Book readers also experienced a 20% reduction in risk of mortality over the 12 years of follow up compared to non-book readers. Cognitive score was a complete mediator of the book reading survival advantage ($p = .04$). These findings suggest that the benefits of reading books include a longer life in which to read them.

IMPACT OF SOCIAL SUPPORT ON COGNITIVE FUNCTION IN CHINESE ELDERLY: ONE-YEAR FOLLOW-UP COHORT STUDY

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Background: The maintenance of cognitive function is the key dominant of older age wellbeing. Promoting successful cognitive aging is a major public concern to individuals and the field of public health. This study examines the association between perceived social support and cognitive function in a representative community sample of 82 Hong Kong Chinese Elderly.

Methods: Baseline data collection was completed in 2005 and included a 180-min face-to-face interview covering detailed assessments of physical and cognitive performance (Chinese version of Dementia Rating Scale, CDRS), health status, social support (from three types of network members including their children, relatives, and friends), and other life-style characteristics. The cohort was subsequently reevaluated in 2006, with reassessments of cognitive function.

Result: The mean age was 69 years old for the participants, of whom 78.05% were female. In the multiple linear regression, controlling for demographics variables, medical conditions, pulmonary function, grip strength, blood pressure,

Body Mass Index, and leisure activities, greater baseline social support from children was a significant predictor of better cognitive function (changes in adjusted CDRS for age and education) at the 1-year follow-up. Among three types of social support network, perceived children's willingness to offer help was strongest predictor.

Conclusion: Consistent with Western studies, social support from family is important for elderly Chinese people in Hong Kong. Strengthening social support among family members are highly recommended for preserving cognitive function during aging.

ACTIVITY INTERESTS AND TALENTS IN RELATION TO COGNITIVE PERFORMANCE: A PROSPECTIVE STUDY

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Past research shows lifespan activity engagement provides multiple benefits to physical, emotional and cognitive health into late life. We investigated the prospective relationships between self-reported activity interests and talents with cognitive performance in a subset of participants taking part in the ongoing Colorado Adoption/Twin Study of Lifespan behavioral development and cognitive aging (CATSLife). Initial analyses evaluated associations of interest/talents, and cognitive performance beginning in late adolescence and approaching midlife (16 to 36 years; $N = 852$). Individuals rated 20 activities as to interests and talents (1=not at all to 5=very much). Activity types were classified into artistic (writing, music, visual arts), physical (team sports, swimming, skiing), or practical (cooking, carpentry, mechanics), and were correlated across assessments (r 's = .230 - .767). Cognitive performance was assessed from a battery of 14 tasks spanning verbal, spatial, memory and speed domains. Interests and/or talents in arts were positively correlated with better immediate and delayed performance on the Names and Faces Memory Task at years 16, 21, and 30 (r 's = .091 - .232). Interests and/or talents in physical and practical activities correlated with performance on the Card Rotations spatial task across assessments (r 's = .123 - .204), and practical activities with the Paper Form Board spatial task (r 's = .109-.274). These initial findings hint at possible influences, or environmental selection, of activity engagement and maintenance of memory and spatial abilities. We will extend analyses to the full CATSLife sample, consider activity and cognitive performance trajectories in tandem, and compare findings to the international literature.

SELECTIVE ATTENTION IN AGE-ASSOCIATED MEMORY IMPAIRMENT: AN ERP STUDY IN VISUAL SEARCH

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Age-Associated memory impairment (AAMI) may be related to a decline in selective attention. In this work, the potential attentional capture by task-irrelevant stimuli was examined in older adults with AAMI compared to healthy older adults using event-related potentials (ERPs).

A visual search task was employed, in which the participants had to detect the presence of a target stimulus that differed from distractors by orientation. To explore the automatic attentional capture, an irrelevant distractor stimulus defined by color was also presented without previous knowledge of the subjects. The N2pc component of ERPs, an electrophysiological indicator of the allocation of attentional resources, was analysed.

The results indicated that in both groups the N2pc component was present for target stimuli but not for task-irrelevant color stimuli. In addition, the latency of N2pc for targets was significantly delayed in AAMI patients compared to controls, although no differences in the amplitude of the component were found.

The delay in N2pc latency in AAMI subjects suggested they require more time than healthy seniors to shift their visuospatial attention onto the task-relevant information. However, the lack of significant differences between the groups in N2pc mean amplitude and scalp distribution suggested that the amount of attentional resources allocated to the target did not differ between older adult with and without memory impairment. The lack of N2pc component for irrelevant non-target stimuli indicated that the mechanism of top-down suppression of task-irrelevant information is preserved.

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THE IMPACT OF SELF-RELEVANCE AND TASK COMPLEXITY ON INFORMATION SEARCH DURING DECISION-MAKING

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Cognitive declines may negatively impact older adults to systematically search information, which might lead them to make decisions more based on the presence or absence of values on important dimensions (i.e., noncompensatory strategies) rather than consider all the information associated with each alternative (i.e., compensatory strategies). However, draw from selective engagement, self-relevance would increase older adults' motivation to engage in the task, which might result in more search behaviors. To investigate the impact of self-relevance and task complexity on information search during decision-making, the present study adopted a 2 (age: young, old) $\times$ 2 (self-relevance: low, high) $\times$ 2 (task complexity: simple, complexity) mixed design. We examined information search behaviors in 60 younger and 60 older adults using a process-tracing procedure with 6 decision matrices. Decision tasks varied in complexity, and half of them were considered as relevant to older than to younger adults, whereas the opposite would be true for the others. Results showed that older adults were more likely than younger adults to use compensatory strategies, and spent more time and searched more information during decision making. With self-relevance increasing, older adults used less compensatory strategies, while younger adults

changed strategies from noncompensatory to compensatory strategies. Increased in task complexity result in more information search, more time on decision-making, but adults of all ages still tend to use compensatory strategies. The results suggest that self-relevance may be more important than task complexity to determine older adults' information search behaviors during decision-making.

SESSION 950 (POSTER)

CULTURAL AND CROSS-NATIONAL RESEARCH

GLOBAL AGING AS LIFE COURSE EXPERIENCE: RESULTS FROM ETHNOGRAPHIC RESEARCH IN GHANA AND THE U.S.

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The discourse underlying population aging as a policy and practice concern has long been dominated by modernization and demographic transition theories. In this discourse, an older adult is defined by chronological age and is constructed as dependent (Aboderin 2004). For example, dependency ratios drastically simplify intergenerational caregiving and support. Anthropological research on aging helps document the limitations of this discourse in understanding the full range of experience people have as they grow older – that is, the culturally informed, locally specific, lived experience of people as they age. This paper first reviews the construction of older adulthood within dominant policy and practice discourse on population aging, and then contrasts this construction with results from sixteen months of ethnographic data collection in Ghana and the United States during 2004–5. Data analysis of how people experience the challenges of growing older in local contexts challenges dominant constructions of older adults as merely dependent, and offers a more nuanced, culturally informed life course perspective. Implications for policy include steps towards reforming global aging policy from addressing aging as a separate life stage of “old” and dependent to a life course experience in which growing older contributes to but does not define the role of older adults in family support systems and society.

WHY DO OLDER TURKISH IMMIGRANTS LIVING IN EUROPE USE HEALTH CARE SERVICES IN TURKEY?

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Background: Turkish labor immigrants that moved to European countries around 1970's and have already reached the “old age”. Health care needs increase with advanced age as the number of chronic diseases increases. In the case of migration, retirement enables more flexible use of the country for treatment. Research has shown that satisfaction from health care services in host countries are among factors hindering the immigrants to consider remigration. Cross border health care practices of older Turkish immigrants have been found to differ from other nationalities.

The aim of the research is to evaluate the effect of interpersonal relations between health care providers and older Turkish immigrants on cross border health care use, the

perceptions and practices of older Turkish immigrants about the health care services in their host countries (Denmark (DK), Germany (D) and England (UK)) and Turkey.

Methods: A multi centered, qualitative cross sectional study was conducted with Turkish immigrants living in Copenhagen (DK), Hildesheim (D) and London (UK). Semi structured interviews were performed with 67 individuals aged between 50 and 83. All interviews were audio recorded, transcribed and submitted to thematic analysis.

Results: Using Glino's typology for cross border health service use, availability and perceived quality have been found to be push factors shaping cross border health care use. Practices were mainly towards early and right diagnosis. Language barrier however has come up as a theme but surprisingly did not affect the use and perceptions of cross border health care.

PUBLIC OR PRIVATE SERVICE DELIVERY? EMPLOYEES' ATTITUDES TO END-OF-LIFE CARE IN SIX EU COUNTRIES

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Why should there be a distinction between public or private funded long term care for people at the end of their life? The conventional wisdom and the study of public administration is based on the belief that public and private organizations differ significantly. This paper argues that this statement is more a myth than a fact. Notwithstanding the number of public-private comparisons, comparative cross-country studies on employees' behavior and attitudes towards end-of-life care for older people are neglected in this area. This paper aims to explore similarities and differences between care staffs' behavior and attitudes towards end-of-life care for older people in public and private long term care facilities (LTCF) in six European countries: Belgium, Finland, Italy, the Netherlands, Poland and United Kingdom. As part of PACE project ("Comparing the Effectiveness of Palliative Care for Elderly People in Long Term Care Facilities in Europe" funded by the EU 7th Framework Programme), the survey data were collected in 2015 by recruiting a random sample of LTCFs in six countries. The results indicate more similarities than differences. Possible explanations between the sectors are explored, and the strengths and limitations of the study are discussed. Findings contribute in particular to the literature on public service motivation and public values and our understanding of how both public and private LTCFs serve public good. As a conclusion the paper suggests

that service delivery as a public/private service issue should be taken more seriously: care staff prefer to care older people as human beings.

THE EFFECTS OF COMMUNITY AND PUBLIC SUPPORT ON THE MENTAL HEALTH OF ELDERLY CHINESE

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Economic reforms in China are associated with migration of young Chinese from rural to urban centers. This migration as well as the one-child policy and increased longevity have affected the well-being of the elderly, who largely remain in rural residences. An erosion of the cultural tradition of filial piety is related to the mental health of a growing elderly population, who is at-risk of increased depressive symptoms. We analyzed data from the China Health and Retirement Longitudinal Study that were collected in 2011. These data were from a nationally representative and publicly available dataset. We evaluated the associations between 2 types of social services (community-based and public support) and depressive symptoms in the Chinese elderly (≥ 60 years) with a focus on age differentials and type of residential registration (urban or rural hukou). The results indicated that components of community and public support were significantly and negatively associated with depressive symptoms. These components included having a senior center in the community, receiving a subsidy from the local agency, and receiving a pension. Also, the elderly living in a rural hukou had greater levels of depressive symptoms, and depressive symptoms in this population were most significantly and negatively affected by having a senior center in the community and receiving a local subsidy. These results suggest that specific types of social support may negatively affect depressive symptoms and provide opportunities for targeted interventions from community leaders and policymakers that improve mental health and well-being among a growing elderly population in China.

COMPARING PUBLIC DISCOURSE ON ELDER CARE IN FINLAND AND THE UNITED STATES

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Academic literature on elder care examines the quality of care, the structure of services, and the role of non-professional care. While fairly universal across developed countries, the cultural and social welfare contexts vary suggesting cross-country differences in how these issues are understood and addressed. The media both reflects and shapes what people regard as significant and is, therefore, one place to examine cross-cultural differences in approaches to care; however, studies that compare the discourse across countries with different social welfare structures are almost non-existent. In this study, we analyze print media published in four major newspapers in Finland and the United States. Using quality of care, structure of services, and non-professional care as our guiding framework, we conducted a thematic analysis of news reports, feature stories, and editorials published during May-June 2015 and March-April 2016. Quality of care was

the most common theme in Finnish media with a focus on: 1) harmful or dangerous care practices, 2) neglect or lack of care, and 3) care falling behind set quality requirements. Despite the differences in the welfare regime, cost of care to the individual was a common theme in both countries as was a focus on increasing home care and informal care. There are weak signals in both countries of innovations that co-mingle aspects of informal and formal care such as intergenerational housing, employment opportunities for older adults, and co-locating day care and adult day care centers. These tend to be based on local initiative rather than strategic, governmental planning.

BALIKBAYANS' STORIES OF RETURN: THE LIFE COURSE PERSPECTIVE AND INDIGENOUS METHODOLOGIES

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This paper offers a rethinking of the life course perspective and contribution of a culturally sensitive approach in doing qualitative research. The life course perspective had proven its utility in the field of gerontology and invited several levels of analyses across fields of knowledge. With its key premises on human agency, linked lives, historical and geographical context and timing of life events, this enables an understanding of the present and emerging social realities prevalent in society. In this paper, the life course perspective is substantiated and informed through the use of indigenous methodologies. With the focus on labor migration as a salient feature of Philippine society, the paper offers a unique opportunity to investigate the potential discourse of the life course perspective, migration and aging. Through qualitative narratives, life stories and use of Filipino indigenous methodologies (FIM) among 6 male overseas Filipino workers from the gulf areas, their later life experiences as refracted by age is presented. More so, the family members of the returnees were interviewed to stress the role of culture and family dynamics throughout the migration process and foremost upon their return. Further, the paper suggests that migration is a collective understanding among family members and not solely a function of human agency in making choices. The paper ends with a reconsideration of inclusion of indigenous methodologies to enhance and maximize the efficacy of the life course framework useful for discussing implications for instruction and practice in educational research.

GERONTOGROWTH AND POPULATION AGING IN AFRICA: WHY DOES THIS DIFFERENTIATION MATTER?

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Population aging is a major achievement of human development enjoyed by an increasing number of people around the world. In Africa, despite the remarkable increase in absolute terms, the proportion of African elderly is only 5% of the African population, against over 12% of the elderly population worldwide. No less important than the increase in the numbers is the remarkable global progress in quality of life and satisfaction of the elderly. At this level, most African

low-income countries are overrepresented as the worst countries for the elderly to live in, as shown by the *Global AgeWatch Index 2015*. According to HelpAge International the countries with the worst performance lack a comprehensive approach to policy framework to address the challenges posed by the aging of their populations. Although this conclusion is not entirely wrong, it needs careful attention and qualification: What does it mean to have a comprehensive approach to population aging in countries where increasing numbers of elderly, here designated 'gerontogrowth', is overshadowed by the rejuvenation of the younger population? Why people would worry in advance with a phenomenon that they still do not live or feel? Without questioning the new Index's potential this article shows that its explanatory power and reach can and should be substantially improved with a really more comprehensive analytical and methodological framework. A framework that articulates the concept of capabilities with crucial structural concepts of population dynamics, in the context of the different stages of global demographic transition, where the world's elderly population is integrated.

A COMPARATIVE ANALYSIS: DEPRESSIVE SYMPTOM AMONG KOREAN IMMIGRANT ELDERS IN TWO U.S. STATES

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This study explored the influence of stress factors on depressive symptoms among Korean immigrant elders (KIE). We compared differential impacts of stressors (such as life-course disruption) and the availability of culturally sensitive services between KIEs living in two southwestern states (Arizona and Texas).

A total of 237 KIEs (Texas, 120 and Arizona, 117) participated in cross-sectional face-to-face interviews using a standardized survey. The Geriatric Depression Scale-Short Form was used to measure depressive symptom levels. Separate regression analyses were performed to identify common and different predictors in the two subsamples.

Total participant results revealed that location itself does not matter. However, the presence of culturally sensitive community-service-seeking behavior is an important predictor. The levels of life and family-relationship satisfaction were the only common significant predictors for depressive symptoms in both subsamples ($b = 1.671$, $p < .01$, $b = 1.416$, $p < .001$ for life satisfaction and $b = 1.182$, $p < .05$, $b = .684$, $p < .05$ for family relationship.). For KIEs in Arizona ($R^2 = .494$), age upon arrival in US, level of English proficiency, and community-service-seeking behaviors were significant predictors of depressive symptoms. For KIEs in Texas ($R^2 = .460$), the frequency of meeting with a physician was a unique predictor.

The subsamples of Korean immigrant elders have unique correlates of depressive symptoms, reflecting differences in geographic location, immigration history, and availability of ethnic community resources. This suggests that community service providers need to take contextual differences into account when planning for intervention.

ELDERLY HEALTH DISPARITIES: TRANSLATING RESEARCH INTO PRACTICE

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Information about health disparities among minority elders is growing. Policymakers and practitioners may find it difficult to translate this body of literature into effective and efficient healthcare delivery for minority elders. Easier access to information and programs on various health disparities and social health determinants will enable healthcare professionals, minority advocates, policymakers and practitioners to make better decisions on key issues that minority elders will face in the near future. U.S. Department of Health and Human Services Office of Minority Health launched a Youth Health Equity Model of Practice (YHEMOP) Internship Placement Program in Summer 2016 to support research in health disparities. The YHEMOP program gathers a team of experts across various disciplines and institutions including the Regional Health Equity Council in Region IX (RHEC IX) and San Francisco State University's Gerontology Program, to conduct a comprehensive literature analysis on elderly health disparities and to produce an annotated bibliography of key peer-reviewed articles, audiovisual resources and data websites. An executive summary (factsheet) will be drawn from this annotated bibliography and directed to relevant funding agencies and legislators with recommendations for their consideration and implementation in Region IX (Arizona, California, Nevada, Hawaii, and the Islands: American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Marshall Islands, and the Republic of Palau). The results of this research will be discussed with IAGG 2017 participants.

IMPROVING ADVANCE CARE PLANNING FOR OLDER LATINOS WITH CHRONIC ILLNESSES: A COMMUNITY-BASED APPROACH

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Multiple factors contribute to educational barriers and low participation rates for advance care planning (ACP) among older Latinos. Innovative methods are needed to reach this vulnerable population with vital information to improve ACP and advance directive (AD) documentation. This paper examines a community-based approach for implementing an educational intervention in a Southern New Mexico rural community for older Latinos with multiple chronic health conditions.

Regardless of advancements in cultural competent practice for ACP, fewer Latinos participate in end-of-life (EOL) communication or document an AD. Multiple factors contribute to low participation in such care. While barriers exist, it is important to consider that all people need individualized care, especially when talking about dying and preparing ADs, to ensure they are well-informed about treatment options and have a voice in documenting EOL care preferences.

Additionally, older Latinos living in rural areas of Southern New Mexico are often harder to reach and may refuse to participate in research. Therefore, innovative methods are needed to meaningfully engage and share information on purpose and utility of ADs.

We used mixed-methods to study implementation of a culturally tailored, multifaceted intervention model—Improving Advance Care Planning (ACP-I Plan). ACP-I Plan is designed to overcome barriers to ACP with older Latinos, to start conversations early, before the active dying phase. Preliminary findings, based on data from 74 participants, suggest significant improvements in AD communication and documentation. 100% of participants were satisfied with the information. Findings have implications for conducting community-based research with older Latinos residing in rural geographies.

POST-SENTENCING COMPETENCE IN OLDER DEATH ROW INMATES

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The prison population in the United States is rapidly aging, with 10% of inmates in 2014 being over the age of 65. Older inmates experience many risk factors of dementia, particularly death row inmates who lack cognitive stimulation and exercise (one hour per day outside of cell). The average time between sentencing and execution is approximately 16.5 years. Under current U.S. law, older death row inmates who experience diminished competence following sentencing may still be executed. This is incongruent with: 1) *Ford v. Wainwright* which offers protection to those who cannot understand why and how they are to be punished, 2) *Atkins v. Virginia* which prohibits the execution of individuals with intellectual disabilities, and, potentially 3) the Eighth Amendment, which prohibits "cruel and unusual punishment." Several states, including Georgia, Missouri, and Oklahoma, have in the past ten years proceeded with the execution of older death row inmates who exhibit diminished capacity to understand the antecedents and process of their execution. Specifically, Brandon Astor Jones, who was first sentenced to death in 1979, was executed by the state of Georgia in 2016 despite evidence of dementia. Currently, the U.S. 11th Circuit Court of Appeals is considering the case of Vernon Madison, a 65-year-old Alabama inmate with dementia who has appealed his sentence of death based on cognitive incapacity. Cases such as these will become increasingly common due to the aging of the prison population; thus, the issue of post-sentencing competence should be considered by the United States legal system.

UTILIZATION OF COMMUNITY HEALTH COACHES TO IMPROVE CHRONIC DISEASE MANAGEMENT IN OLDER ADULTS

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Aims: Low health literacy is prevalent in minority populations with chronic disease. This population is often unable to effectively self-manage their chronic disease. We hypothesized that the use of community health coaches could improve chronic disease self-management in older minority populations.

Methods: Three focus groups were conducted with participants utilizing community health coaches to support their disease self-management.

Results: Community health coaches were effective in helping participants improve their chronic disease self-management facilitating improved health outcomes as measured by weight loss, blood pressure reductions and care compliance.

Conclusion: These results suggest the use of community health coaches supporting older adults with limited health literacy fosters not only improvements in health conditions but also resulted in social determinants of health improvements for these participants.

MEETING THE NEEDS OF THE UNDERSERVED: STRENGTH-BASED TECHNIQUES TO INFORM POLICY AND PROGRAMMING

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In the United States, the older population is becoming more racially and ethnically diverse. Researchers from Ha Kupuna National Research Center for Native Hawaiian Elders (funded by the DHHS, Administration for Community Living [ACL]) will provide a summary and update of their 10-year research plan, together with techniques for gathering data from underserved elders refined through lessons learned from a community-university collaborative partnership. These techniques include, but are not limited to, listening sessions, focus groups, key informant interviews, and surveys. Examples from the authors' experiences with indigenous elders will be discussed with program, policy, and research implications for other underserved groups including LGBT and people with disabilities.

PAID AND UNPAID WORK IN THE REPUBLIC OF KOREA AND THE UNITED STATES OF AMERICA

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Research from Western countries indicates participation in paid and volunteer work is related to human and social capital, yet less is known about factors related to these productive activities in East Asian countries experiencing rapid change. We investigate the prevalence and profiles of workers and volunteers in Korea and the U.S., countries with different cultures and institutional circumstances. We apply logistic models to analyze data from the 2012 Korean Longitudinal Study of Aging (KLoSA) and the 2012 American Health and Retirement Study (HRS). The analytic sample consists of 7,183 KLoSA respondents and 18,852 HRS respondents age 51 and older. The proportions of adults volunteering differ considerably between Korea (6%) and the U.S. (38%), while 43% and 46% of adults are working for pay in Korea and the U.S. respectively. Significant factors associated with voluntary work (e.g., female gender, religion, good health, absence of disability) are fairly similar in both countries. However, higher education, being unmarried, and working for pay are negatively related to volunteering in Korea only. Working for pay is negatively related to poor health,

disability, female gender, and being married in both Korea and the U.S. Yet, higher education and voluntary work are negatively associated with paid employment in Korea only. In contrast, both volunteering and paid employment are positively associated with higher education in the U.S. These results suggest it is familial and health-related factors more than formal education shaping contemporary participation in productive activities among older cohorts in Korea.

UNDERSTANDING THE MEDICARE PROGRAM AND RELATED SUBSIDIES: A RACIAL AND ETHNIC COMPARISON

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A major concern prior to the implementation of the Medicare Modernization Act was the complexity of the numerous coverage options. Understanding the structure and benefits of Medicare and its related subsidies is critical in the management of health for older adults. While evidence suggests that Blacks and Hispanics generally have lower health literacy than Whites, little is known about differences regarding Medicare knowledge. Using a convenience sample (n=944), this study examined the association between race, ethnicity, and Medicare comprehension. Logistic regression results indicated that older non-Hispanic Blacks (NHBs) and Hispanics have more concern about their ability to comprehend Medicare and the various coverage options than non-Hispanic Whites (NHWs). Understanding subsidies that can help pay for Medicare costs was also a greater concern among NHBs and Hispanics than NHWs. Accounting for gender, age, income, and geographic location had little impact on these findings. Moreover, individuals with an income less than 200 percent of the Federal Poverty Level reported greater concern about their ability to understand Medicare and related subsidies. Findings suggest that vulnerable populations – in particular, older NHBs and Hispanics – may face significant challenges comprehending their health care coverage and options that are available to help lower costs. This is concerning, particularly given racial and ethnic differences in health. To promote understanding, interventions are needed to increase education about the Medicare program and related subsidies. Further, understanding that differentials in comprehension exist is critical when evaluating policy alternatives in order to achieve more equitable access to health care and reduce disparities.

SESSION 955 (POSTER)

DEMENTIA AND ALZHEIMER'S DISEASE III

INTRODUCING TOUCH SCREEN APPLICATIONS TO PEOPLE WITH ADVANCED DEMENTIA THROUGH STAFF-CLIENT CO-PLAY

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In long-term care, there is growing attention to clients' quality of life, including provision of pleasant and meaningful activities. There is also growing evidence that tablets are accessible for people living with dementia. Identifying pleasant technology-facilitated co-play activities for people with advanced dementia would be of benefit for both the individual and carers. Here we explore whether pre-existing iPad games can provide an avenue for engaging and enjoyable co-play activity for people with advanced dementia and carers. Ten participants with a dementia diagnosis and MOCA score of 8 or below and 5 staff co-played a strategic game, a familiar rule-based game, a coloring game, and a sensory game. In the first session, staff investigated which game was best suited, and this game was played on two subsequent sessions. Sessions were video-recorded and concluded with a patient questionnaire and staff interview. Face- and screen-view video recordings were used to: examine ability to play over time and engagement, examine successful features of game introduction by staff, and validate themes emerging from staff post-play interviews. We will present results on ability to learn, engagement and enjoyment of people with advanced dementia and recommendations on how to best introduce games. Pre-existing iPad games could provide an avenue for facilitating co-play activities in advanced dementia care. Incorporating staff experiences on game introduction and co-play into recommendations should support knowledge translation and enhance iPad game play for people with advanced dementia.

DEMENTIA CARE IN THE COMMUNITY: RELATIONSHIPS BETWEEN QUALITY OF LIFE, AGE, GENDER, AND CARER BURDEN

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Over 50% of all people with dementia (PWD) live in the community. Family members providing care for PWD are at risk of lowered quality of life due to the stress of caregiving. The aim of this study is to describe a comparison of level of anxiety, depression and quality of life for PWD living in the community and their carers in a large cohort of people receiving support in Auckland, New Zealand (N = 1071).

Correlational analyses were used to examine the relationship between the ages of the person with dementia (PWD) and their scores on two quality of life measures as well as measures of carer quality of life and stress. Measures include quality of life (DemQOL for PWD and WHOQOL for carers) and carer stress (Carer Reaction Assessment). There was a significant relationship between PWD age and quality of life (DEMQUOL), $r(99) = .20, p < .05$, suggesting that older PWD had better quality of life compared to younger PWD. There is also a significant relationship between PWD quality of life and caregiver quality of life $r(52) = .61, p < .01$. The analysis also showed that age and gender influenced perceived carer stress.

The results of this study suggest that perceived carer stress is influenced by age, gender, and overall quality of life. Those providing community interventions to support PWD should

assess for the multiple factors that can effect PWD and families influence quality of life and carer stress.

DALCROZE RHYTHMIC MUSIC PROGRAM FOR PEOPLE WITH DEMENTIA

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Music as a universal communication can also easily be applied to persons with dementia, who have partially or totally lost their abilities to speak orally. Music listening and music production activate several brain areas responsible for cognition, sensori-motor activities and emotional regulation. The specific Dalcroze rhythmic music program which runs as a spontaneously music improvisation accompanied mainly by piano sessions to which the patients move following specific sequences. Positive effects are to see in saver balance, higher self-esteem, less falls, improved motor function and numerous non-verbal communication. The typical simplified music instruments can be used as soon as given to the patients, as they require no specific training to play music. The repetition of movements allows persons with dementia to imitate or to follow their own inner feeling. The leader of a Dalcroze rhythmic music program need specific qualities beside his musical back-ground, like personal competence to understand expressed emotions and a high degree of interpersonal communication skills. As most music excerpts are known to all patients from their adolescence, therefore even songs can easily be orally expressed, even though sentences are no more produced. It is important to note that regular sessions of at least one or two per week should be run for some six months in order to see positive effects in most of the persons with dementia. Side-effects are rare, major hypotension or cardiac arrhythmias may be seen as limited factors for inclusion.

POSTTRAUMATIC STRESS AND FLUID COGNITION: LONG-TERM OUTCOMES OF THE WORLD TRADE CENTER DISASTER

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During the World Trade Center (WTC) attacks, responders who helped in search, rescue, and recovery endured multiple traumatic and toxic exposures. One-fifth subsequently developed posttraumatic stress disorder (PTSD), a chronic stress disorder that has been shown to be associated with risk of dementia in Veterans. To date only a few small studies have examined associations between intrusive stress and cognitive functioning. We fielded an objective neuropsychological battery to a sequential cohort of World Trade Center (WTC) responders (N=654) without any history of WTC-related head injury or any previous strokes who attended monitoring visits at the WTC health program on Long Island, NY. Data were linked with diagnoses of WTC-related PTSD, WTC-exposures, and other WTC-related conditions.

WTC exposure was associated with poorer cognitive function, but this association was attenuated upon adjustment for PTSD. Analyses revealed that having current PTSD was associated with slower reaction time and processing speed as well as poorer working memory and cognitive throughput. In subdomain analyses, associations were concentrated amongst those who reported re-experiencing symptoms in the years immediately following the WTC disaster (in all cases, standardized effect sizes ranged from 0.85–1.20 SDs and $p < 1.2E-04$). Traumatized individuals are increasingly believed to be at higher risk of cognitive impairment and incident dementia. Results from this study support existing studies, showing that intrusive stress influences a broad range of cognitive functions absent traumatic head injuries. Future studies should utilize brain imaging to examine the extent to which neurodegeneration may explain these associations.

TRAINING NEEDS AND EDUCATION FOR DEMENTIA CARE IN CHINA: THE PERSPECTIVES OF MENTAL HEALTH PROVIDERS

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Purpose: The purpose of this paper is to identify needs of training and public education for dementia care including who should be the trainees, what would be the contents of training and how to deliver the training in China.

Methods: Using a purposive sampling method, data were gathered via four focus group discussions with 40 mental health providers in Beijing, China in 2011. Data were transcribed by two independent investigators, and then translated into English. Content analysis was employed to separately identify themes/codes among three researchers. Discrepancies were fully discussed until final agreement achieved.

Results: All participants agreed there is a huge need for training and public education on dementia care. Both formal (physicians, nurses, hospital administrators, community workers) and informal caregivers (family/non-kin hired caregivers) were identified as two groups for receiving the training. For formal caregivers, training topics for enhancing clinical knowledge of dementia (i.e., pathogenesis, clinical symptoms, approaches for dementia prevention) and clinical practice skills (i.e., diagnostic, caregiving, counseling, communicating skills) were identified. For informal caregivers, basic dementia knowledge and home-based caregiving skills such as safety, rehabilitation, and stress management strategies were identified as key training contents. Multilevel support from the government as well as community centers are considered as crucial in delivering the training and public education.

Conclusions: Culturally sensitive education and training specific for formal and informal dementia caregivers are urgently needed. Policy and program implications were discussed.

PREDICTION OF CAREGIVER BURDEN IN THE CONTEXT OF DEMENTIA-SPECIFIC DAY CARE

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Caregiving for a loved one with Alzheimer's disease and related disorder (ADRD) can lead to adverse caregiver outcomes. Among the interventions for those with ADRDs are day care programs. The purposes of the present study were to: (1) assess the caregiver burden among caregivers whose relative attended a dementia-specific day center; and (2) examine gender and racial/ethnic differences in caregiver burden. Data were collected by family nurse consultants in 10 day centers in Southeastern Florida, between February 2015 and January 2016. The centers are run as part of an Alzheimer's Community Care (ACC) intervention that operates under a comprehensive, community-based model of care. Caregiver burden was measured with the Zarit Burden Scale, which measures the caregiver's self-perceptions of the burden providing care. Among 306 day center participants, 60% were aged 80 or older, 67% female, 51% non-Hispanic White, 27% African American/Black, and 22% Hispanic/Latino. Over 75% of enrollees scored in the severely cognitively impaired category on the Brief Interview for Mental Status. About 10% of caregivers reported severe burden followed by 29% moderate to severe, 42% mild to moderate and 19% little to no burden. Caregiver burden was not differentially associated with gender of the care recipient. In racial/ethnic differences, African American caregivers were the least burdened. Interactions indicated that caregivers to Hispanic women were more burdened whereas caregivers to White women were less burdened. Considering that caregivers of Hispanic/Latina women are at greater risk of burden, more research is needed to understand gender and racial/ethnic differences in caregiver burden.

DEVELOPMENT OF AN INTERVENTION TO IMPROVE COMMUNICATION WITH PEOPLE WITH DEMENTIA IN NURSING HOMES

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Nurses often report communication difficulties in caring for people with dementia (PWD). Evidence-based interventions to enhance communication are scarce. Therefore, we developed a theory-informed intervention using the Behavior Change Wheel with the aim to improve communication between nurses and PWD. First, ideal communication was defined (*targeted behavior*) based on the scientific literature, policy reports and consultations of experts (n=7). Second, a focus group meeting with relevant stakeholders (n=7) was organized and observations of nurses (n=9) and PWD (n=9) during daily nursing care were conducted to understand their *current behavior* and to identify *facilitators* and *barriers* for the targeted behavior. Reviewing the literature and consulting experts have shown that ideal communication has to be person-centered and therefore should be tailored to the needs and capacities of PWD. Furthermore, next to verbal communication, attention should be paid to non-verbal communication, including the use of pictograms, objects, and touch. Additionally, the environment has to be recognizable and comprehensible for PWD. However, the focus group meeting and observations have shown that current behavior of nurses

is often characterized by a task-oriented instead of person-centered approach. Furthermore, non-verbal communication (e.g., eye contact) is insufficiently used. Identified facilitators and barriers for the ideal communication relate to nurses' characteristics (e.g., knowledge, awareness, and skills), social influences, and other environmental factors (e.g., resources). These insights were used to develop a theory-informed intervention in close collaboration with relevant stakeholders (e.g., nurses, speech therapists, and policy makers). The systematic development of the intervention and its final version will be presented.

PAIRED INTEGRATIVE EXERCISE FOR PEOPLE WITH DEMENTIA AND CAREGIVERS (PAIRED PLIÉ STUDY)

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We have recently developed a novel, multi-modal, group movement program for people with mild to moderate dementia and their primary caregivers called the Paired PLIÉ (Preventing Loss of Independence through Exercise) Program. The program is offered in community classes taught by trained exercise instructors to dyads of affected individuals with their caregivers. Paired PLIÉ is grounded in neuroscience and focuses on abilities that are relatively well-maintained in people with dementia (procedural 'muscle' memory, mindful body awareness, social connection). We have performed two pilot studies of 4 dyads each. The first pilot study met two days/week for 12 weeks followed by 3 monthly refresher classes. Study participants indicated that they preferred ongoing classes; therefore, the second pilot study met two days/week for 8 weeks followed by weekly classes for another 8 weeks. Qualitative results suggest noticeable improvements in physical function (ability to sit and stand), cognitive function (ability to express thoughts and feelings) and social function (ability to connect with others in a group setting) in affected individuals and greater acceptance and engagement in caregivers. Data analyses are ongoing. At the end of the second pilot study, all participants requested to continue the classes on a weekly basis. A larger randomized, controlled trial of the Paired PLIÉ program will begin in August, 2016.

BEING USEFUL IN RARE AND TYPICAL DEMENTIAS

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Being useful, or doing something that serves a purpose, has implications for wellbeing and underpins Erikson's psychosocial developmental stage of generativity. However little attention has been given to the concept of usefulness in dementia research, with the literature extending to understanding activities which are meaningful for individuals, but not to those which explicitly benefit others or a cause. This work explores usefulness for individuals and families living with typical Alzheimer's Disease (tAD) and Posterior Cortical Atrophy (PCA), a rare dementia usually early in onset and characterised by dominant impairments in visual

processing. In-depth individual and dyadic interviews with 37 couples (17 with tAD; 20 with PCA) were conducted and analysed using grounded theory.

A sense of usefulness was challenged both practically, due to the specific impairments characterising each diagnosis (i.e. dominant perceptual versus memory difficulties), and existentially. Individuals and their family members attempted to manage practical challenges by renegotiating roles and responsibilities over time, with motivation to do so varying according to levels of insight and memory function.

A diagnosis of dementia and its impact on subjective feelings of usefulness may be best understood as a biographical disruption. Further, notions of usefulness in dementia may be most effectively explored through an interactionist lens within the context of the family system and extended social system. This work raises important questions about how being useful is conceptualised, accessed and assessed, and by whom, and has broader implications for wellbeing and the provision of support in these and other degenerative diseases.

MIDLIFE SHIFT WORK AND RISK OF INCIDENT DEMENTIA

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Research examining the long-term effects of midlife shift work in relation to dementia risk is limited. The aim is to investigate the association between shift work and incident dementia in a population-based study.

Participants were 12,028 individuals from the Swedish Twin Registry (STR) born 1926–1943 i.e. at least 30 years of age upon receiving a mailed questionnaire in 1973 that included information on shift work history. A sub-sample of STR twins (n=8,953) who participated in a telephone interview in 1998–2002 also had data on duration of night work employment. Dementia diagnoses were obtained from Swedish national patient registers. Cox regression estimating hazard ratios (HR) was used for statistical analysis. Confounding factors such as age, sex, education, cardiovascular disease and type 2 diabetes were included in adjusted models. In a subsample of participants with genetic data (n=2,998), a genetic risk score (GRS) for morningness to assess circadian rhythm differences and APOE E4 status were considered in the models.

A total of 1,047 dementia cases (8.7%) were identified after a median of 41.3 years follow-up. History of any-type shift work (HR=1.22, 95% CI=1.07–1.40) and night work (HR=1.24, 95% CI=1.05–1.46) were associated with higher risk of dementia in multivariable-adjusted models. Dose-response relationships between dementia with any-type shift work duration and with night work duration were observed (p=0.002 and p=0.001 for linear trend, respectively). Adjusting for APOE E4 and GRS did not attenuate the associations.

In summary, findings indicate mid-life shift work history was significantly associated with increased dementia risk in later life.

EXPLORING THE USE OF GROUP DIGITAL ACTIVITIES FOR PEOPLE LIVING WITH DEMENTIA

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Meaningful leisure activities are an important part of well-being, although these activities become less accessible for people with dementia. While digital technologies provide an accessible form of entertainment, the way the technology is introduced, how people are taught to use it, and how players are supported during these activities is important to consider when working with this population. In this study, we explore the use of a motion-based technology (Xbox Kinect) as a group activity for people living with dementia.

The study was conducted in a community-based adult day program for people living with dementia. Participants were observed during a virtual bowling activity over a period of 12 weeks. Observations focused on; 1) methods for introducing, teaching, and supporting people to use this technology, 2) effects of repeated exposure on mastery of learned skill, and 3) the influence of the group dynamic on the activity.

The findings highlight the importance of training staff how to introduce, teach and support people with dementia during these digital activities. Approaches must be tailored to each individual's skills and abilities, including the use of verbal prompts, gesture demonstrations, and/or physical support for clients with mobility impairments (e.g. wheelchair users). Over time mastery was evident through reduced prompting, with some participants even offering cues to newer players. The group bowling activity provided a social activity, with participants engaging through positive encouragement, friendly competition, and reminiscing. The findings suggest motion-based digital activities have huge potential for people living with dementia to enjoy meaningful leisure activities.

THE PSYCHOSOCIAL APPROACH TO PATIENTS WITH EARLY-ONSET DEMENTIA AND THEIR CAREGIVERS

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Background: The mental conflicts of the patients with early-onset dementia and their family caregivers are serious. Feelings of social isolation and negative emotions are especially so strong as to have an adverse effect on their relationship. The importance of reinforcing measures not only for elderly patients with dementia but also for those with early-onset dementia has also been shown in Japan. Previous studies have indicated the need of family support by intervention approach for both patients and family caregivers, but little has been put into practice. The purpose of this study was to clarify the changes of relationship between patients suffering from dementia and caregivers by using functions of CLR focusing on their communication.

Methods: The CLR Approach is an individualized reminiscence method using a life-story book based on each couple's memories. Seven sessions (2 hrs. for each) were conducted at each couple's home over a 12-week period, followed by a narrative analysis of the interview sessions.

Results: Four findings were observed: 1) patients with dementia regained a clear memory and exhibited self-esteem and Reduced anxiety; 2) caregivers remembered the past life of their partners, expressed gratefulness to them and exhibited a change of consciousness such as "recognition of their personality"; 3) sympathy and appreciation were enhanced by their common memory; 4) positive feelings toward the couple's life was fostered by creating a life story book.

Conclusions: CLR can help couples struggling with early-onset dementia to reevaluate and rebuild their relationship to regain their dignity as a couple.

SESSION 960 (POSTER)

DEMENTIA III

KNOWLEDGE TOWARD DEMENTIA AMONG MEDICAL STUDENTS IN BRAZIL

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Dementia is common in the elderly and its prevalence has increased in the last decades. Curricula of the Brazilian Medical Schools include teaching of dementia issues, but there are no reports in the medical literature about quality of this teaching. A study on the knowledge towards dementia among hundred fifty-five students in the final of the last semester of the medical graduation (2 public medical schools-FMB/UNESP and EPM/UNIFESP, has been proposed. In this transversal study, a British self-administered instrument (already culturally adapted to Brazil) on knowledge towards dementia was used; 92(59.7%) had good training on cognitive impairment during their undergraduate medical course, and of these, 67(58.7%) had only theoretical basis. 142 (93.4%) reported taking extracurricular courses them during under graduation course. The students obtained a mean of 6.9 on the general knowledge score, considering a scoring scale from 0 to 14 points. The results can be used in the analysis of mandatory content during medical training. Curricula of the Medical Schools should be in line with epidemiological aspects of the country.

EXPERIENCE AND PERCEPTION OF NURSES ON DEMENTIA CARE IN GERIATRIC WARDS IN A SINGAPORE HOSPITAL

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Caring for persons with dementia in the geriatric wards of an acute hospital is challenging. This study in Changi General Hospital, Singapore, was to explore, understand and interpret the nurses' experience, aiming to improve the current care approach. This was a qualitative exploratory study using phenomenological method with purposive sampling. Inclusion criteria were nurses, with at least 2 years of experience of working in the geriatric wards. 3 semi-structured focus group interviews, facilitated by a researcher trained in focus group facilitation, were conducted over the period of

1 month, with a total of 12 participants. These were audio-recorded and transcribed verbatim. Data analysis was done using thematic content analysis. The mean age of participants were 38.5 years old, with a mean 18.5 years of nursing experience with 10.5 years in geriatric wards. The experience described was categorized into 3 themes: 'Reality of caring', 'Priority of caring' & 'Challenges of caring'. Issues discussed include clinical, ethical, system & environmental challenges, and psychological and professional reality. Coping of challenges (both emotionally and problem-focused) were also discussed. The perceived experience was generally more positive than those quoted in literature. Conflict existed between perceived optimal care of patients and routine hospital practices. A more dementia-centred and elderly friendly approach with flexible workflow and improved resources was advocated.

EFFECT OF MELATONIN OVER SLEEP QUALITY IN OLDER ADULTS WITH MILD TO MODERATE DEMENTIA

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Background: Sleep disturbances are common in patients with dementia. Melatonin treatment is purported to improve sleep, and benefit those patients. **Methods:** Randomized, placebo-controlled, double blind clinical trial. Older adults with mild to moderate dementia with poor sleep quality were included and randomized to receive melatonin (5 mg, by mouth, once daily) or placebo for 8 weeks. PSQI was assessed at baseline and every 2 weeks. Mini mental state examination (MMSE), Katz and Lawton Brody score were assessed at baseline and last visit. Numerical variables were compared using student T test and repeated measures ANOVA; and Chi square test for categorical variables. (IBM SPSS version 17.0). **Results:** 22 patients were included, 12 in Melatonin Group (MG) and 10 of placebo group (PG). There were no statistical differences for gender (MG: 58% and PG: 50% females) and mean age of 82.4 ± 6 (MG) and 84.9 ± 2 (PG). There was no statistical difference between groups at baseline: GDS, MMSE, evolution of dementia, comorbidities or medication use and PSQI (MG: 13.4 ± 3.1 and PG: 13.3 ± 3.8, p=0.9). In melatonin group, there was a statistical significant decrease from baseline and all subsequent evaluations, reaching 6.8 ± 3.6 (a reduction of 6.6 points) at week 8 (p=0.01). There was no statistical difference of PSQI for placebo group through the study (9.4 ± 5.4 at week 8, p=0.4). **Conclusions:** We found a significant improvement in PSQI scores in melatonin group and no adverse events were reported. Treatment with Melatonin is safe, tolerable and effective in improving quality of sleep in older people with dementia.

BARRIERS AND FACILITATORS TO GUIDELINE USE IN DEPRESSION AND ANXIETY IN PARKINSON'S DISEASE OR DEMENTIA

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Background: Despite the availability of clinical practice guidelines for the management of depression or anxiety in dementia or Parkinson's disease (PD), these comorbidities remain under-diagnosed and under-treated.

Objectives: Our primary objective was to understand the barriers and facilitators associated with the implementation of high quality CPGs for depression and anxiety in patients with dementia or PD.

Methods: Focus groups and interviews were conducted with participants experiencing PD, their caregivers and physicians involved in the care of persons with dementia or PD in Calgary, Alberta. The Theoretical Domains Framework and Behaviour Change Wheel were used to guide data collection and perform a framework analysis. Evidence from the available guidelines was compared to reported physician behaviours.

Results: A total of 33 physicians and 7 PD patients/caregivers participated. We were unable to recruit patients/caregivers with dementia. Data were divided into three categories based on the barriers and facilitators to the implementation of guideline recommendations for diagnosis, management and the use of the guidelines. An overarching theme was the lack of evidence for depression or anxiety disorders in dementia or PD. This was more prominent for anxiety versus depression. Other themes included the lack of consistency between guidelines, lack of clarity in the language used, lack of applicability to the practice population, and impractical or out of date recommendations. Patients noted difficulties with communication of symptoms and access to services.

Conclusions: Although there are available guidelines, physicians have difficulty with the implementation of certain recommendations due primarily to a lack of evidence.

ENGAGING PEOPLE WITH DEMENTIA IN USING AN ELECTRONIC PILL DISPENSER: RESEARCH PROTOCOL

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Many studies show that people with dementia are able to learn skills, but findings concerning their ability to use technologies are inconsistent. Therefore, details about active ingredients that make intervention using technologies successful are needed. This study describes the development and evaluation of a rehabilitation approach integrating specific learning strategies that engage people with mild Alzheimer Disease (AD) and their caregivers, in managing their medication with an electronic pill dispenser. Phase 1 will consist in developing an approach that is based on the state of knowledge concerning the cognitive profile of people with AD and their learning capacities. Validation of this approach will be iterative and involve semi-structured interviews with nine key actors (three persons with AD, three caregivers and three health professionals). Content analysis will help to identify which elements should be modified in order to maximize the

acceptability and coherence of this approach. In phase 2, five dyads (person with AD and caregiver) will be implicated in the evaluation of the efficacy of this approach with an ABA multiple baseline across participants design. Medication management will be quantified using an observation chart and will also be filmed once a week to be rated by blinded evaluators. Phase 3 will involve five semi-structured interviews with the caregivers to understand their experience. This study could become a proof of concept that a rehabilitation approach, integrating evidence-based training strategies that engage people with mild AD and their caregivers in using technology, can improve task performance in a home environment.

SESSION 965 (POSTER)

DEMOGRAPHIC PERSPECTIVES ON AGING

WHAT ARE THE UNIQUE DEMOGRAPHIC TRENDS AND PATTERNS FOR GLOBAL AGING?

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While it is well known that the world population is aging, what may surprise some is the variation and diversity among world regions and countries. Using population estimates and projections data from the U.S. Census Bureau's International Data Base, this poster illustrates the unique demographic trends and patterns for global aging by region and country.

In the near future, the countries of Europe and North America will continue to lead the world in aging. However, Asia and Latin America are experiencing an unprecedented speed of aging due to rapid fertility decline in the past 30 years. In contrast, Africa will remain young through 2050.

This poster presents multiple indicators of aging, including size of older population, share of 65 and older in total population, speed of aging, dependency ratios, and median age. These data provide answers to multiple demographic questions: Which world region is the oldest now and in 2050? What are the differences in fertility levels among regions? What are the 25 oldest countries now and in 2050, and where does the United States rank? What is the speed of aging for countries, measured in doubling of percent 65 and older (or is it tripling)? How do the two population billionaires, China and India, differ in aging? How do the components of the dependency ratio change over time at the country, region, and world level? These data will inform researchers, health practitioners, policymakers, and families, allowing them to better understand and prepare for further global aging.

DIVERGENCE AND CONVERGENCE: HOW DO INCOME INEQUALITIES IN MORTALITY CHANGE OVER THE LIFE COURSE?

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Do inequalities in health increase or decrease with age? Evidence is not conclusive and competing theories arrive at different conclusions. This study aim to examine the income inequality in mortality in a synthetic cohort aged 30 to age 99 between the years 1990 to 2009, following each individual for 19 years. We use Swedish register data with 4 772 044

individual observations. We calculate the accumulated probability of death for age between 31 and 99. This approach takes into account selective mortality.

The largest relative difference in mortality between low income and high income is at age 55 (RR: 3.7). The largest absolute difference in mortality between low income and high income is at age 82 (10 % difference). Both measures decrease after their peak, with relative inequality converging at age 90 and the absolute inequality converging above age 95.

The results support the age-as-a-leveler theory as we see a closing of the mortality gap between high and low income at the oldest ages. The results also support the cumulative disadvantage theory; as absolute inequalities increase at younger ages. We find support for both theories but during different periods over the life course depending on what measure we look at.

The findings in this study highlight the need for careful consideration when choosing what measures we use to assess inequality. This choice can even be seen as a normative judgment by the researcher and need to be explicit.

WHO LIVES ALONE? TRENDS OVER TIME IN THE CHARACTERISTICS OF SWEDEN'S SOLITARY LIVING OLDER ADULTS

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Sweden maintains one of the world's highest rates of older adults who live alone, and the number of solitary living older adults in Sweden continues to rise. Given the potential health impact of living alone, it is critical that the factors which select individuals into the living alone arrangement be understood. While prior studies have examined the determinants of living alone among older adults, few have examined how these determinants may have changed over recent decades, as the overall rates of living alone during old age have stabilized and declined in Sweden. The purpose of this study is to assess how the associations between living alone and a variety of socioeconomic, social, behavioral, and functional factors have changed in successive cohorts of older adults in Sweden, from 1992 to 2014. Data come from the Swedish Panel Study of Living Conditions of the Oldest Old (SWEOLD), a nationally representative survey of adults aged 77 and older who are living in Sweden. Our findings suggest that today's population of older men who live alone in Sweden are more likely to be socioeconomically disadvantaged and functionally impaired compared to previous cohorts of solitary living older men in Sweden; similar patterns were found in women, but were not statistically significant. These findings indicate that while successive cohorts of the oldest old have generally seen improvements in socioeconomic status, health and functioning over recent decades, the cohorts of men who live alone have become increasingly disadvantaged.

MORTALITY TRENDS IN ELDERLY INDIVIDUALS IN A BRAZILIAN WESTERN AMAZON CAPITAL CITY

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Objective: To analyze the trends of general mortality as well as of that resulting from diseases of the circulatory system in elderly individuals in Rio Branco between years 1980 and 2012. **Methodology:** Study on a secondary database of the System of Information on Mortality in Brazil, according to the International Classification of Diseases. The gross mortality rate of people aged 60 years or older in the capital of Acre state, Rio Branco, located in the Western Brazilian Amazon, was calculated. The standardized mortality rate was obtained by the direct method, based on the world population as the standard population. The trend analysis was performed by the *JoinPoint Regression*, which calculates the inclination of the straight line segment, or annual percent variation with a 95% confidence interval. **Results:** General MR was higher among males and among individuals aged 80 years and older for all the years analyzed. It also showed a tendency to reduction, thus increasing longevity in this population. Mortality resulting from diseases of the circulatory system was more frequent in relation to other death causes; however, it showed tendency to decrease over the years, which was more pronounced in women and among the elderly aged 70 years or older (VPA -2,98; CI -3,7 to -2,1). **Conclusion:** Primary health care must be trained on the care of this population in order to ensure that the trend to increase in the number of years of life is accompanied by improvement or maintenance of good health, quality of life and health promotion.

EDUCATIONAL GRADIENTS IN MORTALITY AMONG OLDER ADULTS IN SINGAPORE: 6 YEARS' FOLLOW-UP

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The effect of education on adult mortality is well known based on studies conducted in western countries. People with higher education tend to have lower mortality, in general. The effect is not always clear and/or significant in the studies conducted in Asian countries. In this study, we examine the effect of education on mortality among older adults in Singapore based on a longitudinal survey conducted in 2009 and mortality follow-up by Ministry of Health. The baseline survey is a nationally representative of community dwellers aged 60 and above in 2009. The sampling frame consisted of a random sample of 8,700 individuals. Combined with information from decedent questionnaires in two follow-up surveys conducted in 2011 and 2015, and mortality matching in 2012 and 2016, we will have relatively complete information on mortality among those who participated in the baseline survey. Using this data we examine mortality patterns by sex and education.

LONGITUDINAL PERSPECTIVES ON HOMEOWNERSHIP FOR MEXICAN ORIGIN ELDERLY

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Objectives: To examine health and financial correlates of homeownership longitudinally for Mexican Origin elderly individuals over the age of 65.

Methods: We analyze data from multiple waves (Waves 1–7) of Hispanic Established Populations for the

Epidemiologic Study of the Elderly (H-EPESE). Our focus is specifically on the health and financial situation of elderly individuals as well as familial considerations, such as number of surviving children and child's marital status. We will first examine the correlates of home ownership at baseline and follow up (Waves 1 and 7). We will then explore changes in household rosters and living arrangements between waves (All waves). Finally we will need use a competing risk model to take into account mortality and loss to follow up in the survey (Waves 1 and 7).

Results: Preliminary analysis shows that Mexican Origin Elderly exhibit high rates of ownership at baseline (64%) as well as at follow up (58%). What is less clear is what the roles of mortality and transfer of ownership are. Furthermore we not yet fully characterized living arrangements within households.

Discussion: Previous research on cross sectional correlates of home ownership have revealed that motivations for of Mexican Origin Elderly living with others are clearly more complex than simple filial piety considerations might hold. Extended living arrangements provide concrete financial and instrumental benefits for both elderly parents and their adult child caregiver. This research will build upon these ideas by adding longitudinal analysis.

HOUSEHOLD ARRANGEMENT TRANSITIONS AMONG GRANDPARENTS

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Census reports shown that grandparents living with grandchildren fare worse in economic and health status than their counterparts living in other types of households, and the number and percentage of grandparents living with grandchildren have increased since 1990s. This study investigated the determinants and patterns of household arrangement transitions among middle-aged and older grandparents, with focuses on racial-ethnic differences as well as households where grandparents are living with their grandchildren. This study is among the few national and longitudinal investigations into this issue.

Using survival analysis and data from the 1998–2012 Health and Retirement Study, this study found that white grandparents were less likely to co-reside with grandchildren, and among them, moving from co-residing with grandchildren to living as a couple was higher in number and frequency than that among their black and Hispanic counterparts. Higher resources (grandparents' socioeconomic resources, retirement, and health) strongly decreased the probability of co-residing with grandchildren among white grandparents, but barely decreased this probability among black and Hispanic grandparents. Having a child living nearby or/and a deceased child increased the probability of moving to skipped-generation households among black and Hispanic grandparents, but not among white grandparents.

The results suggest that black and Hispanic grandparents are more likely than white grandparents to co-reside with grandchildren in response to children's needs. White grandparents are more likely than black and Hispanic grandparents to co-reside with grandchildren when lacking resources. This study has implication on how racial and ethnic variations in intergenerational relations may influence grandparents' wellbeing.

EXPLORING THE REPRODUCTIVE CELL CYCLE THEORY OF AGING IN SOCIAL DATA

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The Reproductive Cell-Cycle Theory of Aging (RCCTA) posits that hypothalamic-pituitary-gonadal axis (HPG axis) hormones fundamentally regulate cellular change (division, differentiation, and apoptosis). Balanced HPG hormone signaling is critical to normal growth, development, and maintenance from conception through the reproductive period. However, when this becomes unbalanced in later life (i.e., post-menopausal endocrine dyscrasia), dyotic signaling to somatic and reproductive tissues drives senescence. The RCCTA predicts that the longer the HPG axis is maintained in equilibrium, the longer an organism will live and the lower the likelihood of illness or functional deterioration.

Using longitudinal survey data from the Wisconsin Longitudinal Study, I test whether age of menopause—a proxy for onset of endocrine dyscrasia—is associated with a range of health outcomes for a cohort of women over a two-decade follow-up (approximate ages 55–72). These include: mortality; major illnesses; multiple self-reported measures of health; multiple measures of physical functioning; and multiple domains of cognition.

I find a pattern of results indicating that earlier menopause is associated with greater risk of death, greater risk of vascular illnesses (hypertension, cardiovascular disease, heart attack, and stroke), greater risk of osteoporosis, poorer self-reported health, poorer physical functioning (ADL/IADL), and poorer cognitive functioning. These results are robust to typical demographic, socioeconomic, and health behavior controls. Other reproductive factors, such as number of children and natural versus surgical menopause, are not significant after controlling for age of menopause. However, there is some evidence that use of hormone replacement therapy (HRT) may attenuate the negative effects of earlier menopause.

SESSION 970 (POSTER)

DISABILITY, IMPAIRMENT, AND MOBILITY

USING PERFORMANCE-BASED ADL/IADL DATA TO EXPLORE A SELF-REPORT MODEL OF PRECLINICAL DISABILITY

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Background: Preclinical disability is a transitional state between the onset of impairment in functioning and dependence in activities of daily life (i.e. disability). Preclinical disability in older adults can serve as an early warning and critical intervention point for prevention of further decline and adverse events. However, methods for identifying preclinical disability in older adults are not well developed and have been limited to self-report.

Objective: This study examined a classification model of preclinical disability based on self-report using performance-based measures of activities of daily living (ADL)/instrumental ADLs (IADL) in older women.

Methods: We conducted a secondary data analysis of ADL/IADL performance data collected using the Performance Assessment of Self-Care Skills (PASS). Participants were community-dwelling older women (N=217) with chronic conditions representing five primary diagnostic groups. After constructing a first-order confirmatory factor analysis model using the three factors included in the preclinical disability model based on self-report (i.e. intrinsic, extrinsic, assistance), we assessed model appropriateness using goodness of fit statistics.

Results: The overall model fit was acceptable. Intrinsic and assistance variables had strong loadings on the intended factors; one extrinsic variable had strong loadings on the intended extrinsic factor. Intrinsic and assistance factors were highly correlated and the extrinsic factor was moderately associated with intrinsic and assistance.

Conclusion: Our performance data provides preliminary support for a preclinical disability classification model based on self-report. Both self-report and performance based measures that quantify use of intrinsic factors, extrinsic factors, and assistance may be effective methods for identifying preclinical disability in older adults.

HOW AND HOW MUCH CAN LEISURE ACTIVITIES MEDIATE PROGRESSION TOWARD FUNCTIONAL DISABILITY?

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The aims of this study were to investigate (1) whether and (2) the extent to which the trajectory of Taiwanese older adults' leisure activities (LA) mediated the potential association between their sociodemographic factors and their functional disability trajectory. Longitudinal data from four waves of the Taiwan Longitudinal Study on Aging (TLSA), collected between 1996 and 2007, were used for analysis (N = 3,429). A parallel-process latent growth curve modeling was adopted to evaluate the mediational process of LA between sociodemographic factors (age, gender, education, self-rated health, comorbidities, and depression) and the outcome process of functional disabilities.

When mediated by baseline level of LA, five sociodemographic factors—age, gender, education level, self-rated health, and number of comorbidities—had significant and negative mediating effects on baseline or change in functional disability, thus improving disability outcomes. However, four of the sociodemographic factors (age, education level, and number of comorbidities), when mediated through the rate of change in LA, were found to have significant and positive mediating effects, which indicated these older adults were less likely to increase LA engagement over time and therefore increased disability levels. The proportion of effects mediated by the LA trajectory ranged from 0% to 318%.

ROLE OF FAMILY RELATIONSHIP ON DEATH ANXIETY CAUSED BY DISABLED CHILDREN AND PARENTS' DEPRESSION

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Death anxiety of older parents caring for children with intellectual disability (CID) include not only worries about

their own death but also the circumstance that they could no longer care for their disabled children. This study investigates whether satisfaction of family relationship (SoFR) can moderate the effects of death anxiety caused by disabled children (DACDC) on older parents' depression. Sample includes 279 parents aged 60 and over who participated in the Korean National Survey on Individuals with Developmental Disabilities and their Families in 2011. DACDC was used as independent variable; depression was used as dependent variable; and SoFR was used as moderator. Socio-demographics were controlled. In order to address research objectives, multiple regression analyses were used. The model fit was solid and major findings are as follows. Older parents with higher levels of SoFR were less likely to be influenced by DACDC compared to those with lower levels of SoFR, indicating that SoFR moderates the relationship. Specifically, when the level of SoFR is high, the relationship between DACDC and depression is negative, so positive family relationships can decrease the negative effect of DACDC on depression, significantly. However, when the rate of SoFR is low, the results were reversed. The findings suggest that the SoFR was verified as moderating variable in the relationship between DACDC and depression. In order to develop practice and policy implications for mitigating negative effects of DACDC on older parents' depression, these results should be taken into account.

IMPACT OF DISABILITY ON ACCESS TO DIABETES CARE AMONG OLDER ADULTS WITH DIABETES

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Although previous studies have established a strong association between diabetes and disability, little is known regarding the impact of disability on access to diabetes care among older adults with diabetes. The purpose of this study is to examine the impact of disability on accessing diabetes care among older adults who are living with diabetes. This study used survey data from the 2014 Behavioral Risk Factor Surveillance System (BRFSS). The sample included adults age 50 and over who have diabetes. Multivariate logistic regression analysis was conducted to examine the impact of disability on accessing diabetes care among older adults with diabetes. Two dependent variables were identified to measure diabetes care access: (1) receipt of a course or class on managing diabetes and (2) visit to a health professional in the past year for diabetes. 47.30% of the sample reported not having received diabetes education and 10.86% did not visit health professionals for diabetes in the past year. Older adults with diabetes who had disabilities were more likely to have received diabetes management education ($OR=1.17$, $p<0.01$), but were less likely to have visited health professionals for diabetes ($OR=0.80$, $p<0.05$). Compared to White and Black, Hispanic ($OR=0.62$, $p<0.01$) and Asian ($OR=0.47$, $p<0.01$) elders were much less likely to have received diabetes education. The results suggest that further efforts are needed to facilitate visits to the health professionals regarding diabetes for diabetic elders with disabilities. Additionally, language and culturally-specific diabetes education should be promoted to reach more Hispanic and Asian older adults with diabetes.

PHYSICAL PERFORMANCE AND ADVERSE HEALTH EVENTS IN OLDER ADULTS WITH DEMENTIA

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Community-dwelling older adults with dementia are at increased risk for adverse health events, including falls. Physical performance measures, including gait speed, short physical performance battery (SPPB) and performance-oriented mobility assessment (POMA), may help clinicians better understand the occurrence of falls and health events in older adults with dementia. An in-home physical performance assessment was conducted in 82 older adults with dementia (mean Mini Mental Status Exam (MMSE) = 16.41) at baseline. Adverse health events were collected (via caregiver report) one month later, defined as a fall or health occurrence requiring medical attention. All participants were in the non-intervention stage of an exercise intervention study (Reducing Disabilities in Alzheimer's Disease). At baseline, physical performance measures included gait speed (m/sec), SPPB, and POMA. Participants demonstrated impaired lower extremity function and high fall-risk (mean gait speed = 0.73 m/s, SPPB = 6.89, POMA = 22.84). At one-month follow-up, 18 (22%) participants had an adverse health event. Interestingly, participants with adverse health events had higher baseline scores on the SPPB (mean = 8.28) compared to those without an adverse health event (mean = 6.61) ($p = 0.048$), and were slightly younger (mean = 77.01 vs. 80.93; $p = 0.05$). There were no statistically significant differences in MMSE or gender (male = 50% vs. 61%) between the two groups. This group of participants with higher health events may represent older adults with cognitive impairment who remain active despite elevated fall risk. This finding is important for clinical care and the development of health services for older adults with dementia.

EVALUATING A PEER-LED FALLS APPROACH TO FALLS PREVENTION EDUCATION FOR OLDER PEOPLE

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Health education is an important means of raising older people's knowledge and awareness about falls prevention. This study aimed to evaluate the effect of delivering a new peer-led falls prevention education presentation on older community-dwelling peoples': 1) beliefs and knowledge about falls prevention; 2) motivation and intention to engage in falls prevention strategies; compared to delivering an existing presentation. A two-group quasi-experimental pre-test post-test design was used. A new falls prevention education program was designed, which incorporated adult learning and behavior change principles. This new presentation was delivered to intervention groups and the existing presentation was delivered to control groups. Response to the presentation was measured at baseline, immediately post-presentation and at one-month follow-up. Beliefs, knowledge, motivation and intention outcomes were compared across these three points of time, within and between the

intervention and control groups, using generalized estimating equation modelling. Participants (control $n=99$; intervention $n=133$) in both groups demonstrated significantly increased levels of belief and knowledge about falls prevention, and intention to engage in strategies over time, compared to baseline. The intervention group was significantly more likely to report they had developed an action plan to undertake to reduce their risk of falling compared to the control group [$OR=1.69$, 95% CI (1.03–2.78)]. Women in both groups were significantly more likely to report increased knowledge, intention to take action and development of an action plan to reduce their risk of falling. Peer led education could form an effective component of health programs that target falls prevention.

RELATIONS BETWEEN NEUROPSYCHIATRIC SYMPTOMS AND INSTRUMENTAL ACTIVITIES OF DAILY LIVING IN MCI

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Mild cognitive impairment (MCI) is viewed as a prodrome often leading to the emergence of a dementia syndrome. Past research suggests that despite relatively intact neurocognitive functioning, some MCI patients can present with mild Instrumental activities of daily living (IADL) dysfunction. However, less is known about how and or if neuropsychiatric symptoms affect IADLs in MCI. In the current research neuropsychiatric symptoms, along with memory test performance, were obtained in patients diagnosed with MCI. Regression analysis was conducted to assess the relative contribution of neuropsychiatric illness and memory impairment as related to IADL functioning. All participants were evaluated by a multidisciplinary team including a neuropsychologist, geriatric psychiatrist, and a social worker. Participants were diagnosed with MCI using Jak, Bondi et al., (2008) criteria (M age= 76.39 ± 5.96 ; M education= 14.00 ± 2.46 ; M MMSE= 26.78 ± 2.06). IADLs were assessed using E-Cog (M 1.83 ± 0.51). Neuropsychiatric symptoms were calculated as the total score derived from the Neuropsychiatric Inventory (M 8.27 ± 7.62). Delay recognition memory was assessed using the California Verbal Learning Test-II ($z = -.23 \pm 1.17$). Step-wise regression accounted for .381% of variance ($R = .617$, $R^2 = .381$ df=1, 18, $F=4.73$ [1, 18; $p < .043$]). In the final model neuropsychiatric illness entered first ($\beta = .461$; $p < .023$) followed by recognition memory test performance ($\beta = -.403$; $p < .043$). Follow-up regression analysis found greater IADL dysfunction associated with greater apathy ($R = .710$, $r^2 = .505$, [4,16], $p < .018$, $\beta = .990$, $p < .003$). These data suggest that both cognitive and neuropsychiatric status should routinely be assessed when IADL impairment is suspected. These data also suggest that behavioral health treatment could significantly improve IADL dysfunction in MCI.

PAIN, VETERAN STATUS, AND FRAILTY AMONG OLDER AMERICAN MEN

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Relatively little is known about if or how pain and Veteran status are related to frailty. Our objectives were to determine the association between pain and frailty among community-dwelling older men, and examine how combat experience among Veterans might modify this association. The study sample included 3,136 men from the 2012 Health and Retirement Study, a nationally representative sample of older Americans (mean age 77, range 68–99). The dependent variable was based on a frailty index that included at least three of the following: 1) weight loss of $\geq 10\%$; 2) difficulty lifting 10 pounds; 3) no physical activity or being tired all the time; 4) vision impairment, 5) cognitive impairment. Key independent variables were reporting trouble with pain, Veteran status, and combat experience (fired a weapon in combat). Multivariable logistic regression was used to calculate the odds of frailty by pain status, and military experience, adjusting for age, race, marital status, education, income, and comorbidities. Twelve percent of the men were frail, one-third reported trouble with pain, 39.3% non-veterans, 6.2% and 54.5% veterans with and without combat experiences respectively. Men reporting pain had twice the odds of frailty as those without pain. In stratified analyses, and non-Veterans showed a similar association between pain and frailty. Veterans trouble with pain increased the odds of frailty by 2.7 times compared to non-Veterans, and there was no association between pain and frailty among Veterans with combat experience. Further research is needed to understand how military experiences are related to frailty in later life.

AM I JUST TIRED OR UNABLE TO DO DAILY TASKS? IMPACT OF PERSONALITY AND FATIGUE ON FUNCTIONAL HEALTH

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The purpose of this study was to assess the impact of personality and fatigue on functional health in old and very old adults. The participants included 239 centenarians and 82 octogenarians from the Georgia Centenarian Study. Multiple linear regressions were performed to assess the relationship between NEO personality domains and facets (neuroticism, extraversion, trust, competence, and ideas), fatigue, and functional health (activities of daily living). Results indicate a significant direct effect for fatigue to functional health, $\beta = -.30$, $p < .001$, when controlling for demographic variables (age, gender, and ethnicity), such that lower levels of fatigue are associated with higher independent functioning. In addition, the personality domains extraversion, $\beta = -.40$, $p < .001$, and neuroticism, $\beta = .16$, $p < .05$, along with the NEO personality facet ideas, $\beta = -.17$, $p < .05$, were significantly associated with fatigue when controlling for demographic variables. The results indicate low levels of extraversion and ideas along with high levels of neuroticism predict higher levels of fatigue. These findings not only add to the existing body of knowledge regarding functional health in older adulthood, it sheds light on the impact of enduring personal factors and fatigue on functioning in later life.

DIFFERENCES BETWEEN AGING WITH DISABILITY AND DISABILITY WITH AGING IN HEALTH TRAJECTORY

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This study aims to (1) estimate the trajectory of self-rated health (SRH) among Korean older adults with disabilities, (2) examine its associated factors including sociodemographic, health behaviors, and environmental factors (3) test whether there are differences between aging with disability and disability with aging in the health trajectory and its associated factors. Sample includes 341 older adults with disabilities who participated in the Korea Social Welfare Panel Study (KSWPS), which is a nationally representative data. We used KSWPS data from 2006 to 2015. In order to address the research objectives, we used (1) latent growth curve modeling to estimate the trajectory and its associated factors and (2) multi-group analysis to examine differences between aging with disability and disability with aging. The model fits were solid and major findings are as follows. (1) Korean older adults with disabilities presented increasing SRH trajectory with time. (2) Age, education, income, employment status, number of outpatient visits & physical checkup, amount of alcohol consumption, social support and residential environment were associated with the SRH trajectory. (3) The SRH trajectory and its associated factors differed between aging with disability and disability with aging. The findings suggest that (1) older adults with disabilities tend to increase SRH with time, (2) SRH trajectory is associated with sociodemographic, health behaviors, and environmental factors, and (3) SRH trajectory and its associated factors differed between aging with disability and disability with aging. Based on these findings, we will discuss implications on practice/policy for health of older adults with disabilities.

SOCIAL SUPPORT AND STRAIN COMBINE TO PREDICT CHANGES IN ACTIVITIES OF DAILY LIVING

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Social engagement and social support have been associated with disability onset and severity (Mendes De Leon, 2003; Seeman et al., 1996). However, the context in which support is experienced can affect its impact on health outcomes. In married couples, for example, the benefit to health status of support from friends was diminished the greater the strain in friendships (Walen & Lachman, 2000). In the present research, we consider the impact of combinations of baseline support and strain on changes in the ability to conduct activities of daily living. We use two waves of data, five years apart, from the National Social Life, Health and Aging Study (N=2,261). Social support and social strain are each dichotomized to contrast high and low support, and high and low strain, in relationships with friends and family separately. Regression models, run separately for men and women (Seeman et al., 1996), are adjusted for age, race/ethnicity, education, income, marital status, and social activity. In women only, respondents with distressed relationships with friends (high strain embedded in low support) exhibited a larger increase in disabilities over a five-year period than

respondents with ambivalent relationships with friends and family (high strain embedded in high support). Contrary to expectations, women with positive relationships with friends and family (high support embedded in low strain) had larger increases in disabilities than women with ambivalent relationships with friends (high support embedded in high strain). Results highlight the importance of contextualizing the effects of support and strain, especially in women, and especially in relationships with friends versus family.

MEANING OF TRAUMATIC BRAIN INJURY TO OLDER ADULTS

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Traumatic brain injury (TBI) among the growing population of older adults in the United States is a paramount public health concern. In-depth, patient-centered analyses of the experiences of older adults who have sustained TBI are relatively absent from the literature. Therefore, the objective of this phenomenological study is to explore the perceptions of older adults who have sustained a TBI and how the perceived meaning of the injury experience changes over time. Qualitative inductive content analysis was used to analyze the data derived from this multiple case study design (N=12) of longitudinal, semi-structured interviews. Interviews were conducted with participants at 1 week, 1, 3, 6, and 12 months post-injury. A conceptual model derived from the data was created to visualize the change in perceived meaning of TBI among older adults. Results from this study can be used for developing patient-centered provider training and interventions for traumatic brain injury that will be easily translated into home, care and community settings.

THE MEDIATING EFFECT OF DISABILITY TRAJECTORY ON DISABLEMENT FACTORS AND LONG-TERM CARE USE IN TAIWAN

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Taiwan has a fast-aging population, and it is expected to see an associated increase in the number of older adults with disabilities. We aimed to understand whether Taiwanese older adults' disability trajectories mediated the association between disablement process factors and later long-term care (LTC) service use. Data were from the nationally representative Taiwan Longitudinal Study on Aging Survey, 1996–2007 (N = 3,429). Trajectories of disability in activities of daily living and instrumental activities of daily living were identified by using growth mixture modeling. Structural equation modeling was applied to examine the effect of disability trajectory as mediator on disablement process factors, such as demographics, number of comorbidities, depression, and leisure activities (LAs), and on later LTC service use. Three distinct disability trajectories were identified among the group of surveyed older adults: healthy (N = 2,998, 87.43 %), progressive disability (N = 363, 10.59 %), and maintained disability (N = 68, 1.98 %). These disability trajectories, either progressive disability or maintained disability

trajectory, were found to have a positive mediating effect on the association between disablement process factors (older, lower educational attainment, larger number of comorbidities, and depressive symptoms) and greater use of LTC services. However, encouraging older adults to engage in LAs reduced later use of LTC services through both total and significant mediating effect of postponing development of disability trajectory in older Taiwanese adults. These findings suggest that an active lifestyle is important for older adults' physical health and to decrease the societal burden of LTC service use.

RACIAL DIFFERENCES IN UNMET ADL NEEDS AND CONSEQUENCES OF UNMET ADL NEEDS AMONG OLDER MEN

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Unmet need for activities of daily living (ADL) among disabled older adults can lead to adverse consequences resulting in worsening health outcomes. Previous studies have identified race and gender as risk factors for unmet ADL need, however few studies have examined this among older men. Using baseline data from the National Health and Aging Trends Study, the study aimed to examine if racial differences in unmet ADL need, and its associated adverse consequences, exists among 2,777 older men. For each ADL domain disability-related need for assistance was calculated, and the prevalence of adverse consequences of unmet need. Black men had a higher prevalence of unmet need with household activities for doing laundry (64.7% vs. 38.8%), shopping (52.5% vs. 27.8%), and meal preparation (36.5% vs. 20.2%) than White men ($p < 0.001$). Further, Black men had a higher prevalence of needing assistance for going outside the home (16.0% vs. 12.5%), and with one or more mobility tasks (28.4% vs. 23.6%) than White men ($p < 0.05$). With respect to adverse consequences, White men had a higher prevalence of mistakenly taking prescribed medicine than Black men (21.0% vs. 12.2%) ($p < 0.05$). Black men had a higher prevalence for staying in bed (8.23% vs. 1.5%) ($p < 0.001$), and experiencing one or more adverse consequences of unmet need for mobility tasks (4.4% vs. 2.9%) ($p < 0.05$). Efforts to reduce the observed disparities in unmet need and adverse consequences should be a key priority among older men.

MOTIVATION FOR PHYSICAL ACTIVITY MEDIATES MOBILITY IMPROVEMENT IN HIV-INFECTED OLDER ADULTS

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We previously demonstrated the effect of a self-determination theory (SDT) guided physical activity (PA) counseling intervention on multiple mobility outcomes among HIV-infected older adults (HOA). However, the mechanism underlying the intervention effect is unclear. Here we investigated the intervention effects on PA motivational regulation and assessed whether PA motivational regulation mediates the intervention's effect on mobility in HOA. Community-dwelling HOA with mobility impairments

($N = 67$) were randomized to a 12-week intervention group or a usual care control group. PA motivational regulation, battery of mobility tests (physical performance test and gait speed) and PA level were assessed at baseline and post-intervention. Fifty-nine participants completed the study (M age = 55 years; M CD4 count = 675 cells/mm³; duration since HIV diagnosis = 17 years; 39% female). The two groups were similar in their demographic and clinical characteristics. Regulatory motives for PA such as amotivation reduced and introjected and identified regulation increased in the treatment group compared to the control group. Mobility and PA level were higher in the treatment group compared to the control group post-intervention ($p < 0.05$). Increased introjected and identified regulation mediated the interventions effect on PA and gait speed, respectively. Our findings suggest that a PA counseling intervention grounded in SDT can improve motivational regulation for PA in HOA. Increases in introjected and identified regulation mediated the effects of the intervention on mobility outcomes. These results underscore the role of interventions targeting the internalization of PA motivational regulation in preventing mobility limitations.

A LONGITUDINAL PERSPECTIVE ON POWER MOBILITY USE BY OLDER USERS

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Power wheelchairs (PWC) are essential devices, especially for people with severe disability. Research has suggested that PWC can have a positive impact on mobility, participation and well-being. However, they may also be problematic in terms of usability, safety, and cost. Currently, little is known about power mobility use over time. This study investigates user experiences of PWC over time, from a life-span perspective. A series of four semi-structured qualitative interviews (baseline, 3 months, 1 year, 2 years) were conducted with 21 participants recruited in Vancouver, Montreal and Québec city (Canada). They shared their daily experience of power mobility, the changes in use over time, and what were the barriers and facilitators in their environment. The analysis identified four main themes. "Things are different now" described how participants use of power mobility changed over time because of their changing physical capabilities and evolving power mobility experience. "Being in the world" explored the feeling of freedom and the opportunities of participation associated with the PWC. "It's my legs" explored how participants learned to use their devices and how it related to their sense of self. "Not sure what to expect" described the physical and attitudinal barriers encountered. The findings emphasize that the experience of power mobility is not static. This study provides new insights on the experience of a group of PWC users, and thus will help stakeholders to

understand the complexity of power mobility provision and user's engagement in meaningful activities

VALIDITY OF A SCALE TO MEASURE COMMITMENT TO HIP PROTECTORS AMONG CARE PROVIDERS IN LONG-TERM CARE

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Hip fractures are a major threat to healthy aging, often triggering declines in health, mobility, quality of life, and even death. Wearable hip protectors represent a promising strategy to prevent hip fractures, but uncertainty surrounding their efficacy exists due to poor user adherence. In long-term care (LTC), adherence may depend on the commitment of caregivers to support use of hip protectors among residents, but empirical evidence is limited. Therefore, our objective was to develop and test the psychometric properties of a scale to measure caregiver commitment to hip protectors. We wrote 15-items to measure three components of commitment: affective (belief in value), cognitive (belief in efficacy), and behavioural (willingness to act). We surveyed 535 paid caregivers (92% female) from thirteen public LTC homes in British Columbia, Canada. Responses were subjected to exploratory factor analysis (EFA) and internal reliability testing. EFA supported a higher order structure, with two factors. Affective and cognitive items loaded highest on Factor 1, and behavioural items on Factor 2. Both factors loaded onto a higher order factor. One item was removed due to low loadings. Cronbach's alpha coefficients for the affective/cognitive subscale, the behavioural subscale, and the full scale were .97, .87, and .96, respectively. Overall, 8% of the variability in commitment was explained by LTC home. Mean commitment was lower in caregivers with 20+ years of tenure, and those aware of a resident breaking their hip despite being protected ($p < 0.01$). Findings could inform policy and practice to enhance caregiver commitment to hip protectors in LTC.

"NEXT STOP . . . THE BLINK BLINK PLACE"

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Report and study of how a group of visually impaired elderly residing in nursing home, in their last stage of life worked hand in hand with artists through a yearlong therapeutic expressive arts program, co-created an arts event: "Next Stop ... the Blink Blink Place". An art exhibition of multiple arts discipline, showcasing not just the wit and genius of their lives, but also in their own creative process, the way to peace, imagination and self worth. End of life becomes an envision future they are looking forward to: "When we are at the last stop of life, must there be only fear? No! there's happiness waiting! we know, we see it in our mind's eye!"

EFFECTS OF DUAL TASKING ON AUDITORY SELECTIVE ATTENTION IN THREE DIFFERENT ENVIRONMENTS

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Performing attention-demanding tasks in a Virtual reality (VR) environment may show promise for improving fall prevention programming. Twenty healthy older adults (749 years) completed a Dichotic Listening task with three auditory selective conditions: non-forced (NF), right forced (RF), and left forced (LF). Tasks were performed in a non-walking single task session (ST) and in both virtual reality (VR) and non-virtual reality (NVR) dual-task sessions on a self-paced treadmill. All individuals tested for normal hearing (20 dB) at low frequency (500) in both right and left ears, including the five that wore hearing aids. Repeated measures ANOVAs ($p < 0.05$) were used to examine condition (NF, RF, LF) and environment (ST, VR, NVR) comparisons with the right and left ear responses and spatial temporal gait parameters as dependent variables. Results showed right and left ear dichotic measures in the VR environment approached significance ($p = 0.057$) in comparison to the ST and NVR environments. Specifically in the VR condition, the FL condition approached significance ($p = 0.056$), for both right and left ear responses compared to the FR condition. Gait results showed a significant increase for double support time in the NVR compared to the VR environment ($p < 0.05$). Right step time in the VR environment also had a significant main effect ($p = 0.047$) while dual-tasking. These preliminary results suggest that a VR environment may positively influence dual-task performance, as both gait and cognition scores were better. Further investigation of dual tasking in a VR environment will strengthen methods and application of fall prevention programming for older adults.

SESSION 975 (POSTER)

ELDER ABUSE

ELDER ABUSE BY PERSONS WITH SUBSTANCE USE AND/OR MENTAL HEALTH CONDITIONS: RESULTS FROM THE NEMS

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Persons who commit elder abuse have long been known to disproportionately have indicators of substance use and/or mental health conditions (SUMHC). However, few studies have examined factors related to elder abuse by persons with SUMHC vs. persons without such conditions. Such information is important for developing more targeted interventions. Using data from the National Elder Mistreatment Study, the current analysis examined victim, perpetrator, and interaction characteristics between cases of elder mistreatment in which the perpetrator has indicators of SUMHC vs. not having such indicators. Chi-square and Mann-Whitney-Wilcoxon non-parametric tests were performed. 210 perpetrators of emotional mistreatment were reported to have indicators of SUMHC with 412 perpetrators reported to not have such indicators. 57 perpetrators of physical mistreatment were

reported to have indicators of SUMHC with 38 perpetrators not having such indicators. Emotional mistreatment committed by persons with SUMHC was associated with the following characteristics: perpetrator—unemployment, history of involvement with police, and limited friendships; victim—female gender, greater emotional problems, and history of greater emotional mistreatment; interaction—co-residence, and reporting of mistreatment to authorities. Physical elder mistreatment by persons with SUMHC was associated with police involvement of perpetrator and history of greater physical mistreatment of victim. These findings indicate that victims of elder mistreatment by persons with SUMHC are in particular need of support and services as they appear to have greater histories of mistreatment and experience greater emotional problems. Perpetrators with indicators of SUMHC particularly seem to struggle in occupational and social functioning, which should be addressed in interventions.

PSYCHOLOGICAL ELDER ABUSE IN PERSPECTIVE: MEASURING SEVERITY LEVELS OR POTENTIAL FAMILY CONFLICTS?

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Psychological Elder Abuse (PEA) assessment is described with different thresholds. This study aimed to examine how the prevalence of PEA and the phenomenon's characterization varied using two different thresholds.

Participants from the cross-sectional population-based study, Aging and Violence (n=1123), answered three questions regarding PEA. The less strict measure considered PEA as a positive response to any of the three evaluated behaviors. The stricter measure comprised the occurrence, for more than 10 times, of one or more behaviors. A multinomial regression compared cases from two measures with non-victims. Relative risk ratios (RRR) were computed to show the relative likelihood of being victim in each group with a given characteristic.

Results show different prevalence rates and identified perpetrators. The two most prevalent behaviors (ignoring/refusing to speak and verbal aggression) occurred more frequently (>10 times). Prevalence nearly tripled for "threatening" from the less strict measure (1–10 times) to the stricter (>10 times). Most of the same RRRs were found for both groups of victims. Cohabiting differentiated PEA cases occurring >10 times: individuals experiencing more frequent abusive behaviors (>10 times) are more likely to live as a couple or as a couple with children.

Rather than a specific threshold between PEA and "normal" family conflicts, the results suggest PEA as a continuous phenomenon with different severity levels. Development of a valid and reliable measure for PEA that includes different ranges is needed.

ELDER ABUSE: MAIN EVOKED EMOTIONS

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The emotional complexity inherent to older adult's emotional response to Elder Abuse (EA) highlights the importance of considering individual differences and the varied emotional response patterns.

The study explores the main emotions and feelings evoked by older adults experiencing abuse by a relative.

The data was collected by convenience sampling of 495 older adults self-reporting EA in four institutions. Responses to an open question were classified in four categories: (i) negative thoughts, such as shame, doubt, remorse, envy, frustration, guilt, loneliness; (ii) negative and forceful emotions such as hatred, anger or disgust; (iii) negative and not in control emotions such as anxiety, fear and panic; and (iv) negative and passive emotions such as disappointment; sadness; resentment or bitterness.

A very similar proportion of individuals reported both passive (35.3%) and not in control emotions (34.1%). Less common were the forceful (17.2%) and negative thoughts (13.4%) categories.

Individuals from the oldest age group (80+) tended to select less frequently forceful or thoughts (e.g., anger or sadness) and more frequently not in control emotions (e.g., fear and worry). Compared to EA perpetrated by spouses or partners, abuse at the hands of children and grandchildren elicits more frequently not in control and passive emotions and less frequently forceful emotions.

Overall, the results indicate the preponderance of emotions (e.g., passive and not in control) that reflect a reduce sense of mastery over the environment and feelings of helplessness. Different elicited emotional patterns may be associated with individual and EA characteristics.

SUPPORT STRATEGY IMPACT ON HARMFUL BEHAVIOUR OF CAREGIVING RELATIVES AGAINST RELATIVES WITH DEMENTIA

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According to a stress-related paradigm, caring for a relative suffering from dementia represents a considerable burden for caregiving relatives and may evoke potential harmful behaviour (PHB) as well as abuse (*elderly abuse*). The long-term trajectories of caregivers' PHB have not been well explored, and there is no consistent evidence with respect to the influence of intra-individual and external support strategies on the development of caregivers' PHB over time. This study explores trajectories of PHB in caring for a relative with dementia and estimates the impact of individual coping strategies and the use of external support services. Caregivers' PHB was followed over five measurement points at nine month intervals (n=888 respondents at baseline). In a first step of analysis, we estimated individual intercept and slope factors for caregivers' PHB using censored

growth-curve modelling. Second, we explored the effects of care receivers' cognitive status and decline over time, caregivers' individual coping strategies (i.e. accepting coping, reaction suppression, planning and concentration) and the use of external support services (i.e. family support, day care services, outpatient services) on PHB level and trajectories. Factors with well-established impact on caregiver PHB, such as housing situation or mobility status, were used as covariates in all analyses. The results show a significant decline in the magnitude of PHB over time. Moreover, individual coping and external support strategies contribute significantly to the observed variance with respect to the level and trajectory of PHB in caring for a relative with dementia.

MISTREATMENT AND RESILIENCE AMONG OLDER CHINESE ADULTS, AND THE MODERATING ROLE OF SOCIAL SUPPORT

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Elder mistreatment has been found to be associated with a range of health and psychological outcomes. Research on the relationship between elder mistreatment and psychological resilience, however, is lacking. The present study explored the association between mistreatment and psychological resilience and examined the possible moderating role of social support on this proposed link, using a sample of 432 community-dwelling older adults aged 60–79 years interviewed in 2014 from Linxi County, Inner Mongolia, China. We examined reports of the presence of any mistreatment (verbal, financial, or physical). We measured social support using the 8-item family and friends support subscale of the Multidimensional Scale of Perceived Social Support (MSPSS), while resilience was measured by a seven-item scale used in previous studies. Ordinary least-squares (OLS) regression analysis confirmed a significant association between mistreatment and resilience. Mistreatment victims reported lower resilience than non-victims, net of demographic/socio-economic characteristics and health status. A significant moderating effect of elder mistreatment $\times$ social support on resilience was also found ($p < .05$), indicating that social support moderated the direct relationship between mistreatment and resilience. Mistreatment victims were less likely to experience low resilience when they had high social support. Mistreatment seemed particularly detrimental to resilience among respondents with low social support. Findings reveal that intervention programs aiming to improve older adults' psychological wellbeing should consider enhancing social support, especially for those who were abused.

RESPECT SENIORS: STATISTICAL ANALYSIS OF THE CALLS RECEIVED FROM JANUARY 2003 TO DECEMBER 2015

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Context:

The fight against elderly abuse is effective on the whole territory of the Walloon region since 2003 at first on basis of associations working together and since 2009 on a legal basis with the RESPECTSENIORS association.

The most media known action is a freefone 0880 30 330
Statistical analysis of the calls received during period from January 1st, 2013 to December 31st, 2015

I. Total of received calls: 27271

Contacts with not recognizable contents: 2093

Contacts with recognizable contents: 25178

Contacts concerning mistreatment: 17352

II. Mentioned elderly abuse cases treated: 7609

Most of the announced abuses are financial and psychological violence.

The "mentioned victims" are women in 71 %, men in 20% and a group of people in 8% of the cases.

74% of the victims live at home.

25% of the callers are the elderly abused persons themselves.

The mentioned author of abuse or negligence is a family member in 64% of the situations.

The rate of anonymity is high: 23% of the callers, 42% of the mentioned authors, 31% of the victims.

The victim lives alone in 25% of the cases.

MEASURING FINANCIAL VULNERABILITY TO EXPLOITATION AND LACK OF CAPACITY THROUGH A PSYCHOSOCIAL LENS

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Longitudinal research indicates that young-old, better educated and depressed elders were more vulnerable to financial fraud, a major form of financial exploitation. Lachs & Han's model (2016) describes financial vulnerability to exploitation primarily as an age-related phenomenon characterized by declines in cognition and money management skills, among other health, psychological and social variables. The purpose of this study was to test the psychosocial factors in this model to determine if they could identify seniors at risk for financial exploitation or lack of financial capacity, without objective cognitive or money management data. These psychosocial factors included anxiety about finances, depression, social isolation, loneliness, and environmental stressors (e.g., financial dissatisfaction). Perceived cognitive impairment was included as a psychological factor that has demonstrated association to health and mobility problems in previous research. Data was collected from 200 community-dwelling elders from both urban and suburban settings with a variety of education levels and financial resources (~ 50% African American and 50% White non-Hispanic) who were all in the process of making a major financial decision. Two logistic regression analyses were used to predict financial exploitation since age 60 and financial decision making capacity. Age, education, race, and psychosocial vulnerability were the independent variables. Psychosocial vulnerability was the only significant predictor of financial exploitation and also predicted financial capacity with age emerging as an additional significant factor. Psychosocial vulnerability is an under-recognized construct in prevention of financial exploitation and potential lack of decisional capacity, which has important implications for financial and health professionals.

WHAT DISTINGUISHES DEPRESSED ELDER ABUSE VICTIMS: ABUSIVE EXPERIENCE OR INDIVIDUAL CHARACTERISTICS?

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Often studied correlates of Elder Abuse (EA) include depression or depressive symptom; assumed to be of particular importance and often conceptualized as both a risk factor for and a consequence of EA.

The study was designed to (a) estimate proportion of older adults self-reporting EA that screened positive for depressive symptoms; and (b) examine whether individual characteristics and/or abusive experience aspects correlate with depressive symptoms.

The data was collected by convenience sampling. Participants were 510 older adults self-reporting experiences of abuse in family setting enrolled in a cross-sectional victims' survey through four institutions.

Depressive symptoms were assessed through the 5 items Geriatric Depression Scale. Poisson regression was used to determine the prevalence ratio (PR) of screening depressive symptoms according to individual and abusive experience covariates: sex; age group; cohabitation; perceived social support; chronic diseases; functional status; violence type; perpetrator and number of conducts.

More than half (66.3%) reported 3 or more depressive symptoms and almost half (46.8%) screened positive for 4 or 5 depressive symptoms. Women (PR=1.18, 95%CI=[1.04–1.35]), individuals perceiving low social support level (PR=1.36, 95%CI=[1.16–1.60]) and with long-term illness (PR=1.17, 95%CI=[1.02–1.33]) are associated with increased risk for screening depressive symptoms. In regards to abusive experience only the number of abusive conducts increased the prevalence ratio (PR=1.07, 95%CI=[1.05–1.09]).

Results suggest preponderance of individual, rather than abusive experience characteristics, on the prevalence ratio of screening depressive symptoms.

INTERGENERATIONAL ELDER ABUSE: WHY IT IS SO HARD TO ASK FOR HELP

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The very nature of elder abuse – harmful behaviour by a trusted family member – takes a heavy toll on emotional wellbeing, making it difficult to take action. In this study we sought to understand the outcomes of abuse from the older person's perspective. Twenty-four people who had experienced elder abuse and sought help were interviewed. Twenty-three had been abused by their adult son (16) or daughter (7). Most were living with the perpetrator at the time of the abuse (18). Most experienced psychological/emotional abuse (21), or financial abuse (19), with the two usually occurring

together. Physical abuse was reported in 7 cases and social abuse in three.

Participants felt ambivalent about the situation they were in – they wanted the abuse to stop but did not want to have to take action to make it happen. They were concerned about how their child was dealing with what they saw as the reason for the abuse (mental illness, financial difficulties, marital breakdown), and they were worried about the consequences to their parent-child relationship if they took decisive action against their child to stop the abuse.

Their advice to others in the same situation was to recognise it early and to take action. To service providers their advice was they needed to know that they were there (advertise your service) and to be given the time and space to make their own decision about intervention, based on knowing what their options were. They also wanted help for the perpetrator.

ABUSE OF OLDER CHINESE BY FAMILY CAREGIVERS

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The present study examined rates and factors associated with elder abuse by family caregiver in a cross-sectional sample of 1002 older Chinese in the People's Republic of China (PRC). High rates of abuse and neglect were observed with 52.6% of care-recipient reporting neglect, 40.8% financial exploitation, 16.5% verbal abuse, and 1.2% physical abuse. Results of logistic regression analyses showed that neuropsychiatric symptoms, cognitive impairment were prominent factors associated with different forms of mistreatment. A rewarding pre-morbid relationship with the caregiver and use of emotional focused coping mitigated abuse.

FEMICIDE IN LATER LIFE: THE ROLE OF POLICY IN PREVENTION

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Severe family violence can result in injuries or death across the life course. Policy and structural conditions create cross-national variations, particularly in methods (such as use of firearm, asphyxiation or beatings) and outcome (i.e., survival versus fatalities). Utilizing multiple data sources, this research provides insight into prevalence and characteristics of lethal incidents in later life. According to 2012 U.S. FBI Supplemental Homicide Reports, eldercide (persons 60 and over) represents about 7.3% of the nearly 14,000 annual U.S. homicides. Gender patterns exist, where men are more often murdered, but the offenders tend to be acquaintances or strangers. Women's killers are more likely current or former spouse/cohabitants, reflecting "femicide" among family members. Female vulnerability for those age 60 and over includes those who know they are endangered, as well as others who remain unaware. Perpetrators who are suicidal represent a unique threat to women in long term relationships, particularly those with no known history of violence. A sample of 225 U.S. intimate partner homicide suicide events illustrates cases where offenders varied in motives and lethal methods. For comparison purposes, international variations in elder fatalities are discussed, with special attention to firearm regulations and victim rights. Typical services

for battered women, such as protective orders and shelters, may not be ideal for older victims. Prevention strategies to reduce male suicidality and limit firearm availability in cases of domestic violence or mental illness could help reduce U.S. femicide. Adaptations are important to adequately respond to the aging of the population.

HUMAN DIGNITY AND THE RIGHT OF PERSONHOOD: LEGAL PROTECTION FOR ELDER AT HOME IN GERMANY

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Most older people wish to stay and be cared for in their own home. In Germany approx. 1.25 million people are cared for without any professional help, usually with great effort and attention. However, domestic care by relatives is also known to be a risk of elder abuse. The research project "Human Dignity and the Right of Personhood of People depending on Long-Term Care at Home - Legal Protection for Carers and the Cared-For" deals with elder abuse in German domestic care settings from a legal and social sciences perspective. The aim of the research project is to develop a regulatory framework providing aid-oriented prevention and intervention in family care of vulnerable elders by public agencies and courts. First, empirical data on the situation in family care for older people will be analysed. Second, the existing legal framework of family care will be examined with respect to gaps and potentials for the protection of vulnerable elders. In a third step, recommendations for legislation and administration will be developed in exchange with practitioners. Preliminary results with respect to the first two steps of the analysis disclose a lack of legal regulations on the issue of elder abuse in family care, especially in comparison with German legislation on child protection. Thus, the legal framework should reinforce prevention of care problems by giving more efficient support to carers and permit legal intervention in case of abuse. The proposed legislation should take account of the high value of the individual self-determination right.

FEAR OF PHYSICAL, EMOTIONAL, AND FINANCIAL EXPLOITATION AMONG OLDER ADULTS

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Much, though not all, of the previous research has shown that older adults have higher levels of fear of victimization than younger adults. However, it is not well understood whether older adults are afraid of the types of victimization they are most at risk of and whether they are afraid of those who are most likely to perpetrate crimes against older adults.

Pilot data were collected among community dwelling older adults in Nevada (n=467). Questions regarding financial, physical, and emotional abuse were asked as well as from whom they were afraid of each type of abuse. Questions were also asked regarding demographics, social cohesion, neighborhood safety, gun ownership, and other risk and protective factors.

The majority of older adults report feeling "not afraid" of financial victimization (56%), physical victimization (54%),

and emotional victimization (54%). However, when asked which they were most afraid of, 42% reported being most afraid of financial victimization, 34% reported being most afraid of emotional victimization and 34% reported being most afraid of physical victimization. Older adults were most often afraid of strangers for all three forms of victimization and rarely afraid of family members. A higher proportion of older adults were afraid of acquaintances with respect to financial abuse.

These data provide insight into which types of crimes older adults are afraid of, from whom they fear abuse, and protective and risk factors associated with each. It seems that fear is somewhat well aligned with risk, however it is not clear that older adults are suspicious of the most common perpetrators.

MISTREATMENT ACROSS THE LIFE COURSE AS A MAJOR PREDICTOR OF ELDER ABUSE: A CANADIAN NATIONAL STUDY

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Few researchers have claimed that abuse at an earlier stage in life may be a risk factor for elder abuse later in life. Indeed, the elder abuse literature frequently highlights that the social learning model causes abuse in later life, the argument being that abusers learn how to be violent from witnessing or suffering from violence. The aim of this research was to test the hypothesis that if an older person was abused earlier in their lives, they were more likely to be abused as older adults. A national telephone survey was conducted to estimate the prevalence of five forms of elder abuse in community dwelling older Canadians who were 55 years and older. A representative, stratified sample of 8,163 Canadians completed the survey, the largest study to date. Information was collected about socio-demographic factors, health, wealth, risk factors for abuse, and prevalence for the usual five subtypes of abuse. Unlike other prevalence studies, a life course perspective was the guiding theoretical framework. The analyses included descriptive statistics about the sample, bivariate analyses correlating the risk factors with abuse and a logistic regression model with the main the predictors of abuse. The results showed, in order of importance, higher depression scores as measured on the C-DES, having been abused as an adult (25–54), a child (1–17) a youth (18–24), having higher unmet ADL/IAD needs, not feeling safe with those closest to respondent, geographical location; being single compared to being married and lastly, being female were significant ($p \geq .001$) predictors.

SESSION 980 (POSTER)

EMOTIONS AND AGING

OVER-RELIANCE ON THE MOUTH AREA IN THE VISUAL SCANPATHS ARE ALSO OBSERVED WITH OLDER EMOTIONAL FACE

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Previous studies have shown that aging is associated with a reduced accuracy at recognizing some facial expressions (Calder et al., 2003; West et al., 2012). It has been proposed that this deficit is linked with altered visual scanpaths: elderly fixate more the mouth area than younger participants (Wong et al., 2005). However, these results were obtained using pictures of young individuals' face instead of individuals of the same age group as the participants. This study therefore compared the visual scanpaths of older ($N=31$; $M_{age}=71.8$) and younger adults ($N=31$; $M_{age}=22.6$) during the recognition of facial emotions displayed by young and older faces (five identities each). The task consisted in categorizing the six basic emotions, while eye movement were recorded. Accuracy scores were calculated for each expression and stimulus age. A repeated-measures ANOVA conducted on participants' accuracy scores revealed an interaction between participant's age, stimulus age and emotion [$F_{(5,300)}=7.13$, $p<.001$]. Paired t-tests indicated that young adults were more accurate than older adults with fear, no matter the stimulus age [$t_{(61)}=8.57$, $p<.001$, $t_{(61)}=-3.32$, $p<.01$ with young and old faces respectively]. They were also more accurate with sadness [$t_{(61)}=6.89$, $p<.001$], but only when they were displayed by young faces, as well as with disgust [$t_{(61)}=-4.49$, $p<.001$], and neutral [$t_{(61)}=-3.10$, $p<.01$] when they were displayed by older faces. Moreover, the ratio of fixations duration on the eye vs. the mouth was significantly higher for younger than older adults [$t_{(57)}=2.22$, $p=.03$]. These results confirm that the visual scanpath of adults is altered, even when older face stimuli are used.

HOW AND WHEN DO OLDER ADULTS EXPERIENCE BETTER EMOTIONAL WELL-BEING?

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According to socioemotional selectivity theory (SST; Carstensen & Lang, 1996; Lang & Carstensen, 2002), perceiving time as limited motivates people to selectively structure their daily lives in ways that enhance emotional meaning and experience. To our knowledge, however, no studies have tested whether future time perspective is associated with emotional well-being as a function of selectivity. We predicted that positive emotional experience results when time is perceived as limited and environments provide opportunities to be selective. In Study 1, a life-span sample of 177 adults (aged 18–93) reported their future time perspective (Carstensen & Lang, 1996). We operationalized selectivity as participants' perceived level of autonomy and environmental mastery (using subscales of Ryff's Psychological Well-Being Scale; Ryff, 1989). Participants also reported emotional experience on 35 occasions randomly sampled over one week. Positive emotional experience was calculated by subtracting mean negative affect from mean positive affect, disaggregated by arousal level (e.g., low arousal positive–high arousal negative). We found that limited future time perspectives predicted greater low-arousal positive emotional experience, but only for people who reported a high level of perceived selectivity. These findings demonstrate that perceiving time as limited enhances emotional experience under conditions that permit selectivity. Results from a related study of emotional experience and inescapable daily stressors in family caregivers will also be presented. The findings lend support

to SST's claim that enhanced emotional experience in people who perceive a limited future is due to selectivity, and help to clarify the understanding of age-related improvements in emotional functioning.

IS DAILY PHYSICAL ACTIVITY PLEASANT FOR OLDER ADULTS? BETWEEN- AND WITHIN-PERSON ASSOCIATIONS

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Interventional and experimental studies suggest that physical activity improves well-being across one's lifespan. However, if and how daily physical activity influences well-being in advanced old age in natural settings is yet to be elucidated. An intensive longitudinal study was conducted with older adults (aged 82 – 85 years; $N = 38$) over seven days. Daily positive affect and physical activity were measured using daily diaries and accelerometers, respectively. Positive affect was reported at the end of each day, and physical activity was assessed by the average walk counts per hour every day. Between-person physical activity was positively associated with daily affect, thus indicating that a more active person exhibited higher positive affect. However, physical activity and positive affect was negatively associated within-person; On days when a typical older individual was more physically active, he/she experienced lower positive affect. Gender, mental health, and Body Mass Index did not moderate this within-person association. These findings indicate that, although usual physical activity could increase positive affect, i.e., feelings of energy, daily physical activity might decrease it in older adults. Practitioners and clinicians should recognize the short- and long-term effects of physical activity on the well-being of very old individuals. Future studies are required to further explore the underlying mechanism and understand how age-related changes limit a within-person revitalization process.

AGE AND THE RELATIONSHIP BETWEEN STRESS, AFFECTIVE REGULATION, AND LIFE SATISFACTION

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Attachment theory posits a relationship between affect regulation and well-being (Mikulincer, Shaver, & Pereg, 2003). Mikulincer et al. (2003) proposes the attachment system becomes activated via exposure to a stressor. Activation of the system leads the individual to engage in proximity-seeking behavior(s) as a way of managing distress. In the event that proximity-seeking fails, the individual relies upon secondary attachment strategies in order to regulate distress associated with perceived stress (i.e., hyperactivating versus deactivating regulation of emotion). The current study examines whether age influences the relationship between stress, affective regulation and life satisfaction. 155 younger adults and 130 community-dwelling older adults participated in a study examining affective experience and daily life. The sample of 155 young adults includes 71 women and 84 men with an average age of 20.29 ($SD = 1.92$). The sample of 131 older adults includes 80 women and 51 men with an average age

of 67.568 ($SD = 8.873$). All participants completed a modified version of the Day Reconstruction Method (DRM). In addition, participants completed several measures of psychosocial functioning, including the Perceived Stress Scale and the Satisfaction with Life Scale. Comparing younger and older adults, the current analysis examines the construction of a path model linking perceived daily stress and general life satisfaction, with attachment-related styles of affect regulation (i.e., anxiety or avoidance) serving as mediators. Results indicate a well-fitting model ($CFI = .952$, $SRMR = .041$), suggesting the relationship between daily stress, affect regulation, and well-being is similar for younger and older adults.

A DAILY DIARY ANALYSIS OF THE RELATIONSHIP BETWEEN STRESS, EMOTIONAL SUPPORT, AND POSITIVE AFFECT

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Stress and emotional support are two of the main elements that influence everyday well-being. Although previous studies show that stress functions as a risk against positive affect and receiving support enhances positive affect, how these relationships differ by gender in daily basis remain largely unknown. Therefore, using the respondents aged 45 and higher in the second wave of the National Study of Daily Experiences (NSDE) from the Midlife in the United States (MIDUS) survey, this study looked at the relationship between stress, emotional support, and positive affect ($N = 1,618$) and how gender moderates these relationships.

The results showed that on days when individuals experienced stress, both men and women showed lower positive affect compared to stress-free days. However, women showed more decrease in positive affect than men. As for receiving emotional support, whereas women showed lower positive affect on days when they received social support, men did not. Additional analysis showed that women seek more support on days they showed lower positive affect. These results show that women are psychologically more vulnerable to both stress and receiving support compared to men, presumably due to women's higher emotional reactivity to daily dynamics. Also, considering that women are usually the providers rather than receivers of support, women may not have received enough support they needed. Not receiving adequate support could have hindered women from obtaining benefit from getting support. In conclusion, this study shows that daily stress and emotional support can have different implications on emotional well-being for men and women.

AGE-RELATED IMPACT OF ABILITY AT IDENTIFYING FACIAL EXPRESSION ON UTILIZATION OF VISUAL INFORMATION

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Previous studies have shown that aging is associated with difficulties at recognizing some facial expressions (Calder and al., 2003; West and al., 2012). Circelli et al., (2013) showed that this alteration in performance is linked to changes in the older adults' visual scanpaths. We recently showed that

despite displaying different visual scanpaths, older and younger participants use the same facial features on average to accurately categorize the basic facial expressions (Dion-Marcoux et al., 2016). However, we also observed some heterogeneity in the ability of our participant to categorize expressions, and these differences in the ability may be linked to the visual strategies used. This study compared the impact of ability at categorizing expression on the use of visual information of older ($N=31$; $M_{age}=71.8$) and younger adults ($N=31$; $M_{age}=22.6$). The Bubbles method (Gosselin & Schyns, 2001) was used to measure information utilization during a facial expression categorization task of basic emotions displayed by young and elderly faces (five identities each). A separate facial expression categorization task was used to measure ability. Classification images representing the visual information that was correlated with the ability at identifying facial expressions were separately obtained for each facial expression, facial age, and participants' age group. The results showed that participants' ability modulate the visual information utilized by older, but not younger, adults. Future analyses will allow verifying if the older participants with the highest performance alteration reveal visual strategies that differ from those of young participants, and if these differences can predict their alteration.

THE INFLUENCE OF AGE ON EXPERIENCING SELF-CONSCIOUS EMOTIONS IN DAILY LIFE

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By using data from 1996 General Social Survey (GSS), we explored the relationships between age and people's experience of self-conscious emotions. 1447 participants (aged 18 to 89 years) reported the number of days in which they had experienced shame, embarrassment, and pride in last 7 days. Correlation analysis showed that participants' self-reported happiness positively correlated with the frequencies of pride experiences ($r = .118$, $p < .001$), while negatively correlated with the frequencies of both shame ($r = -.081$, $p < .01$) and embarrassment experiences ($r = -.075$, $p < .01$). Hierarchical regression results showed that older adults tended to experience less embarrassment ($\beta = -.062$, $p = .026$) and pride ($\beta = -.058$, $p = .033$) in daily life. In addition, males had higher frequencies of pride experiences ($\beta = 0.084$, $p = .002$) than females. The results implies that older adults may be skillful at avoiding not just negative emotions and also positive emotions such as pride that may hinder their interpersonal relationships.

THE ROLE OF PERSONALITY IN EMOTIONAL REACTIVITY: A COMPARISON BETWEEN OLDER AND YOUNGER ADULTS

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Despite the losses older adults (OA) experience, they demonstrate more emotional wellbeing than younger adults (YA). According to the socio-emotional selectivity theory, OA are better in regulating emotions. They also seem to react physiologically less strongly to emotional stimuli than YA. Moreover, in YA a link between personality and emotional

reactivity has been found. This study investigates whether emotional reactivity and its link with personality differs between YA and OA. To do this 120 YA (25–50 years) and OA (65+) were recruited. Personality was measured with the MMPI-2-RF-PSY-5-*r* and BFI scales. Physiological measures (HRV, SCL, fEMG (corrugator, zygomaticus)) were assessed while participants viewed a happy and sad film. Subjective reactivity (VAS) was registered after each film. We found that OA had stronger subjective reactivity for happy and sad films than YA, but that the only difference in physiological reactivity was that YA showed more arousal (SCL) during the happy film. OA's stronger subjective reactivity to sad films was related to higher scores on neuroticism and negative emotionality. In YA, negative emotionality went along with more frowning (corrugator) during sad films. Moreover, in YA, neuroticism was related to less arousal when seeing the happy (trend significant) and sad films, and higher HRV during the happy film. To conclude, differences in physiological reactivity to emotional stimuli between OA and YA are limited, which implies that techniques like biofeedback don't need to be adapted to ageing. Relationships between personality and reactivity were, with the exception of neuroticism in YA, in the expected directions.

GIVING AND RECEIVING SOCIAL SUPPORT IN LATER LIFE ELICITS UNIQUE BLENDS OF EMOTIONS

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While the benefits of social integration and support on well-being in later life are well-documented, research has largely focused on the perspective of the support-recipient. Growing evidence suggests parallel benefits for support-giving, but the psychological pathways remain unclear. We investigated whether a brief experimental manipulation of reflection regarding one's support-giving or support-receiving behavior elicited distinct cognitive-affective states. 203 subjects age 55 and over completed a 30-minute online experiment in which they were randomly assigned to write about their roles as support-givers, support-receivers, or the previous day's activities. After the writing manipulation, subjects completed assessments of feelings of social connectedness, positive and negative affect, and self-achievement. Written narratives generated in response to the writing manipulation were also analyzed with the Linguistic Inquiry and Word Count software to assess expression of each cognitive-affective state. Those in the support-giving group had lower levels of self-reported negative affect, and higher levels of perceived social contributions ($p < .05$) and accomplishment ($p < .05$), compared to the support-receiving group. Text analyses show that those in the giving group had greater expressions of achievement and lower expression of negative emotion than those in the receiving group, while those in both the giving and receiving conditions had greater expressions of positive emotion, social connectedness and achievement than the neutral condition. Findings indicate that support-giving and receiving are associated with common, as well as unique, cognitive-affective states, suggesting shared and unique pathways through which each may be linked to well-being.

SESSION 985 (POSTER)

END-OF-LIFE AND PALLIATIVE CARE

COMPREHENSIVE ASSESSMENT UPON HOSPICE ADMISSION: WHAT DRIVES NON-COMPLIANCE?

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The Centers for Medicare & Medicaid Services Hospice Quality Reporting Program recently proposed a hospice comprehensive assessment composite quality measure (QM). This QM assesses whether patients received all seven critical care processes at admission, as measured by the seven currently implemented QMs. These QMs address important physical symptoms and patient preferences regarding life sustaining treatments and support for spiritual/existential concerns. To construct the composite QM, we used the Hospice Item Set—standardized patient-level hospice quality data—from 1,215,247 patients in 3,922 hospices discharged from 10/2014 to 09/2015. The performance scores varied across hospices. On average, hospices performed a comprehensive assessment for approximately 70% of patients, but 5% of low-quality hospices performed a comprehensive assessment for 30% or fewer of their patients. We constructed the composite QM iteratively, omitting one care process each time, and compared scores. We found that comprehensive pain assessment, which addresses multiple characteristics of pain symptoms, was the least frequently completed process. Our findings revealed that the comprehensive pain assessment is most often the missing portion of the overall comprehensive assessment. Strategies focusing on this care process will yield overall quality improvement. Additional results from factor analysis, Cronbach's alpha and item-response theory analyses will be available and inform whether the seven care processes can be statistically reliably combined into one composite QM and the level of difficulty of completing each care process in order for the hospice to complete the comprehensive assessment.

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A REVIEW OF CLAIMS BASED QUALITY INDICATORS USED TO MONITOR THE MEDICARE HOSPICE BENEFIT

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Through the Medicare Hospice Benefit (MHB), hospices submit claims containing information that allows policy makers to identify outcomes with large variation across hospices. Identifying outliers that have poor outcomes can help policy makers improve the MHB and increase the quality of care being provided. Our research identifies hospices that are outliers in the provision of hospice services along five different quality indicators (QIs): Provision of General Inpatient care days, Provision of skilled visits at the end of life, Average lifetime length of stay, Live discharge rates, and Nursing minutes provided per day. QIs are calculated using 100%

of Medicare hospice claims from January 1, 2010 through September 30, 2014. For each indicator, hospices are grouped into deciles. We count how many times a hospice appears in the highest three deciles for each indicator to determine which hospices are outliers. Out of 3,946 hospices, there are 15 hospices which are in the highest three deciles for all five indicators. 235 hospices are in the highest three deciles for four or five indicators. The majority of hospices in the highest three deciles for four or five indicators are located in the south census region (72.3%). 8.8% of for profit hospices have four or more QIs in the three highest deciles compared to only 1.8% of other hospices. The average spending per beneficiary for hospices with four or more QIs in the highest three deciles is \$27,365 compared to \$15,441 for hospices with 3 or fewer indicators in the highest three deciles.

OLDER ADULTS WITH ADVANCED HIV/AIDS AND THEIR INFORMAL CAREGIVERS' COMMUNICATION ON END-OF-LIFE CARE

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Little is known about the priorities and end-of-life care preferences of older adults living with advanced HIV/AIDS, although palliative and end-of-life issues are essential aspects of their care. Even less attention has been focused on their informal support network, who provide emotional support, practical assistance and function as surrogate decision-makers. Data is drawn from a mixed methods investigation on care preferences and life goals at the end-of-life. Older (50+), minority (59%-Black, 28%-Hispanic), low-income adults living with advanced HIV/AIDS and their informal caregiver (n= 29 dyads) completed a survey and comprehensive interview in English or Spanish. Both patients and caregivers reported a high communication quality -- 83% (patients) 72% (caregivers) 'definitely agreed' that: "Caregiver knows kinds of treatment patient would want if patient got too sick for speak for him/herself". The narratives substantiate that while there is concordance on a number of important care considerations, fundamental differences in choice of end-of-life care co-exists within some dyads. When present, these differences intensify caregivers' distress associated with their execution of surrogate decision-making. The accounts also document that shared misperceptions of consensus on the care choice can occur within a dyad. Further the reports revealed the fluid and situational nature of patients' priorities for care; resulting in some instances in the caregivers being unaware of the change. Appreciation of the complexity of these issues, and recognition of the necessity to include social context considerations, will enhance timely communication between the health care team, patient and caregiver to facilitate person-centered care.

ENVISIONING AND DEVELOPING A SYSTEM TO MEET LAST STAGES OF LIFE CARE NEEDS OF PATIENTS AND FAMILIES

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A multiple-perspective qualitative study applying the Appreciative Inquiry (AI) framework was carried out with the goal of (re-)building the system of care for individuals in their last stages of life in Ontario, Canada. The "Discover" and "Dream" phases within the AI framework aimed at understanding what factors enable patients and their family caregivers to positively perceive and appropriately access available services and supports in the current system of care. 26 clinically frail elderly patients and/or their family caregivers were interviewed, and their lived experience and encounter with the system were documented and coded using grounded theory principles. Rich narratives revealed the needs of patients and caregivers, and the barriers and supports they faced while attempting to navigate Ontario's system for care. They identified the following processes as potential platforms for positive changes: diagnosis, prognosis, assessment, access, resources, advocacy, and communication. Patients'/Caregivers' narratives were presented to 11 expert stakeholders from different professional groupings – medical, social, legal and ethics, administration and policy – who were then interviewed as part of the "Design" and "Destiny" phases within the AI framework. Expert stakeholders considered patients/family caregivers' lived experience in the broader context, and made recommendations on how to motivate and implement a path and vision for system change. Stakeholders commented on the need for professional training in communicating sensitive issues with patient/family, public education and awareness regarding hospice and palliative care, enhanced advocacy supports, an expanded model for applying palliative care principles, and the need for different professional sectors to work collaboratively towards these goals.

LIVE DISCHARGE FROM HOSPICE: SOCIAL WORK PERSPECTIVES

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Hospice and palliative care is holistic support for individuals living with terminal illness throughout the illness and bereavement for the caregivers. However, some individuals who enroll onto hospice services do not decline as quickly as determined by current regulations leading to what is referred to as a 'live discharge.' This interruption can impact the physical and psychosocial care needs for individuals and caregivers and leave hospice clinicians with questions with how to best support them.

Between 2010 and 2012, which is the most recently collected data on live discharge, 10.6% of hospice patients across the US were discharged alive from hospice care (CMS, 2014). As hospice enrollment continues to increase, it is expected the numbers of individuals discharged alive will also grow (Campbell, 2015) and the need for specialized support for both patients and caregivers will be critical. Social workers as hospice clinicians are positioned to offer

substantial support to individuals and their caregivers who experience a live discharge.

This qualitative study (N=24) explored the current practices of hospice social workers across the US engaged in the live discharge process. Results from this study emphasize the need to bridge the gaps between policy and practice. Specifically, the challenges of hospice social workers to replicate or supplement the holistic support and unique services hospice provides for individuals discharged alive, and suggests further research to develop an assessment framework to identify appropriate support for patients and their caregivers who no longer meet hospice eligibility requirements.

INDELIBLE MEMORIES: THE IMPACT OF END-OF-LIFE DECISIONS ON BEREAVED CAREGIVERS

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Advance care planning (ACP) is a process which involves the consideration of end-of-life wishes, communication about them with family and providers and their written documentation. ACP can both clarify and facilitate a person's end-of-life wishes. Yet, caregiving for a dying person remains one of life's most distressing experiences. Beyond treatment decision-making, ACP has the potential to relieve distress, assist older people with life closure and ease the transition to bereavement. The purpose of this study was to investigate how ACP and provider communication influenced end-of-life care and caregivers' adaptation in bereavement. This mixed-methods longitudinal study involved in-depth interviews with 67 caregivers at 4 and 10 months after a loved one died in hospice care. Quantitative data was collected using the Core Bereavement Items (CBI) and categorical questions about health and coping. Qualitative data was collected from open-ended questions about the caregiver's perceptions of the illness trajectory, experiences with end-of-life care and bereavement. CBI scores decreased over time ($T_1M=18.23$; $T_2M=15.76$); Self-reported health improved ($T_1M=2.57$; $T_2M=2.63$); Overall coping improved ($T_1M=2.05$; $T_2M=2.30$). However, 18% (T_1) and 6% (T_2) reported coping "Not too well" or "Not well at all." Qualitative data analysis yielded a theme of Indelible Memories with stories repeated at T_1 and T_2 about the intense recall of: (a) Unresolved misunderstandings, (b) Unexpected transitions; and (c) Undesired locations at death. These findings suggest the importance of ACP that is enhanced to encompass caregivers' needs and the opportunity to begin preparing for the dying process, loss and resulting grief.

IMPROVING END-OF-LIFE CARE FOR MINORITIES IN SOUTH FLORIDA: KNOWLEDGE, CHOICES, AND POLICIES

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Ethnic and racial minority groups suffer disproportionately from higher rates of cancer and other chronic illnesses. However, research shows that minority groups utilize

hospice/palliative care services less than other groups. Many different factors seem to account for this disparity, among those, insufficient knowledge about hospice/palliative care services available and the exclusion of concurrent curative care once the person starts receiving hospice services. The Affordable Care Act, section 3102, has provided the opportunity to launch a three-year demonstration project for adults suffering with life-threatening illnesses were Medicare beneficiaries could receive hospice care while still receiving curative treatment for the life-threatening illness with the goal of improving access and quality of end of life care.

We conducted a study designed to ascertain the existing knowledge and choices of racial and ethnic minorities in South Florida regarding end-of-life care and to evaluate potential changes in interest and acceptance of Hospice care if curative treatment were offered concurrently with traditional hospice services. Results indicated that 30 percent of participants had little or no knowledge of what hospice or palliative care were, however, 71 percent favored end-of-life care that would concurrently provide curative treatment, comfort and supportive care. The results of this study could be used to inform policy makers and practitioners on alternatives and solutions to improve knowledge, access and quality of end of life care for ethnic and racial minorities in South Florida.

THE EXPERIENCES OF HOME HEALTH AIDES AFTER CLIENT DEATH: GETTING NOTIFIED AND REASSIGNED

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This study explored the experiences of Home Health Aides (HHAs) following the death of a client. 80 HHAs who had lost a client in their care within the last two months participated. Data collection involved comprehensive semi-structured in-person interviews. We assessed how the HHAs were notified about the death of a client and how the process of reassignment to a new client was handled. Overall, being notified about client death prior to arrival at work resulted in more positive responses compared to notification upon arrival at work. Specifically, being called in advance by a client's family led to more positive and neutral experiences while being called by staff elicited more neutral or negative experiences. Reassignment to a new client was viewed as an adjustment for some HHAs, whereas others were eager to be reassigned as quickly as possible. More than three fourths of the HHAs who saw reassignment to a new client as a time of adjustment reported that it was a negative experience. Not having a speedy reassignment for those eager to be quickly reassigned and swift reassignments when they did not want to both led to a negative experience. HHAs who were temporarily reassigned had a negative experience and needed more hours. Findings have important implications for handling transitions around client death, suggesting benefits of a more mindful approach to notification after client death and thoughtfulness around reassignment.

GUIDANCE FROM UK EXPERTS ON HOW TO ENABLE BETTER END-OF-LIFE CARE AND FACILITATE HOME DEATHS

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Despite a growing desire amongst patients to spend their last days at home, many are unable to do so, leaving a lasting effect on both patients and families. We undertook a qualitative study with in-depth, semi-structured interviews in England, UK. A combination of face-to-face and telephone interviews were conducted with 33 experts in the field of end-of-life care. These included policy makers, academics and hospital and community healthcare professionals from leading UK organisations. Interviews were transcribed and thematically analysed. As a result, three overarching themes were identified: 'education'; 'planning' and 'managing people'. These were further divided into a total of 12 sub themes containing practical guidance on enabling better end-of-life care. The theme of 'planning' contained seven subthemes including 'policy', 'cost' and 'coordination'. The 'education' theme included 'communication' and 'perceptions of death'. Of particular significance was the identification of the growing stigma and fear surrounding end-of-life amongst patients and healthcare professionals alike. 'Managing people' as a theme included the impact of 'patient preferences' and 'family influences' on enabling comfortable death at home. In conclusion, multiple barriers and facilitators to achieving death at home were identified in this study. The lack of training, education and funding within the National Health Service was highlighted, as was the importance of sociopolitical factors. These include the lack of social networks amongst elderly patients and the inequality of resource provision in hospitals and communities. We offer a list of recommendations to combat these barriers, paying specific attention to UK end-of-life policy and education.

PATIENT PREFERENCES FOR LIFE-SUSTAINING TREATMENT AND CONCORDANCE WITH THE POLST FORM

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The Physician Order for Life Sustaining Treatment (POLST) Paradigm is a promising system for documenting treatment preferences of patients with advanced illness. Studies show that orders documented on POLST forms are largely concordant with care provided, but to align patient goals, preferences, and values with care provided, POLST forms must reflect patient goals, preferences and values. Using the Willingness to Accept Life-Sustaining Treatment (WALT) Instrument to elicit treatment goals, this study evaluated sensitivity of participants' preferences to treatment intensity and outcomes (cognitive impairment, physical disability, and probability of death), and alignment between WALT responses and POLST forms. A convenience sample of 42 residents with POLST forms was recruited from three nursing homes and two assisted living facilities. Participants' responses to the WALT and orders abstracted from participants' POLST forms were compared to evaluate alignment. Preferences remained stable across different treatment

intensity scenarios for 48% of participants and across different outcome scenarios for 33% of participants. Among 14 participants whose preferences were stable across all scenarios, eight articulated preferences that were fully aligned with their POLST. Three of 16 participants whose POLST ordered full treatment wanted comfort measures only. One of nine participants whose POLST form ordered comfort measures only wanted full treatment. Research is needed to develop decision-making strategies to assure that treatment-sensitive or outcome-dependent patient preferences are accurately reflected in POLST forms. Additionally, more research is necessary to understand the potential for misalignment between POLST forms and patient goals, preferences, and values to assure alignment with care provided.

POLICY CHALLENGES FACED BY THE CURRENT UK HEALTHCARE SYSTEM IN ACHIEVING PATIENT DEATH AT HOME

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Evidence suggests that the majority of patients wish to die at home. However, this is attainable for few.

A systematic literature review (SLR) was conducted with a mixed methods approach by analyzing qualitative and quantitative studies. In the SLR 3241 papers were retrieved. 72 primary data articles remained after the screening and filtering processes. Qualitative articles were synthesised using a meta-ethnography technique in order to develop key themes. Quantitative articles were analysed using a descriptive approach to highlight further themes. The emerging themes from the meta-ethnography synthesis and the analysis of the quantitative papers were amalgamated to produce a set of overarching barriers and facilitators.

6 barriers and 4 facilitators to achieving death at home were identified primarily from the meta-ethnography process. Further concepts of 'demographics' and 'interventions' were produced from the quantitative data analysis that had both barrier and facilitator components. The overarching topics included logistical issues in getting both the patient and equipment home, lack of continuity of care and geographic variation in resource provision, including 24/7 care, all that pertained to policy influence. In conclusion, this review shows that addressing these identified factors by reviewing and amending surrounding policy, could allow more patients to achieve death at home. However, it is important to acknowledge the qualitative nature of these results as such, further research is required to identify the relative impact that changing specific policies would have on patients' ability to achieve home death.

RESPONDING TO THE END-OF-LIFE OPTION ACT IN CALIFORNIA

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The legalization of physician-assisted death in California, via the End of Life Option Act, expands the possible

pathways open to older adults facing the end of life. The law raises many questions, ranging from the practical to the philosophical. In order to prepare healthcare providers to care for adults who might request physician-assisted death, we invited 112 key stakeholders from across California to share their expertise in the areas of ethics, medicine, advocacy, and the law in a statewide conference. Six healthcare professionals and researchers from Oregon and Washington presented their experience with their states' laws, and California healthcare leaders led discussions on a range of topics. The goal of the conference was to identify issues providers and healthcare systems may consider in responding to the law, in order to expand and improve end-of-life care generally. We report major themes identified by participants: (1) All healthcare systems should develop policies that reflect the values of the organization; (2) Institutions must anticipate and address the implications for vulnerable patients, such as older adults, in order to mitigate harm; (3) Institutions should create policies that account for conscientious objection and moral distress among providers; and (4) Palliative care should be an essential part of the response. The process of developing a response to the End of Life Option Act provides healthcare systems the opportunity to reflect on the law's ethical and social implications and thereby implement system-wide changes that can benefit all patients facing the end of life.

VOLUNTEER-PARTNERED END-OF-LIFE CARE: A COMMUNITY INITIATIVE

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Providing choices on places to be cared during the end stage of life is considered as significant in achieving quality of death. In response to this pressing need, The Hong Kong Jockey Club Charities Trust initiated a Project in which a Volunteer-Partnered End-of-Life Care (VPEoLC) Model was developed to support community-dwelling elders with advance illnesses in Hong Kong. This paper will present a pilot test on the VPEoLC model. The VPEoLC model is developed under a collaborative effort of a social service agency and the palliative care unit of a hospital. It aims to optimize quality of life of dying patients through the seamless collaboration of volunteers, social care team, and hospital. It contains four core elements: 1) regular case review based on feedbacks from a service team with members from hospital palliative team, community social care team, volunteers, and family members; 2) C-I-E volunteer training (Classroom teaching-Internship-experiential training); 3) timely debriefing after each volunteer service; and 24-hours professional support. A pilot test was conducted on 14 elders. A pre-post follow up design was adopted and participants were assessed on their symptoms, information needs, practical concerns, anxiety or low mood, family anxieties and feeling of being at peace with the Integrated Palliative care Outcome Scale. Data were collected from the clinical records. The pilot test results support the effectiveness of the VPEoLC model in

symptom control and emotional support. Learning from the pilot test will also be discussed.

DEVELOPMENT OF COLLABORATION INDEX BETWEEN NURSES AND CARE WORKERS IN END- OF-LIFE CARE

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Purpose: It is predicted that there will be an increasing need for in-house end of life care services at Japan's intensive care homes for the elderly. Therefore, collaboration between nurses and care workers will become essential in order to ensure the quality of nursing care. The purpose of this study is to develop a tool for both nurses and care workers to be used in order to conduct a self-evaluation on how they collaborate with each other.

Method: We conducted a qualitative and inductive analysis of semi-structured interview survey with both nurses and care workers. We then made a list of items as a suggestion for forming a collaboration index for each job. We examined the validity of the content of the suggested items by conducting an anonymous self-written questionnaire among nurses and care workers of intensive care homes for the elderly throughout the country. We considered items with a content validity index (CVI) above 0.8 to be valid, and those below 0.8 to be invalid. Those considered invalid were either deleted or the expression was revised according to the content of the free written comments.

Result: From the result of the analysis of the interview survey, for nurses' collaboration index, we drew out 74 items under 3 concepts. For care workers' collaboration index, we drew out 59 items under 3 concepts. Of the 74 items of nurses' collaboration index, 57 items scored above 0.8 on CVI, and 17 items scored below 0.8 (CVI 0.45 to 0.79), among which 8 items were deleted and 9 items were revised according to the content of the free written comments, finally leaving 66 items on the table. Among the 59 items of care workers' collaboration index, 38 items scored above 0.8 on CVI, and 21 items scored below 0.8 (CVI 0.61 to 0.79), among which 8 items were deleted and 13 items were revised according to the content of the free written comments, finally leaving 51 items on the table.

Conclusion: Based on the interview survey conducted among expert staff of intensive care homes for the elderly, we were able to form collaboration index that systematically organizes the content of collaboration between nurses and care workers.

A RELATIONAL MODEL OF AGING, ILLNESS, AND PALLIATIVE CARE AND ITS APPLICATIONS

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Relational perspectives continue to gain prominence in ethics in health and long-term care and in aging research. A key focus of this theoretical approach is the social nature

of personhood, including the ways individuals negotiate their individual and collective identities within interconnecting social, cultural, economic, political, and historic contexts. This approach promotes a critical analysis of and response to conditions at the micro-, meso-, and macro levels that threaten social justice and contribute to limitations imposed by age, disability, and illness. In this paper, we present a multilevel relational model of aging, illness, and palliative care that is derived from a synthesis of our previous empirical and theoretical research conducted over more than two decades in diverse residential care settings for older adults merged with salient concepts from the literature. Important concepts in the model include four intersecting and overlapping forms of “capital” (material, human, social, psychological) that shape older adults’ ability to cope with illness, decline, and other age-related challenges. We posit that these human conditions have both objective (objective conditions of individuals’ lives) and subjective (ways individuals define their situation and ability to cope) properties. We illustrate how the model is used as a guiding conceptual framework to inform research on end-of-life in assisted living (AL) as well as illness experiences outside AL (i.e., different clinic populations’ experiences aging with HIV/AIDS). Our examples highlight how the model can inform the study of illness and end-of-life experiences across care settings and is applicable to both qualitative and quantitative research.

WE’RE MAKING THIS UP AS WE GO ALONG: EARLY PERFORMANCE OF THE MEDICARE CARE CHOICES MODEL

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Patients with terminal illnesses often do not take advantage of hospice services. Those who do tend to enter hospice care very near the end of life. The Centers for Medicare and Medicaid Services (CMS) has identified the requirement that hospice patients give up “curative care” as a major barrier preventing early use of hospice. The Medicare Care Choices Model (MCCM) is designed to address this problem by allowing patients with terminal diagnoses to receive hospice care without giving up curative care. Testing of the model began in January 2016 at 70 sites across the US. Almost immediately, conflicts between the model’s eligibility requirements and its aims became apparent. Further problems emerged in the realms of data collection, ordering of medical supplies, and the mismatch between workload and reimbursement. This presentation is based on experiences in the first four months of the MCCM at one of the test sites, Compassionate Care Hospice of Athens, GA, with input from a discussion group created for other participating sites.

FAMILY COMMUNICATION CONCERNING END-OF-LIFE CARE WISHES: A MIXED-METHODS STUDY

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EOL communication involving individuals, families, and health care providers is recognized as critical to reducing unwanted, aggressive end-of-life (EOL) treatment and providing high-quality EOL care. Research, however, has focused largely on doctor-patient communication. This study addressed the topic of individual-to-family communication. It used a mixed-methods design, with questionnaires (N=364) providing the quantitative data and focus groups (7 groups of 5–7 people each) drawn from the quantitative sample providing explanatory qualitative data. The quantitative analysis showed that 31% of the sample had not discussed their (EOL) treatment wishes with family members. In addition, 75% of the sample was female, 25% was Black and 23% was Hispanic. A logistic regression model was used to identify factors associated with whether a family conversation had occurred. We found that controlling for demographics and health, being Hispanic was associated with 67% lower odds of having the conversation (CI 0.13–0.82, $p=.02$). A lower level of family involvement with everyday health care decision-making was associated with 59% lower odds of having the EOL-care conversation (CI 0.27–0.60, $p<.001$). Also a low knowledge of palliative care was associated with 59% lower odds of having the conversation (CI 0.21–0.75, $p=.004$). The qualitative analysis identified several thematic obstacles to holding the conversation, including resistance and separation of family members, beliefs that the conversation is unnecessary, and fears of discussing death, in addition to a lack of awareness of tools to promote EOL-care conversations. Further analysis of these results could lead to the development of interventions to promote family EOL-care conversations.

CERTIFIED NURSING ASSISTANTS’ RESPONSE TO RESIDENT DEATH: POSITIVE AND NEGATIVE EFFECTS OF SUPPORT

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Direct care workers provide the bulk of hands-on care to elders. Though this workforce is integral to the provision of quality long-term care, their role is often overlooked. Certified Nursing Assistants (CNAs), aides who provide care in skilled nursing facilities, work closely with residents, often for years, resulting in strong bonds. Yet, limited research has examined how this may impact their response to a resident’s death. This study conducted comprehensive semi-structured in-person interviews to explore the experiences of 140 CNAs who had lost a resident in their care within the previous two months. Quantitative and qualitative data were examined to determine to what extent CNAs felt there was support available to them, whether they sought out support, the type of support received and desired, and how the support impacted employment outcomes. Results indicated that only one third of CNAs felt there was supervisory support available to them, though over 60% felt they had the support of their coworkers. Only 16% sought support from their supervisor before the death and even fewer, 9%, sought it after. Yet, over half sought support from coworkers. These findings indicate that CNAs are not likely to seek out support from their supervisor but do experience coworker coworker in the context of resident death. Though perceived as helpful by the CNAs, support from coworkers was found to be positively linked

to burnout and grief suggesting that support from coworkers may not necessarily be protective against the negative impacts of resident death, but instead may increase distress.

OUTCOMES OF ADVANCE DIRECTIVES AND DURABLE POWER OF ATTORNEY AT END-OF-LIFE

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Studies show that individuals at end-of-life (EOL) are more likely to have advance directives (AD) or a durable power of attorney (DPA). However, most of these studies do not investigate the outcomes of decision-making at EOL. This paper examines the association between individuals with ADs and DPAs and the care received by those individuals, and it compares the appointed decision maker to the actual decision maker at EOL. The study will use a nationally representative sample from the Health and Retirement Study (HRS) Core and Exit interviews conducted between 2008 and 2014, and it will compare its findings to those of Silveira, Kim & Langa (2010).

Analysis was conducted on data compiled from 5,000 participants age 60 and older and from proxies following participant death. 45.8% of decedents required decision-making, of whom 69.3% lacked decision-making capacity. About half (51.0%) of these decedents had advance directives and 68.3% had a DPA. However, there was only 15.1% agreement between the appointed decision maker and the actual decision maker. Logistic regression revealed that participant preferences for prolonged care (OR=12.64) and limited care (OR=2.63) were consistent with the care they received. Participants who elected comfort care were more likely to receive limited care.

These findings are consistent with those of Silveira, Kim & Langa (2010), who examined the HRS interviews conducted between 2000 and 2006, and thus further supports AD. More research is needed to understand the incongruence between appointed and actual decision makers at EOL.

ADVANCE CARE PLANNING IN GERIATRIC PRACTICE: A MONTEFIORE MEDICAL CENTER QUALITY IMPROVEMENT STUDY

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In 2016, The Division of Geriatrics of Montefiore Medical Center received a grant through the New York Foundation for Elder Care to train primary care providers (PCP) in advance care planning (ACP) skills including: the explanation of prognosis and treatment options, clarification of the older adult's wishes, and the utilization of the new Medicare reimbursement code for advance care planning. A teaching module directed to the PCP was designed as a multidisciplinary consultation service using actual clinical cases presented by providers. Training in advanced care planning by the Geriatrics faculty was offered at the PCP sites. After initial implementation of this module, a quality improvement project conducted in the Division of Geriatrics during June 2016 through a chart review (n=101) examined the documentation of advance care planning discussions by

the geriatrics faculty at its Geriatric Ambulatory Practice. Demographic data included age (M age=82), gender (75%=women), ethnicity (42%=Latino), preferred language (77%=English) and cognitive impairment (42%). The rate of documented advance care plans (32%) was analyzed. Results reinforced the need for training of geriatricians in ACP as well. Limitations include recent transition to a new electronic medical record, which complicated documentation; whereas 49% of patients reviewed had ACP on file in the previous EMR, only 32% had such documentation in the new EMR. The teaching module was modified based on the study's findings to both improve the skills of attending physicians, fellows, and residents and to improve ACP conversations and documentation rates.

EFFECTS OF AN ADVANCE CARE PLANNING EDUCATIONAL PROGRAM FOR CARE STAFF IN AN ACUTE HOSPITAL

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Purpose: Advance Care Planning (ACP) is a crucial end-of-Life Care practice. However, an ACP educational program for care staff in an acute care setting has not yet been established.

The present study aimed to examine the effects of an ACP educational program in this clinical context.

Method: The design was a single-arm study to evaluate staff attitudes pre-and post-program. A 90-minute intervention program was attended three times, along with self-directed study. The study outcomes included attitudes towards Advance Directives (AD), the Death Attitude Inventory (DAI), and the Frommelt Attitude Toward Care of Dying scale (FATCOD-Form B-J).

Result: A total of 57 care staff participated in the entire program (average age was 44.6 years old (SD 7.8); 11 men). The most common occupational description was nurse (n=37). The scores on the attitudes towards AD scale increased from 9.96 (SD 1.0) to 10.3 (SD 0.9), which reached statistical significance (P=0.03). The score for 'death relief' in the DAI increased from 13.9 (SD 0.9) to 15.3 (SD 5.9), also P=0.03. The score for 'positive attitude for end of life care' in the FATCOD-Form B-J scale increased from 9.0 (SD 1.6) to 9.8 (SD 2.0), with P=0.01.

Conclusion: These results suggest that the present ACP educational program was effective at improving staff attitudes relating to three key domains: attitudes towards AD, death, and the care of terminally ill patients.

REDUCING EMERGENCY ROOM VISITS AND HOSPITAL DEATHS AT END-OF-LIFE FOR LONG-TERM CARE RESIDENTS

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Burdensome interventions and hospital use can negatively affect the quality of end-of-life (EOL) for long-term-care (LTC) residents and their families. The goal of this study was to examine Emergency Department (ED) use at EOL and hospital deaths for LTC residents, and explore with LTC staff ways to minimize hospital use.

This study used a mixed methods approach. Chart audits were conducted in four LTC homes in southern Ontario to capture trends in hospital use over a one-year period for the following indicators: (1) resident deaths at hospital versus LTC home; (2) ED visit in the last year, month, and week of life; (3) average number of ED visits/resident; (4) planned versus unplanned ED visits; (5) ED visits that became hospital admissions. These chart audit findings were presented to staff to raise awareness and stimulate reflections on local factors affecting hospital use at EOL. All deliberations were transcribed and thematically analyzed.

Chart audits revealed that 59% of residents across sites visited ED during the last month of life and 26% of resident deaths occurred in hospital. Staff expressed surprise at the amount of hospital use during EOL. Reflections suggested that clinical expertise, comfort with EOL communication, clinical resources and family availability for EOL decision-making could all impact non-desirable hospital use at EOL. Staff appeared motivated to address these areas of practice following this reflective process.

Localized chart data combined with group reflective opportunities can serve to raise awareness and engage staff in collective solutions to address hospital use at EOL.

SESSION 990 (POSTER)

END-OF-LIFE TREATMENTS AND SETTINGS

TRADITIONS, CHALLENGES, AND ADAPTATIONS: THE HMONG COMMUNITY'S END-OF-LIFE EXPERIENCE IN THE U.S.

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It has been over forty years since the first Hmong refugees arrived in the United States, and as the generations have sought to adjust to a new way of life, many elders have continued to honor their traditional healthcare beliefs and rituals concerning care at end of life. With much known about beliefs and rituals after death occurs, little is known about those practiced in the dying process. Studies have found evidence that lacking such information has resulted in misunderstandings and barriers between the Hmong and their health care professionals, who struggle to provide the Hmong with culturally competent care. This study sought to address this gap by conducting in-depth face-to-face interviews with 20 Hmong elders born in Southeast Asia, who are now living in the United States. The rich qualitative data provided by these elders was analyzed using conventional content analysis to identify and categorize the main themes. The results provide information regarding traditional beliefs and rituals surrounding end of life care, the challenges faced by the Hmong when seeking to practice these traditions, and adaptations made by some Hmong elders to integrate both

western and traditional medicines. In addition, insights were gained regarding the heterogeneity among Hmong elders due to those who have converted to Christianity and those who have chosen to remain steadfastly committed to their traditional practices. Implications for healthcare professionals and facilities seeking to provide culturally sensitive care to Hmong elders at end of life will be discussed.

DEVELOPING EXPERTISE IN END-OF-LIFE CARE THROUGH COLLABORATIVE REFLECTION: A QUALITATIVE INQUIRY

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In Japan, with a steady increase in older adults who spend their final days in non-medical facilities such as nursing homes, staff members of such facilities are increasingly required to become prepared for end-of-life caregiving to older residents. Because of greater individual differences in terminal processes, however, there is no universal approach to older residents in an end-of-life phase; thus, it is necessary for staff members to accumulate practical knowledge to handle individualized cases through reflecting on and learning from their end-of-life care experiences. To provide staff members with the opportunity for such learning, we have developed *Collaborative Reflection Program*, where participants discuss their care experiences while giving feedback to each other. Guided by Korthagen's (1985) reflection model, namely ALACT, we sought to identify whether and how such learning process might occur among *Program* participants. To do so, we used audio-recorded data from multiple groups in which care workers and nurses from different nursing homes participated and, in line with the *Program* format, conversed on their end-of-life care experiences. Through systematic content analysis on transcripts of audio-recorded data, we found participants' narratives that represented two components of ALACT model: *awareness of essential aspects of experiences* and *creating alternative methods of actions*. Our findings indicated that the *Program* helped participants to reflect on and gain a new insight into their care experiences, suggesting the potential of the *Program* as a method for staff members of nursing homes to develop expertise in end-of-life care.

FACTORS AFFECTING KOREAN OLDER ADULTS' WILLINGNESS TO RECEIVE LIFE-SUSTAINING TREATMENTS

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Being one of the fastest aging countries, Korea is faced with various end-of-life (EOL) issues. However, little is known about what affects older adults' views toward EOL options, such as use of life-sustaining treatments (LSTs). To address the gap, this study aimed to examine the relationship between attitude toward LSTs and background characteristics among older adults in South Korea. Using a national survey data of 10,267 older adults, binomial logistic regression analysis was conducted to examine the likelihood of willingness to receive LSTs with background characteristics.

The correlations ($.02 \leq r \leq .04$) and tolerance statistics ($\geq .40$) were checked during preliminary analysis. Though very few participants (4%) agreed to receive LSTs, some significant relationships were found: those who were female ($OR=.24$, $p=.03$) and older ($OR = .02$, $p = .00$) and had higher geriatric depression score ($OR = .05$, $p = .02$) and more close friends and neighbors to talk openly with ($OR= .08$, $p = .00$) were more likely to agree to receive LSTs. However, those having any religion ($OR= -.19$, $p = .03$) were less likely to do so. This result suggests that religion in Korean culture may play a role in older adults' preference for LSTs and may provide a buffering effect against the pursuit of aggressive treatments. Our society should recognize the potential burden of LSTs among Korean older adults and should consider factors, such as gender, age, mental health, and social relationship, in EOL discussion about LSTs and alternative EOL care options.

INCREASING HOSPICE UTILIZATION IN THE PENSACOLA AREA: POTENTIAL MEDICARE SAVINGS

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Research shows that older adults receive higher quality care under Hospice care compared to hospitalization or nursing home care and this care is also considerably less expensive. For example, the costs for hospital care, nursing home care, and Hospice care per day are \$6,200, \$620, and \$153 respectively. Despite the benefits in quality and cost, Hospice utilization rates at the end of life continue to be problematic. In addition, of those who use Hospice, 35% are enrolled for less than a week despite eligibility of up to 6 months.

Using 2010 Medicare data obtained from The Dartmouth Atlas of Health Care we found that the Hospice utilization rate for the Pensacola area during the last 6 months of life was 57% and that these patients were enrolled for an average of 27 days. The average Medicare expenditure in the 6 months prior to death was \$32,330.

Based on this information, we formulated the following research question: How much cost savings would there be if the Pensacola area increased the Hospice utilization rate by 5% and 10% respectively? If the utilization rate was increased by 5%, Medicare expenditures would decrease by \$1,616 per person. If the utilization rate was increased by 10%, Medicare expenditures would decrease by \$3,233 per person.

These findings suggest that even modest increases in the Hospice utilization rate would lead to significant cost savings for the Medicare program. In addition, these patients would receive higher quality care and most would be cared for in their home.

REASONS FOR JOINING A RIGHT-TO-DIE SOCIETY: DIFFERENCES DEPENDING BY ON THE CHARACTERISTICS OF MEMBERS

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Right-to-die societies are becoming increasingly popular in Switzerland as in other countries. Members are more likely to be female, older, and better educated than the general population. However research has paid limited attention to personal reasons and motivations for joining.

This communication reports a survey of the membership of a Swiss right-to-society – EXIT A.D.M.D. Suisse romande. A self-administered questionnaire was sent by mail to a random sample of members aged of 65 years old and more. The answers of approximately 1,200 participants (about 30% response rate) provide insight into reasons that had led to a decision to join.

Motives for membership included the concerns related to their own end-of-life (*anticipation*), the commitment to right-to-die philosophy (*ideology*), and the past involvement with serious illness or deaths of loved ones (*experience*). Reasons for joining vary according to the characteristics of the members. For instance, women mention more personal experiences than men (because they are more likely to live critical events and play more often the role of caregiver); people with a high level of education, and the non-religious, have more resort to ideological motivations.

The combined analysis of the current age of the members and the length of membership in the society allows identifying different profiles. The “early joiners”, regardless of their current age, say more often to have adhered for ideological reasons. Among the most recent members, the older (75+) reported mainly concerns related to the end-of-life, while the youngest (65–74) cited more personal experiences.

“WHEN I SAID I WANTED TO DIE AT HOME, I DIDN'T MEAN A NURSING HOME”: END-OF-LIFE CARE TRAJECTORIES

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Given concerns around population aging and future health care costs, issues around end-of-life care have attracted increasing attention in recent years. Although the focus tends to be on reducing hospital deaths and increasing those that take place in people's own homes, many older adults end their lives in nursing home care. Yet, little is known regarding the pathways that lead older adults to end their lives in these settings, nor the factors that influence them. This study draws on a structural life course perspective and administrative data to examine the long-term care (LTC) trajectories experienced by older adults who end their lives in nursing home care (NH) and compare them to those of LTC recipients who end their lives in home and community-based care (HCC) or hospital care (HC) settings. The overall sequencing of care transitions is considered along with the role of social structural factors, social and economic resources, and health factors in influencing them. Data were obtained from client assessments on individuals aged 65+ who received publicly-subsidized LTC services in one Canadian health region and who died between April 1, 2008 and December 31, 2012 ($n=13,466$). Only 10.2% of clients died at home in the community. Most died in NH settings (56.5%) or in hospital following a transfer from NH (12.0%) care. Just over one-fifth (20.9%) died in hospital following a transfer from HCC. Multinomial logistic regression analyses reveal the importance of social structural factors, social and economic

resources, and health factors in shaping these trajectories. These findings support the utility of a structural life course perspective and suggest avenues for enhancing equitable and desirable end-of-life care.

ASSESSING PALLIATIVE CARE DELIVERY IN A NEURO ICU: PREDICTING END-OF-LIFE EXPERTISE

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This study assesses palliative care implementation in the Neuro ICU of a large medical center. The expectation of death at admission is high, making comprehensive palliative care vital. The aim was to examine how providers' views of palliative care are related to their end-of-life (EOL) expertise. Forty-one providers responded to 25 questions (Likert-type scales) concerning their views of palliative care delivery. EOL expertise (e.g., ethical issues, clear definition of palliative care, avoiding futile care) was also assessed. Exploratory factor analysis of views of care delivery (Varimax rotation, 44.26% variance explained) resulted in three factors reflective of increasing levels of palliative care provision: initiating the process, providing basic comfort-care, and delivering holistic care. Linear regression analyses used these three factors to predict EOL expertise. Endorsing Delivery of Holistic Care predicts the use of ethics consults to aid complex care decisions ($B = .96, p = .001$) and avoidance of administering futile care ($B = .68, p = .05$). Endorsing Provision of Basic Comfort Care predicts greater previous palliative care involvement ($B = 1.23, p = .008$). Endorsing Initiation of the Process predicts having a more comprehensive definition of palliative care ($B = 2.34, p = .005$) and of Advance Directives ($B = 1.23, p = .013$). Results suggest that different ways of viewing palliative care exist even within a single unit and that these views are related to providers' expertise in dealing with ethical issues, end of life planning, and delivery of care.

PILOTING WEB-BASED INTERVENTIONS TO IMPROVE KNOWLEDGE OF PALLIATIVE CARE

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Introduction: Palliative care is a team-based, specialty service that improves the quality of life for individuals with serious illness and their families. However, current research suggests that this life-improving service is drastically underutilized. Patient knowledge of a healthcare service is theorized to drive utilization. If people do not know what palliative care is, they cannot be expected to seek out or accept a referral for the service.

Objectives: The purpose of this study was to pilot an intervention to improve knowledge of palliative care for the general population.

Methods: Using a 2 (content) X 2 (format) between-subjects design, an age-stratified, web-based sample of 229 adults were recruited and randomized into four conditions: intervention video, intervention information page, control video and control information page. Palliative care knowledge was assessed using the Palliative Care Knowledge Scale (PaCKS), a 13-item true/false scale with strong psychometric properties. Data analysis utilized an ANCOVA with contrast

coding for two factors: intervention vs. control (intervention $n = 77$, control $n = 75$) and information page intervention vs. video intervention (reading $n = 43$, video $n = 34$).

Results: There was a significant difference between intervention group means at post-test ($M = 12.15, SD = 1.77$) and control group means ($M = 11.18, SD = 2.34$); $F(1, 139) = 11.10, p = .00, h_p^2 = .074$. There was no significant difference between the video intervention ($M = 12.00, SD = 1.97$) and the intervention page ($M = 12.29, SD = 1.61$); $F(1, 67) = .011, p = .92$.

Conclusions: This randomized control trial demonstrates that both educational videos and text-based interventions increase knowledge about palliative care services in the general population.

INTEGRATIVE AND HOLISTIC END-OF-LIFE CARE: INSIGHTS FROM A COMMUNITY-WIDE SURVEY IN CHINESE SOCIETY

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Every year, there are over 40000 deaths in Hong Kong, affecting over 240000 individuals in the illness process and bereavement. Current end-of-life care (EoLC), which is mainly provided by health care settings, will fall short in meeting the growing demand. The World Health Assembly urged for international actions in strengthening interfaces between health care and social care settings. The Hong Kong Jockey Club Charities Trust initiated an EoLC project in response to the emerging needs, with this survey to understand the needs of the community.

A randomly drawn sample of household was invited to join telephone survey, and 1600 (62%) completed the study. The findings have four key points. Firstly, public knowledge of EoLC concept is limited. Only around 30% of participants ever heard of palliative care and EoLC. Advance directives were known to 13.4%. Secondly, EoLC is considered as a multi-dimensional care. Psychosocial care (30.4%) and spiritual care (14.7%) were the first and second commonest content perceived by the participants. Thirdly, the location of EoLC provision is not restricted to hospitals (86.4%) but also social service centers (72.9%), residential homes (72.1%) and home (54.6%). Lastly, the primary wish in the last six months of life is found to be family-related. Nearly one in five responded that having good memories with family and friends was their first wish.

The findings suggest expansion of current care in time, content, location and unit of care. Public education, bio-psycho-social-spiritual model, hospital-community partnership and family-centered care are all the possible future directions.

PHYSICIANS' PERSPECTIVE: END-OF-LIFE CARE TREATMENT FOR OLDER ADULTS IN ALLAHABAD, INDIA

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With globalization and shifts in cultural norms it becomes increasingly important to examine physician's role at end-of-life care of elderly (Marjolein, et al, 2012). The purpose of this qualitative study was to examine the practices and attitudes of physicians in Allahabad regarding Eol care. Eol

decision-making in India involves the mechanisms by which family members and physicians make decisions about care of elderly. Eol decision-making is challenging as it requires understanding of technical information regarding the use of life-sustaining treatments. Earlier research shows that in Asian countries it is against the cultural norms to disclose life threatening illness to the elderly, and this can cause conflict between the norms prevailing in the medical profession on the one hand and physicians' and families actual practices (Schaffer, 2007). Research in the US shows that a large number of physicians were not adequately trained in Eol care. There is dearth of research on Eol care in India. Thirty four in depth interviews on physicians were conducted. Transcribed data was translated from Hindi to English. Two researchers read the transcripts and found four major themes. 1) Eol decisions for elderly are made by family, along with physicians; 2) Prolonged unnecessary health care treatment for elderly was found among higher income groups, while neglect was common among lower class; 3) Few physicians in Allahabad were trained in geriatric care; 4) Risk of elder abuse at EoL is common, as elder's wishes are not discussed. Hospice and social workers need to be available for elderly in hospitals and at home.

EXPLORING SURROGATES' EXPERIENCES OF POLST DISCUSSIONS FOR INDIVIDUALS WITH ADVANCED DEMENTIA

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The Physician Orders for Life Sustaining treatment (POLST) is a program to communicate and document patient treatment preferences as medical orders. It is often used for older adults with life-limiting illnesses including dementia. For individuals with advanced dementia, POLST is commonly discussed between surrogate decision makers (SDMs) and providers. However, information about SDMs' experiences of POLST discussions is lacking. Semi-structured interviews were conducted with family SDMs of older adults with advanced dementia following POLST discussions with providers. Interviews were analyzed using directed content analysis, and informed by three key concepts from the Communication and Surrogate Decision Making framework. Facilitators to effective communication and decision making included: SDMs' familiarity with end-of-life situations; providers' caring attitude and knowledge about the person and SDMs; SDMs' understanding of dementia as a terminal illness and knowledge about the person's wishes. Challenges included: unfamiliarity with medical terms and uncertainty about the best decisions for the person. Findings suggest that SDMs process information related to end-of-life care choices based on their previous experiences with healthcare situations and appreciate healthcare providers' attention to their and their loved ones' needs. SDMs' understanding of dementia influences the quality of medical decisions, and as a result, may impact quality of life for older adults with advanced dementia and their SDMs. Findings also highlight the importance of high quality communication between providers and SDMs. Future studies should address improved education for SDMs and clinicians to promote effective communication and improve end-of-life care planning.

COMPARING MEDICARE UTILIZATION PRE- AND POST-HOSPICE ADMISSION ACROSS PRIMARY HOSPICE DIAGNOSES

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We compare daily estimates of total Medicare utilization immediately prior to hospice admission with per diem payments during hospice election across common hospice principle diagnoses. We used Medicare Part A, B, and D claims to estimate average daily total Medicare utilization in the 180, 90, and 30 days prior to hospice admission. In the 180 days prior to hospice admission, median daily estimates of total Medicare utilization ranged from \$66.84 (Alzheimer's, Dementia, and Parkinson's) to \$217.46 (Chronic Kidney Disease); national average \$117.73. In the 30 days prior to hospice admission, median daily Medicare utilization ranged from \$105.24 (Alzheimer's, Dementia, and Parkinson's) to \$466.25 (Chronic Kidney Disease); national average \$266.84. Among all diagnoses, the median daily estimates of pre-hospice Medicare utilization for Alzheimer's, Dementia, and Parkinson's hospice admissions were consistently below the 2013 routine home care per diem rate of \$153.45. Average lifetime hospice utilization ranged from 27.3 days (Chronic Kidney Disease) to 119.3 days (Alzheimer's, Dementia, and Parkinson's); national average 73.8 days. Relatively little was known about how pre-hospice Medicare utilization compares to spending after hospice election. At present, no case-mix system exists in the Medicare hospice benefit to differentiate payments among patients. Additional analysis is needed to understand if hospice patients with differing characteristics (e.g., diagnoses) require different resource needs and if hospice payments are appropriately aligned with those requirements.

THE ROLE OF CARE HOMES IN PALLIATIVE AND END-OF-LIFE CARE

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Older people have been living and dying in Care Homes for many decades. But as life expectancy has extended and those who live longer lives do so largely in functional good health for much longer, the demography and epidemiology of dying and death have changed

dramatically. The latest available UK data for 2014 provide strong evidence of the rising numbers of old age deaths in Care Homes and previously unavailable material on the causes of those deaths. There emerges a new and important picture, which should be brought to bear in discussions about policies for end of life care. This presentation presents findings from an enquiry commissioned by Public Health England. It reveals distinctive patterns of multiple co-morbidities now bundled together as frailty, which require revised patterns of end of life care that rely more on sustained support rather than elaborate palliation.

EVALUATING COMMUNITY END-OF-LIFE CARE MODELS FOR OLDER PEOPLE WITH ADVANCED ILLNESSES IN HONG KONG

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IAGG 2017 World Congress

In Hong Kong, older non-cancer and cancer patients found to have 2.3 and 1.6 comorbid diseases respectively. Older patients, frequently suffer from chronic debilitating diseases, multiple disabilities, and distressing symptoms, need a holistic EoLC to meet the complex emerging needs. A 3-year project has been initiated by the Hong Kong Jockey Club Charities Trust to increase community engagement in EoLC by developing evidence-based community EoLC models for older adults in Hong Kong.

This presentation will describe five different models of community EoLC programme introduced by non-profit social service agencies in Hong Kong and the evaluation of these models. All organizations collaborated with hospital partners to provide community-based EoLC to families with older people with advance illnesses, with unique foci. While emphasizing the partnerships with health care system, these social care units strengthen the psychosocial care in the community. Models include volunteer-based model, assisted family-care model, non-cancer model, community-care model and residential home care model. A standardized comprehensive outcome and impact evaluation are carried out. Adopting mixed methods, assessments with older adults, family caregivers, and volunteers are implemented through pre-post-followup questionnaires as well as post-service qualitative interviews. Changes in symptoms, mental health, caregiving burden, quality of life, general health and complicated grief are assessed. Volunteer's changes in life satisfaction and life meaning are also appraised. Clinical data mining approach is adopted to analyze the impact as well.

NURSE-LED ADVANCE CARE PLANNING IN PRIMARY CARE FOR OLDER ADULTS WITH MULTIPLE CHRONIC CONDITIONS

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Advance care planning (ACP) can ensure people receive the care they value and prefer when they cannot speak for themselves, yet ACP participation is low. There is a need to identify an approach to the ACP process that promotes participation in high-quality ACP. Utilizing primary care nurses is one ACP engagement approach. Our pilot study sought to determine the feasibility and acceptability of ACP in primary care by nurses with older adults with multiple chronic conditions. The intervention involved two sessions between the nurse and patient that lasted approximately one hour each. Between the two sessions patients were requested to discuss their values, life goals and treatment preferences with family members. Patients completed the ACP Engagement Survey before and after the intervention. Individual interviews were also conducted with the patients and nurses. The majority of patients invited to participate agreed (41/67; 61%). The average participant was 66.2 years old with 9.6 diagnoses. The majority (61%) were female and White/non-Hispanic (98%). All but one of the 41 completed the intervention. Both process and behavior scores on the ACP Engagement Survey improved. Patients and nurse interviews indicated that they were satisfied with the intervention. Thirty-six of the 41 subjects (87.8%) completed an Advance Directive; all 41 identified a healthcare proxy decision maker. ACP conversations between nurses and patients in primary care are feasible and acceptable. Further study is warranted and would

benefit by exploring the early impact of ACP conversations on subsequent treatment decisions made by older adults with multiple chronic conditions.

SESSION 995 (POSTER)

ENVIRONMENT AND COMMUNITY INTEGRATION

CAN 'SOCIAL PRESCRIBING' HELP ADULTS WITH LONG-TERM HEALTH PROBLEMS TO AGE WELL?

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Social prescribing is the use of non-medical interventions to achieve sustained lifestyle change and improved self-care among people with long-term health conditions. Service users are supported to live healthier and more fulfilling lives, learn to manage their long term conditions and reduce health care dependency. Ways to Wellness (WtW, <http://waystowellness.org.uk/>) is the first UK organisation to deliver social prescribing at scale, serving an urban area with some of the most socio-economically deprived constituencies in England. The social prescribing model comprises referral to a 'Link Worker' trained in behaviour change methods who offers a holistic and personalised service to identify meaningful health and wellness goals, as well as connecting service users to community and voluntary groups and resources. Qualitative interviews were undertaken with 30 service users aged 40–74 with chronic and multiple long term conditions, and repeated again at 6 months. Service users reported many positive changes: improved physical activity, weight loss, reduced social isolation, improved mental health, and better long term condition management. After six months many difficulties in maintaining positive health-related changes were identified, yet largely overcome. Key elements of the success of this programme were the ongoing and personalised approach and the nature of the relationship with the 'Link Worker' in combination with actively engaging service users with community organisations. This 'dual' approach to ageing well with long term conditions recognises the need for individual change but through its community based approach, also addresses many of the deep-rooted social and economic barriers which compound long term health problems.

COMMUNITY DIAGNOSIS WITH LOCAL VOLUNTEERS AND CARE PROFESSIONALS IN AGE-FRIENDLY CITY INITIATIVES

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Frail older adults can continue to live independently at home in cities that are age-friendly. The purpose of the present participatory action research is to identify the core concerns for building an age friendly city through community diagnosis involving volunteers and professionals, utilizing photovoice and surveys. The surveys were conducted previously and investigated the care needs of 710 frail older adults living in Izumiotsu City, Japan. The study

participants were 39 local volunteers living in three districts in the city including districts A (population = 7,984; % of adults ≥ 65 years = 21.0%), B (5,994; 18.5%), and C (6,712; 24.3%), and 8 care professionals in a community-based integrated center. We conducted four sessions of focus group interviews with local volunteers and care professionals, using 248 pictures from care professionals and 56 pictures from local volunteers, as well as survey data. Through the focus group interviews, we identified the core concerns from the community diagnosis of each district, which included “Older adults, at risk of social isolation, are not participating in community activity groups (district A);” “Older adults, who cannot ride a bicycle, find it difficult to go shopping as shopping facilities are scattered (district B);” and “Frail older adults living alone are more likely to be isolated because they do not want contact with community residents (district C).” These results suggest that a community diagnosis, through focus group interviews with local volunteers and care professionals utilizing photovoice and surveys, could capture distinctive core concerns for developing age-friendly initiatives.

DEVELOPING INDICATORS OF AGEING-FRIENDLY CITY IN TAIWAN: GUIDED BY THE PROCEDURES PROPOSED BY WHO

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In the past ten years, many cities and counties in Taiwan have improved their age-friendliness. However, the indicators of ageing friendly city are inconsistent among cities and counties. The purpose of this project is to establish a consensus list of ageing friendly city indicators in Taiwan. We applied World Health Organization (WHO) Global Age-Friendly Cities Guide to develop a preliminary list of eight dimensions of age-friendliness by literature review and experts' opinion. There are 38 candidates in the preliminary list. A survey of 64 experts in the related fields and representatives of elderly groups was conducted from Aug to October in 2015. They were asked to evaluate the candidates based on 5 technical criteria and 5 practical criteria. Each candidate was calculated three average scores of all, technical, and practical criteria, respectively. This project was funded by Health Promotion Administration, Ministry of Health and Welfare, Taiwan. Forty-seven questionnaires were completed (response rate, 73.4%). Fifteen indicators were identified in the top 50 percent of all, technical, and practical criteria. Three indicators were selected in the top 50 percent of each dimension. Furthermore, ten global age-friendly cities indicators were essential for comparison with other global cities. Finally, a total of 28 indicators, including 21 global ones developed by WHO, was developed. A consensus of indicators of ageing friendly city in Taiwan was produced. For improvement the age-friendliness among cities and counties, to regularly report those indicators is needed.

COMMUNITY MANAGEMENT OF CHRONIC DISEASE: AN ALTERNATIVE MODEL FOR SENIORS WITH MULTIPLE MORBIDITIES

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Managing the increasing prevalence of chronic diseases (CD) has become a priority globally. However, the feasibility of using a CD self-management approach with older individuals with multiple morbidities, and reduced physical and cognitive abilities to deal with the impact of these conditions in their day-to-day lives, is increasingly being challenged. We propose CD management for older individuals is best done in a *collective* community context using a community capacity building approach that actively engages residents of the community as a whole in raising awareness, identifying neighbours at risk and providing peer-led education and ongoing mentoring to improve persistence with positive lifestyle changes. Employing this approach has shown a significant increase in screening for osteoporosis in a naturally occurring retirement community (NORC) of seniors in London, Ontario Canada ($n=105$; mean age= 80.5 ± 6.9 ; $p<.001$). We are now trialing this in a further study of osteoarthritis prevention and management. Critical elements of our model include training community residents to become CD advocates and coaches, building relationships and sustained supportive networks and peer mentorship programs, and designing tools to make it easier for older community members to address key issues with their family physicians. Our findings suggest guidance is more important than knowledge to enable behavior change. Leveraging knowledge from physician to community advocates to peers/patients at a community level brings economies of scale. This process is an essential link along the continuum of RCT, to guideline development, to screening, assessment and management of chronic diseases and offers a new evidence-based approach.

SESSION 1000 (POSTER)

ENVIRONMENTAL AND NEIGHBORHOOD CONDITIONS

THE BP OIL SPILL: RESILIENCE IN THE AFTERMATH OF POST-DISASTER OLDER ADULT INTIMATE PARTNER VIOLENCE

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Little empirical research exists on the relationship between disaster and IPV among older adults. Survivors of “non-disaster” IPV are frequently able to recover, but clear information is lacking on recovery mechanisms of older adults. The extant literature on recovery mechanisms for victims doesn't address the same issues for older IPV survivors in the aftermath of disaster. Given the disruption caused by disasters to every aspect of daily living, this study sought to identify the resilience characteristics of survivors in the

aftermath of disaster and IPV. The risk and resilience ecological framework guided the study (Corcoran and Nichols-Casebolt, 2004).

Data was derived from Gulf States Population Survey. The sample included 2,657 survivors of IPV. The design was a comparative design. Individual resilience the outcome variable, was operationalized using the Pearlin Mastery Scale (Pearlin et al., 1981).

A hierarchical multiple regression analysis indicated that risk factors explained 7% of variance in individual resilience, ($F(4,2657) = 120.24, p < .0001$). Protective factors explained an additional 12% of variance in individual resilience ($F(8, 2655) = 138.24, p < .0001$) above and beyond the variance explained by and accounted for by risk factors.

This study identified predictors of resilience among older adult survivors of IPV exposed to the *Deepwater Horizon* disaster. Results suggest the importance of providing specialized training to practitioners involved in postdisaster IPV victim assistance. Given the complexity of IPV within a post-disaster context, attention should be directed at both identifying and meeting the immediate postdisaster needs of older adult IPV victims.

PREDICTORS OF INDIVIDUAL RESILIENCY AMONG INDIVIDUALS AGE 65 AND OLDER IN POST-DISASTER SETTINGS

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Older individuals are especially vulnerable following disasters such as the BP Oil Spill, in large part due to social vulnerability factors such as economic constraints, health problems, and susceptibility to domestic violence. An investigation was undertaken to determine the unique resilience predictors associated amongst older adults (65 years and older) exposed to disaster. This research adapts disaster resilience conceptual models to investigate resilience and expands these models by investigating differences in age and by exploring how equitable and inequitable variables account for variation in resiliency scores.

Data was derived from the Gulf States Population Survey (GSPS). The final sample included 5,713 residents from 4 gulf-coast states. A total of 25 communities exposed to the BP Oil Spill were included. Resilience was defined by the Pearlin Mastery Scale. The study was a multilevel, repeated cross-sectional design with a three-level nested structure. A nonlinear analysis was done using an ordered multinomial response model with a log-link function and empirical Bayes Markov chain Monte Carlo estimation.

The results of the model testing clearly indicated inequitable disaster mitigation, with the social resilience, individual economic resilience and contextual economic resilience indicators explaining most variance in individual resilience. In all models, age was negatively associated with resiliency. Being female was protective across all models. The results of the model testing indicate inequitable disaster mitigation, with social and health, indicators explaining the most variance in individual resilience levels. An investment of resources is needed for older adults in post-disaster contexts.

A STUDY OF DISASTER SAFETY OF RESIDENTIAL WELFARE FACILITIES FOR THE ELDERLY

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Design

In Korea, various kinds of residential welfare facilities for the elderly started to spring up everywhere after the 'Act on Long-term Care Insurance For Senior Citizens' had been newly enacted in July 2008. However, since the locations of such kinds of residential welfare facilities for the elderly are mostly located near the nature rather than places that can be easily accessed by the elderly, there have been often the cases that it is hard to respond to some kinds of disasters from the beginning. Especially, there have been many times of fires related to such facilities in Korea as well as with many number of the dead and the injured and huge amount of property damage. However, a method for taking measures for some disaster safety covering the whole area of such welfare facilities which have been sprout up everywhere.

Regarding to the disaster safety of the housing welfare facilities for the elderly, it is very important for preparing for the safety measures for the relevant space. In addition, it is necessary to consider the physical, psychological and social characteristics of the elderly as well as the characteristics of the relevant space when a disaster occurs. Therefore, in this study, it is intended to analyze on what kinds of effects the environment of the housing welfare facilities for the elderly and the physical, psychological and social characteristics of the elderly influence in case that a disaster occurs to the housing welfare facilities for the elderly while analyzing the elderly who live in various kinds of housing welfare facilities for the elderly (Facilities for the Aged, Group Homes for the Elderly and Welfare Housing for the Elderly) in Korea.

Method

The survey targets are 3 kinds of facilities, such as, the facilities for the elderly, Group Homes for the Elderly and Welfare Housing for the Elderly and the aged who live in such facilities. And the survey will be conducted for comprehending the physical, psychological and social characteristics of the elderly and the levels of the environments of such facilities compared to the accidents generated. The collected data shall be used for conducting a regression analysis using SPSS 22.0 in order to comprehend the relationship between the characteristics and the environments and what kinds of effects are influenced on the safety in case of a disaster.

EMERGENCY PREPAREDNESS IN COMMUNITY-BASED LONG-TERM CARE IN SOUTH CAROLINA AND ITS GLOBAL IMPLICATIONS

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The study examined the experiences of those served in community based long term care in South Carolina and their awareness of services available to them should they experience a critical incident, it explored to what extent are case managers informed consumers about these services and completed a plan with the participant in the event that he/she

may encounter such a situation, it looked at the participant's responses compared to a 2012 study and then gathered qualitative data the experiences with the recent flooding in South Carolina. Samples of 380 respondents in this population were surveyed by telephone.

The results indicated in the case of the latest emergency (major flooding) the majority were contacted by their case managers as the emergency was developing. 98% had access to TV, 77 % cell phone, 71% the internet, and 68% the radio. 60 % had an emergency safety plan in place, which included having a "go bag" with copies of medical records and financial records. 70% had a transportation plan in place. For those who are forced to stay in place 90% had extra medications, 80% extra food and 70% extra water. On the other hand there were problems with lack of backup heat, and battery power for communication devices. Comparing these findings to the earlier survey there was evidence of some major improvements in the preparedness of this population but still indicated areas that needed to be worked on. There may be well lessons to be learned that have global implications.

RELATIONSHIPS WITH PLACES: AN ETHNOGRAPHIC STUDY OF OLDER ADULTS IN DETROIT NEIGHBORHOODS

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This seeks to extend psychosocial research that focuses primarily on counting number of connections and relationships with other people as a measure of well-being, through the lens of non-biological kinship connections. A theoretical approach that utilizes anthropological considerations of kinship is important to framing research on social isolation as relationships are at the core of understanding the affiliations and connections of individuals. I focus on the specific experiences of older persons in a particular location to elucidate the nature and practices of relationships in old age. The ethnographic data in this study highlight relationships with both others and spaces as key for shaping the experience of old age in a specific environment. Participants emerge as having negotiated a set of practices to pursue, maintain, and create place based relationships and spaces are reconsidered as to how they meet differing needs of an individual, both socially and physically. Using in-depth interviews from a multi-year ethnographic study in Detroit, Michigan with older current and former residents (n=32), I analyzed interview transcripts to identify key topics, themes, and patterns.

UNDERSTANDING PERSON-PLACE TRANSACTIONS IN NEIGHBOURHOODS: A QUALITATIVE-GEOSPATIAL APPROACH

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Emerging research regarding aging in context reveals much about neighbourhood characteristics that relate to aging adults' health, participation and inclusion; however, in-depth information about the nature of person-place relationships is lacking. Shifting away from previous conceptualizations of place as static, a transactional perspective considers place as inseparable from the person, each shaping

the other through complex, ongoing transactions. The interwoven nature of person and place highlights the need to use methods that can examine this relationship in situ and explore meanings derived from places. Participatory geospatial methods (i.e. methods that involve the participant in collecting geospatial data) can capture situated details about place that are not verbalized during interviews or otherwise discerned, and qualitative methods can explore interpretations, both helping to generate deep understandings of the relationships between person and place. This presentation argues for applying qualitative-participatory geospatial approaches to this area of study and describes an innovative methodology. A study exploring how neighbourhood and person transact to shape a sense of social connectedness in older adults provided the basis from which we developed a combined qualitative-participatory geospatial methodology. Methods included global positioning system (GPS) tracking followed by map-based interviews, narrative interviews, and go-along interviews, with attention to integrating spatial and other forms of data during analysis. Findings indicate the unique understandings that each method contributes, the strengths and limitations of integrating geospatial with qualitative data, and the potential for this methodology to generate knowledge about person-place transactions that can inform practice, policy and research to promote older adults' well-being.

PERCEIVED NEIGHBORHOOD ENVIRONMENT, SOCIAL SUPPORT, AND PHYSICAL ACTIVITY AMONG ELDERLY JAPANESE

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The effects of perceived neighborhood environment and social support on the physical activity of young-old (65–74 years old) and old-old (≥75 years old) were examined. Data were obtained from a probability sample survey of 739 participants (≥65 years) living in two wards of Tokyo, Japan. The dependent variable was physical activity divided into active (engaged in 60 min or more per week) and inactive. The independent variables were the perceived neighborhood environment, measured by the International Physical Activity Questionnaire Environmental Module (IPAQ-E) and the social support from kin, neighbors, and friends for going out. Logistic regression analyses were conducted separately for both age groups, controlling for sex, education, employment, living arrangement, and functional capacity. Results demonstrated that access to shops and exercise facilities, social environments, and aesthetics were associated with being physically active among the young-old. The interaction between social environment and social support from kin was statistically significant among the young-old. Social environments, aesthetics, and social support from neighbors and friends were associated with being physically active among the old-old. These findings suggest that improving access to facilities might be effective for promoting physical activity among the young-old. Social environment (e.g., seeing many people walking) and aesthetics consistently correlated with

physical activity for both age groups. Findings also highlighted the importance of the social support from neighbors and friends for promoting physical activity for the old-old and the social support from kin as a modifier of the relationship between neighborhood environment and physical activity for the young-old.

EVALUATING THE NURSING PRACTICE ENVIRONMENT

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Background: Nursing is a crucial part of the healthcare service delivery in the UK. However, an increasing number of ward nurses are leaving the profession prematurely, due to ill-designed hospital wards.

Objectives:

- Identify the typical ward elements in a hospital ward setting;

- Establish the design features that have the greatest impact on ward nurses in their job role; and

- Explore the personal constructs of nurses that should be supported by these design features through their embodiment in ward elements.

Methods: A focus group was conducted with six staff nurses. This was followed by semi-structured interviews with 20 ward nurses. The study concluded by performing a post-occupancy evaluation of three hospital wards where these nurses worked. The results of the post-occupancy evaluation were triangulated against those of the focus group and semi-structured interviews.

Results: The findings of this study:

- 1) Established a case for the periodic post-occupancy evaluation of hospital wards;

- 2) Identified the design features most essential for nurses in hospital ward setting; and

- 3) Illuminated the personal constructs of nurses that should be supported by these design features.

Conclusions: A supportive nursing practice environment is essential for the therapeutic healing of patients in contemporary nursing. To ensure that ward nurses continue in gainful employment for longer, there is a need for periodic assessment of how the architectural design features of hospital wards support ward nurses in their job role.

BUILT ENVIRONMENT, ACTIVE LIVING, AND THE COMPETITIVENESS OF A SENIOR-LIVING FACILITY

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Driven by a combination of facility competition and customer preference, developing quality built environments in a senior-living facility has become an important focus for the service providers. Limited is known regarding specific environmental design principles significant to facility competitiveness in the current state-of-art of development. From providing environmental supports of active living (including both physical and social activities), the benefits include enhanced resident well-being and eventually promoted facility competitiveness. This research investigates the associations between environmental design principals,

residents' physical and social activities, and reported facility competitiveness.

Case studies of 57 senior-living facilities in California and Virginia are conducted through on-site observations, face-face interviews, and an online questionnaire survey of facility officers and coordinators. Key attributes of facility design are summarized and measured at the site and building levels, including the factors of site planning, building layout, vertical configuration, and interior decoration. The Statistical Package for the Social Sciences are used to analyze objective data and identify significant factors. Content analyses are conducted to investigate participants' suggestions and preferences. Keywords and themes are identified. The presence of destinations for walking on the property, a self-described building layout, good visual and physical access to the outdoors, homey interior decorations and amenities contribute to residents' active living and facility competitiveness. The results will be discussed through the eyes of architects and academic researchers working together to examine what it means to design for facility competitiveness. Innovated design approaches are emphasized. Creditable research findings and design experiences are included.

EXPLORING CLIENT AND STAFF PERCEPTIONS OF ENVIRONMENTS IN ADULT DAY SERVICES (ADS) CENTERS IN TAIWAN

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Purpose of Study: Although several studies have examined the impact of environments on quality of life outcomes for long-term care residents, scholars have put minimal emphasis on the environments of adult day services (ADS). In the United States, ADS centers are perceived as the place used by incompetent and impaired elders who are labeled as dependents or children (Diaz Moore, 2004; Salari & Rich, 2001). Little is known about the perceptions of ADS in other countries with different cultural backgrounds. This study aimed to examine the role of physical-spatial conditions/dimensions and social-interpersonal environments in two ADS facilities in Taiwan from staff and client perspectives.

Design and Methods: Data were collected from 23 interviews with staff and clients and 270 hours of participant observations. Authors triangulated field notes with interview transcriptions and analyzed them with open, axial, and selective coding.

Results: For staff, (a) spacious well-designed physical environments and supportive social and economic environments lead to good care interactions with clients and (b) unsupportive environments make care work more challenging and create negative effects on clients' lives. For clients, (a) social environment was more important than physical environment in affecting quality of life at centers and (b) different life experiences influenced their perceptions of and the interactions with ADS environments.

Implications: Our study reveals the complex interrelationships among ADS environments, staff perception, and clients' quality of life reflecting Taiwanese culture. Results can

be translated into action research by implementing supportive environments for both staff and clients at ADS centers.

SESSION 1005 (POSTER)

EPIDEMIOLOGY AND HEALTH DEMOGRAPHY

EFFECTS OF DIETARY DIVERSITY ON LONGITUDINAL CHANGES IN INFORMATION PROCESSING SPEED AT 40S TO 70S

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The present study assesses the effects of dietary diversity on information processing speed among 1,766 men and women aged 40 to 79 years who participated in the first and follow up (second to seventh) waves of the National Institute for Longevity Sciences-Longitudinal Study of Aging at least once. Information processing speed was assessed using a component of the Wechsler Adult Intelligence Scale-Revised at all waves. Dietary diversity was determined using the Quantitative Index for Dietary Diversity based on a three-day dietary record at the first wave. Sex- and age decade-stratified, general linear, mixed models comprised fixed effects of dietary diversity (high/low groups), age at the first wave, years of follow-up, interactions, and covariates (education, living alone, family income, smoking, body mass index, energy intake, and medical history). The results indicated that the effects of dietary diversity were marginally significant for males aged in their 40s, 50s, and 70s ($p < 0.06$), suggesting that more dietary diversity was associated with better information processing speed. Regardless of dietary diversity (high/low groups), information processing speed increased with aging during the 40s and decreased in 60s and 70s in both sexes ($p < 0.05$). Interaction between dietary diversity and follow-up years revealed a significant interaction effect only among females aged in their 70s ($p = 0.04$), and information processing speed decreased less in groups with high than low diversity (-0.34 vs. -0.58 points/year). In conclusion, daily intake of various foods might help to protect information processing speed decline in females aged in their 70s.

TB TRANSMISSION IN OLDER POPULATIONS: A RE-EXAMINATION OF RISK GROUPS

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Background: Despite a low tuberculosis (TB) incidence nationwide, stark disparities in TB incidence persist, particularly along lines of relative social disadvantage. While TB incidence among older populations is typically driven by reactivation of latent TB infection (LTBI), understanding the extent to which recent transmission of TB is occurring in older populations may move us closer to TB elimination.

Methods: We used Michigan surveillance data on 1,236 TB cases reported during 2004–2012 to examine the association between age and recent transmission of TB. We used multivariable modified Poisson regression models to examine the prevalence of recent transmission controlling for demographic and clinical covariates at the individual and neighborhood level (at the level of the census block group).

Results: 310 (25%) of the 1,236 TB cases occurred among adults aged 65 years and older. Of those 310 cases, 22% resulted from recent transmission. Overall, those 65 years and older had a prevalence of transmission 50% lower than those aged 18–64 years—a finding that was unchanged with the addition of other individual- and neighborhood-level covariates. However, in a model of only those aged 65 years and older, the U.S.-born had a prevalence of transmission 2.64 times that of the foreign-born and Asians had a prevalence of transmission 2.90 times that of Whites.

Conclusions: Policies aimed at screening older populations for LTBI may be effective in reducing incidence overall among this population. However, increased efforts at reducing transmission are needed to address the racial disparities apparent among older Asian adults.

THE IMPACT OF TOOTH LOSS ON COGNITIVE DECLINE IN OLD AGE: A POPULATION-BASED LONGITUDINAL STUDY

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Poor dental health has been associated with cognitive decline with some inconsistent result, and the role of cardiovascular disease (CVD) and chronic inflammation in such an association remains unclear. We aimed to examine the association between tooth loss and cognitive decline over time, and to explore whether CVD and inflammation may account for this association.

Within the population-based Swedish National study on Aging and Care-Kungsholmen, 2465 cognitively intact participants aged ≥ 60 were identified at baseline, and followed-up for 6 years. Cognitive function was assessed with the Mini-Mental State Examination (MMSE) at baseline and at follow-ups. Information on dental status (no tooth loss, partial and complete) and history of CVD was collected at baseline. C-reactive protein (CRP) was measured in blood samples and dichotomized (normal: 0–5 mmol/l and high: >6 mmol/l). Data were analysed using mixed-effects models with adjustment for potential confounders.

Of all participants, 472 participants (19.2%) had tooth loss including 339 (13.8%) with partial tooth loss and 133 (5.4%) with complete tooth loss. In mixed-effects models, both partial tooth loss (β : -0.8 , 95% CI -1.40 to -0.2) and complete tooth loss (β : -2.89 , 95% CI -3.89 to -0.51) were associated with greater MMSE decline compared to no tooth loss after adjustment for potential confounders including CVD and inflammation. In stratified analyses by CVD and CRP, the association between tooth loss and cognitive decline remained statistically significant.

In conclusion, both partial and complete tooth loss are associated with cognitive decline among the elderly people, independently of CVD and inflammation.

THE RELATIONSHIP BETWEEN ALCOHOL CONSUMPTION AND MORTALITY IN AN AGING COHORT OF U.S. ADULTS

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Validity of the relation between moderate drinking and mortality has been a subject of substantial controversy. While epidemiological evidence has demonstrated a “J-shaped curve”, extant literature has been criticized for not separating recent abstainers from long-term abstainers and not characterizing the dynamic nature of consumption. We examined the relationship between drinking and mortality in a nationally-representative sample of aging adults. Data were drawn from 8,095 Health and Retirement Study respondents, surveyed 9 times between 1996–2012. Respondents were grouped into five categories: long-term abstainer, recent abstainer, occasional drinker, moderate drinker, and heavy drinker. We modeled mortality using Cox Proportional Hazards models with time-varying measures of alcohol consumption, wealth, depression, BMI, difficulties of daily living, chronic conditions, as well as time-invariant demographics. Overall, 27.66% of the sample died during follow-up. In unadjusted models, compared to long-term abstainers, moderate drinkers had a hazard ratio (HR) of 0.51 (95% CI 0.44–0.58); occasional drinkers had an HR of 0.71 (95% C.I. 0.62–0.82), and heavy drinkers had an HR of 0.74 (95% C.I. 0.61–0.91). In a fully adjusted model, moderate drinkers had an HR of 0.53 (95% C.I. 0.38–0.74). Interactions were observed by smoking status and race, and suggested that smokers and racial minorities do not demonstrate mortality benefits from moderate consumption. We observed that moderate drinkers have lower hazard of mortality than non-drinkers in a long-term follow-up study of older adults. However, there is substantial variation in the mortality benefit received, suggesting that social factors as well as biology shape physiological responses to drinking.

INFLUENCE OF EDUCATION ON ASSOCIATION BETWEEN MARRIAGE AND MORTALITY: A CROSS-NATIONAL STUDY

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The association of marriage and mortality is well-established, however, the role of education on the excess mortality of the unmarried remains unclear. This study examined whether the effect of marriage on mortality differs by gender and education in older individuals in Japan and Finland.

Data were obtained from the Japan Gerontological Evaluation Study project (JAGES) and the Finnish Public Sector study (FPS). In JAGES, 4832 men and 4720 women aged 65–74 were followed for 5.7 years. In FPS, 3782 men and 14253 women aged 60–74 were followed for 4.4 years. A gender-wise Cox proportional hazards model estimated

the effect of marriage and interaction effect of education on the association of marriage and mortality in each country.

A total of 11.1% of men and 6.2% of women in JAGES and 4.4% of men and 2.6% of women in FPS died during the follow-up. A multivariate analysis showed that being unmarried was associated with excess mortality in both genders in Finland but not in Japan. A stratified analysis by gender and educational level showed that being unmarried with higher education was associated with a higher risk of mortality (HRs: 1.4–2.0) than with lower education compared to the married in both countries except for Japanese women whose marital status did not significantly affect mortality regardless of educational level.

The findings suggest that a higher education may expand marital health disparity rather than mitigate it. A support system beyond familial relationships should be considered for unmarried older individuals.

LOW NORMALIZED GRIP STRENGTH IS A BIOMARKER FOR DIABETES AND PHYSICAL DISABILITY IN AGING ADULTS

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Background: There is evidence to highlight the importance of muscular strength as a protective factor for metabolic health and function across populations.

Objective: To examine the extent to which low normalized grip strength (NGS) may serve as a biomarker for both diabetes and physical disability in a population-representative sample of U.S. adults age 50 and older.

Methods: A sample of 5,267 individuals, aged 50–85 years, was included from the combined 2011–2014 NHANES datasets. Strength was assessed using a hand-held dynamometer, and was normalized to body mass. A logistic regression model was used to assess the association between NGS and risk of diabetes (hemoglobin A1c (HbA1c) levels ($\geq 6.5\%$ [≥ 48 mmol/mol]), as well as physical disability status (self-reported restrictions in ADLs/IADLs), while controlling for age, sociodemographic characteristics, and daily television viewing time.

Results: Every 0.05 lower NGS was independently associated with a 1.49 times increased odds for diabetes in men and women; and a 1.45 times increased odds for disability. Women were at lower odds of having both diabetes (OR: 0.30; 95% CI: 0.21–0.42) and disability (OR: 0.74; 95% CI: 0.61–0.91), whereas only higher age (≥ 65 years vs 50–64.9 years; OR: 1.50; 95% CI: 1.18–1.91) and hours of television viewing time (OR: 1.16; 95% CI: 1.02–1.31) were associated with disability status.

Conclusions: NGS was robustly associated with both diabetes and physical disabilities in aging adults. This simple screen may serve as a valuable tool to identify adults that are at risk for negative health consequences, and that might benefit from lifestyle interventions to reduce risk.

LOW INCOME OLDER SNAP PARTICIPANTS DO NOT HAVE LARGER WAIST CIRCUMFERENCE THAN NONPARTICIPANTS

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Supplemental Nutrition Assistance Program (SNAP) participants have been shown to have higher obesity rates than their income-eligible nonparticipating peers. However, recent studies using causal inference in adolescent and young adult samples suggest that program self-selection may have biased those results. To obtain unbiased estimates in adults aged ≥ 65 years, we compared the average waist circumference of prior-year SNAP participants to the average in a propensity score matched group of nonparticipants, stratified by gender. Probability of SNAP participation was estimated based on age, race/ethnicity, socioeconomic status, household size, employment status, lack of money for food or other needs, and receipt of non-SNAP food assistance. Community dwelling participants of the National Health and Aging Trends Study with incomes $< 500\%$ of the poverty limit were included. Propensity score matching produced a matched subset of the sample comprising SNAP participant and nonparticipant groups that were similar on model covariates; Rubin's B, an estimate of standardized bias, reduced from 155 in the unmatched sample to 21 in the matched sample. In the unmatched sample, female SNAP participants had a larger average waist circumference than nonparticipants (40.7 vs. 38.3 inches, $t=5.49$, $n=1989$), but there was no statistically significant difference in the propensity score matched subset (40.5 vs. 39.5 inches, $t=1.38$, $n=1719$). Male SNAP participants did not differ from nonparticipants in this sample. These results suggest that economic and social factors may influence SNAP participation. Accounting for these factors, there is no evidence of greater waist circumference in low income older adults participating in SNAP.

USING GEOGRAPHICAL INFORMATION SYSTEMS (GIS) FOR TARGETING RECRUITMENT IN DEMENTIA STUDIES

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Recruiting sufficient numbers of individuals with dementia and/or their family caregivers is critical for advancing effective treatments and assuring generalizability and statistical power in randomized trials. Recruitment is one of the most expensive and time consuming aspects of dementia trials. A tool that may assist in recruitment is Geographic Information Systems (GIS). GIS applications provide a technology for connecting individual's data to their environment, allowing researchers to visually inspect the distribution of numerous variables across a location. Currently, there is no robust location data for people with dementia or their caregivers, yet existing data sets may be useful. This paper presents results of a post hoc analysis of families recruited for a randomized trial in the USA to demonstrate the power of GIS and effective use of existing data sets. Using US Census Bureau data, a grouping analysis of selected risk factors (age, education, gender, income) for dementia was performed in ArcGIS. Age alone was the most robust factor overlapping with 48% ($N=165$) of enrolled trial participants. However, the combination of risk factors predicted 52% of existing locations of participants. We found that by increasing the geographic area considered by one half-mile, we improved the reach to 76% of enrolled participants. By utilizing government survey data and identifying specific demographic

and health risk factors associated with dementia, GIS can be used to identify localized areas in a community where these attributes are concentrated. Using this information, a more targeted recruitment approach may be possible, prospectively resulting in potential cost savings.

DIFFERENT RISK PROFILES FOR INJURIOUS FALLS IN OLDER ADULTS OVER 60: A POPULATION-BASED STUDY

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Although falls in older adults usually have multiple causes, falls risk factors have traditionally been studied one at the time. The aim of this study is to identify different risk profiles for injurious falls in people aged over 60 years by detecting different clusters of already established risk factors for falls and quantify their impact on fall risk. Participants were 2556 people (≥ 60 years) from the Swedish National Study on Aging and Care in Kungsholmen (SNAC-K) study. Cluster analysis was used to identify aggregation of possible risk factors. Associations between the clusters and injurious falls over 3, 5 and 10 years were analyzed by using flexible parametric survival models. The cluster analysis revealed five clusters. The first cluster included mainly healthy individuals and was used as the reference group. The second and third clusters included people with high physical function but high disease burden, FRIDs, depressive symptomology and unhealthy lifestyle. The last two clusters included mainly people with cognitive impairment, with or without FRIDs and physical impairment. The risk of injurious falls for all groups were significantly higher than for the comparison cluster. The hazard ratios ranged from 1.71 (95% confidence interval [CI]: 1.02–2.66) for the second cluster to 12.67 (95% CI 7.38–21.75) for the last cluster over 3 years of follow-up. Conclusion: The risk of experiencing an injurious fall varied largely between the different groups. Knowledge of the relationship between risk factors may help clinicians to tailor interventions by identifying people at different levels of risk of injurious falls.

SESSION 1010 (POSTER)

FALLS II

FEAR OF FALLING IN OLDER AFRICAN AMERICAN HEMODIALYSIS PATIENTS

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Introduction: Older adults comprise the majority of incident hemodialysis patients. Falls are a tremendous threat for older hemodialysis patients. Over a one year period, approximately half of these patients will suffer a fall, twice the rate of falls among the general older adult population. Fear of falling is known to increase fall risk. Yet little is known about the fear of falling in this high risk population. Our objective was to determine the impact of fear of falling in older hemodialysis patients.

Methods: A convenience sample of 10 older hemodialysis patients followed at an urban hemodialysis facility affiliated with an academic medical center underwent key informant interviews in their homes between the period of June 1, 2015 through May 31, 2016. Inclusion criteria included: aged 65 years or older, English-speaking, and willing to allow interviewer into home. Questions included open-ended and Likert-style questions regarding attitudes regarding general physical function and falls; the Falls Efficacy Scale-International was administered. All interviews were audiotaped. Three research team members simultaneously reviewed transcripts of interviews and dominant themes determined by consensus discussion.

Results: Mean age of participants was 73.0 ± 5.0 years and 6 (60%) were women. All participants identified as African-American. Mean time on hemodialysis was 4.8 ± 4.5 years. Fifty percent of the sample agreed with the statement "I am afraid of falling." Mean Falls Efficacy Scale-International Score was 22.3 ± 9.0 points, which is consistent with a moderate fear of falling. Dominant themes about contributors to falls included hemodialysis side effects ("Hemodialysis just drains me out"); and lack of physical activity ("Don't like laying around, bed makes you weak").

Conclusion: In older African-American hemodialysis patients, fear of falling is a likely contributor to the occurrence of falls. Future studies should explore reducing the fear of falling as a preventive measure for falls in older hemodialysis patients.

DETERMINANT FACTORS IN THE RELATIONSHIP BETWEEN URINARY INCONTINENCE AND FALLS IN OLDER ADULTS

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Studies had shown a strong relationship between falls and urinary incontinence (UI) in the older-adult. However, this relationship is complex and might involve intrinsic (organic) and extrinsic factors. The aim of the study was to determine whether there was a significant relationship between the fall event and the presence of UI in the elderly, and what factors could influence this correlation. The dependent variable was reporting at least a fall in the last 6 months and the independent variables were UI, sex, marital status, age, health perception, cognition, and number of morbidities. A population-based survey interviewed 7315 older-adults (60 or older) residents in 59 cities of the State of Rio Grande do Sul, Brazil. Logistic regression models tested the odds of having a fall. Two hundred three participants (3.9%) reported. Prevalence of UI was statistically higher ($p < 0.001$) among those 693 older-adults reporting fall (14%). Urinary incontinence increased 7 times the risk of falling ($p < 0.001$) in the simple analysis and 3.5 when controlling for co-variables. Independent of UI, being male (confidence interval 0.63 to 0.91, $p < 0.05$) and not having cognitive impairment (CI 0.59 to 0.77, $p < 0.001$) were protective factors. Independent risk factors were being widowed compared to married (CI 1.22 to 1.84, $p < 0.001$), older (CI 1.04 to 1.06, $p < 0.001$), worst self-perceived health and number of morbidities (CI 1.16 to 1.28, $p < 0.001$). We concluded that the relationship between

the presence of UI and the history of falls is independent of intrinsic and extrinsic factors.

DEVELOPING A QUESTIONNAIRE TO ASSESS OLDER ADULTS' PERCEPTIONS ABOUT FALLING

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In Brazil, 28% to 35% of individuals over the age of 65 fall each year. Literature suggests that 30% to 40% of falls are preventable through management of risk factors. However, adherence in prevention programs depends on older adults' perceptions about falling. The objective of this study was to develop a questionnaire to assess older adults' perception about falls' risk factors. It was developed through qualitative and quantitative approach. Qualitative method was conducted through content analysis and quantitative through analysis of content validity. Sample of qualitative approach was 22 older adults, aged 60 or older, participants from senior groups in Porto Alegre (Brazil), and professors from two local universities. Mean age was 70.2 ± 7.1 years. Coding and interpretation of data resulted in two thematic categories: falls problematization and the perception of risk factors, which served as basis for the development of the questionnaire. The proposed research tool, with 36 questions was sent to content validity analysis through evaluation of "judges", in three aspects: clarity of language, importance and theoretical relevance. With these results, it was possible to calculate the Validity Coefficient (VC). All questions with $VC < 0.7$ were excluded. Final questionnaire consisted of 25 questions. According to preliminary results, the questionnaire seems quite relevant to identify how older adults perceive falling into a problem to be prevented and their perception of the risk factors. This knowledge will help to develop more effective methods considering for fall prevention.

FALLS IN BRAZILIAN OLDER PEOPLE: PREVALENCE, ASSOCIATED FACTORS, CONSEQUENCES

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Background: Falls are considered a public health problem because of their prevalence and consequences for health of older people.

Objective: To estimate the prevalence of falls, associated factors and consequences.

Methods: Data was obtained in the National Health Survey (PNS, 2013) a cross-sectional population-based study with 23,815 older people (≥ 60 years), from all the States of Brazil. The fall, dependent variable, was evaluated by the question: "in the last 12 months, have you fallen and looked for health services?". The independent variables were age, sex, marital

status, self-rated health and femur fractures. It was estimated the prevalence of falls (IC95%). The statistic differences were estimated by the qui-squared test, considering $p < 0.01$.

Results: The prevalence of falls in the last 12 months was 7,8% (n=1825; IC95%: 7,3-8,4). It was observed a higher prevalence in women (9,6%), in people of 75 years old or more (11,6%). According to the health characteristics, the prevalence was higher in olders with bad self-related health (14,8%). Among those who experienced falls, 8,3% had femur fractures as a consequence, these 13.4% made without surgery prosthesis placement.

Discussion/Conclusion: The prevalence of falls was low comparing to previous studies performed in Brazil and other countries. However, the associated factors and consequences are similar to the related in literature before: fractures, females, advanced age, bad self-related health, conditions that may make old people, more susceptible to this harm. Thus, one conclude that knowledge of these factors is important to support the planning of preventive measures and policies to prevent falls and their consequences.

FACTORS RELATED TO FALLS AND FEAR OF FALLING IN KOREAN OLDER ADULTS WITH CHRONIC DISEASE

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Elderly with previous fall experience perceives more fear of falling and lead sedentary life style. Fear of falling as well as falls in older adults are one of the most important health problems that healthcare providers should pay attention to. Nevertheless, there are limited evidence of falls and fear of falling. This study was conducted to identify factors influencing falls and fear of falling among older adults with chronic disease in Korea using a descriptive cross-sectional survey design. A convenience sample of 108 patients was recruited at a geriatric outpatient department of a tertiary hospital in Seoul, Korea. Demographic characteristics, comorbidities, medication use, falls history, level of physical activity, activities of daily living, mobility, muscular strength, and fear of falling were investigated. Student t-tests, Chi-square tests, and multiple linear regressions were utilized in statistical analysis. The mean age of the participants was 80.25 ± 5.1 years. Hypertension was the most prevalent disease (67.6%), followed by ophthalmologic disease (61.1%) and ischemic heart disease (59.3%). Thirty six participants (33.3%) reported that they had experienced one or more falls in the past year. Marital status and use of antipsychotics was associated with falls, while other factors did not show significant relationship with falls. The number of comorbidities, level of physical activity, activities of daily living, and mobility were predictors of fear of falling in the regression model. In conclusion, increase of physical activity, functional fitness, and physical independence is important to decrease fear of falling and encourage active and healthy life in older adults.

FALL RISK FACTORS IN MID-AGE WOMEN: RESULTS FROM THE AUSTRALIAN LONGITUDINAL STUDY ON WOMEN'S HEALTH

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In contrast to older adults, little is known about risk factors of falls in adults aged 50–64 despite a high prevalence of falls in this age group. The aim was to identify risk factors of falls in mid-age women and explore how associations change with age. Data were from 11,226 participants in the Australian Longitudinal Study on Women's Health aged 50–55 years in 2001 (born 1946–51). A wide range of health and lifestyle predictors were measured in the 2001, 2004, 2007 and 2010 surveys. Falls in the past 12 months were measured in the 2004, 2007, 2010 and 2013 surveys. Associations between predictors and reported falls 3 years later were analysed using logistic regression. In surveys 2004–2013, 20.5%, 30.6%, 30.6% and 26.6% of women reported a fall in the previous 12 months, respectively. In the univariable models, most factors were associated with falls. In the multivariable models, higher odds of falling were found for overweight and obese women compared with healthy weight women at all time points (OR=1.16–1.43). Impaired vision (OR=1.24–1.35), poor physical functioning (OR=1.23–1.66) and frequent severe tiredness (OR=1.27–1.49) were associated with falls at three time points. Depression (OR=1.31–1.42), leaking urine (OR=1.46–1.49), stiff/painful joints (OR=1.34–1.63) and HRT use (OR=0.69–0.80) were associated with falls at two time points. There was no obvious age-related increase or decrease in the number of statistically significant associations. Identified fall risk factors varied over time, highlighting that falling involves a complex interplay of risk factors in mid-age women.

KAATUMISSEULA®: IMPLEMENTATION OF EVIDENCE-BASED FALL PREVENTION FOR COMMUNITIES

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Compelling scientific evidence shows that every third fall can be prevented. Effective measures need to be based on knowledge of individual fall risk. This underscores importance of fall risk screening. In Finland, risk screening and preventive measures are not used systematically. Thus, implementation of evidence-based methods for communities is necessary. In the present economic situation, resources of the voluntary and non-profit sector (NGOs) should also be utilized.

The main objective of KaatumisSeula® project is to create local models for fall risk screening and implementing evidence-based preventive measures. The models are based on co-operation between local public sector and NGOs. Primary risk screening is offered for older people by public sector and NGOs. People with high fall risk are referred to comprehensive assessment of individual fall risk and tailored implementation of fall prevention measures by educated health care professional(s). This approach is based on the *multifactorial* Chaos Falls Clinic Study. NGOs play a central role in not only screening but also informing about fall prevention measures and offering accessible balance and strength training - the most effective *single intervention* in fall prevention.

The models are now in operation in 2 municipalities. NGOs are active and keen in their role. Two Falls Clinics

have started and almost 400 high risk older adults have found their ways to the multifactorial assessment. Public sector and NGOs have received education. New exercise groups have been established.

KaatumisSeula® is a feasible approach to screen the fall risk of older adults and implement preventive measures in community.

THE EFFECTS OF NUTRITION ASSESSMENT BY PREALBUMIN ON FIM SCORES IN PATIENTS WITH FALL AND FRACTURE

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Background: Fall is leading cause of injury in elderly persons. Nutritional status is an important aspect of elderly life that influences quality of life in patients with fall and fractures.

Objectives: To evaluate the effects of nutritional assessment by prealbumin level on Functional Independence Measures (FIM) and Length of Stay (LOS) in elderly population with fall and fracture in rehabilitation hospital.

Methods: This study design was a one group pretest-posttest without a control group. Seventy one patients (n=71) 65 years or older with a diagnosis of fall and fracture recruited. Nutritional status was evaluated using the pre-albumin levels. Nutritional intervention implemented for participants who had prealbumin level of 18>mg/dl. Outcomes measures were discharge FIM scores and LOS.

Results: Fifty four patients (76%) were required nutritional interventions. Prealbumin levels, FIM scores, and food intake were significantly improved from admission to the discharge, for Prealbumin levels, $t(71) = 7.53$, $p < 0.01$; $X = 14.97$ versus 19.42 , and for total FIM scores, $t(71) = 21.45$, $p < 0.01$; $X = 1.82$ versus 4.41 . There was no significant correlation found between prealbumin changes and improved total FIM scores. Improved total FIM scores and self-care has significant negative correlations with LOS ($r = -0.46$, $p < 0.01$) and ($r = -0.47$, $p < 0.01$) respectively. Fifty six patients (78.9%) gained prealbumin with a mean gain of 6.1 mg/dl. Prealbumin gain was associated with higher FIM scores and lower LOS.

Conclusions: In patients who suffered a fall with resulting fracture, improving nutritional status is associated with improvement of functional levels and a decreased length of stay in rehabilitation hospital.

STAFF RESPOND POSITIVELY WHEN OLDER PATIENTS ARE PROVIDED WITH FALLS PREVENTION EDUCATION

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Providing older patients with individualized falls prevention education was found to significantly reduce rates of falls

and injurious falls on hospital rehabilitation wards. The aim of this study was to understand how staff responded to the education and how they perceived the program impacted on falls prevention on their wards. Focus groups were conducted. Participants were clinical staff who were recruited from hospital aged care rehabilitation wards which had previously participated in a cluster randomized trial. During the trial trained health professionals provided individualized falls prevention education to (n=757) patients with good levels of cognition (Mini-Mental State Examination > 23/30). Staff were also provided with training to support the program. Staff feedback was sought after the trial concluded. Data were thematically analysed. Five focus groups were conducted at different hospitals with (n=30) multidisciplinary staff. Staff perceived that the education program generated a positive culture around falls prevention on the wards. The program facilitated a team approach, whereby patients and staff worked together to address falls prevention, with the educator viewed as a valued member of the team. Staff identified that providing patients with education increased their own knowledge and awareness about creating a safe ward environment. Patients being proactive and empowered to engage in falls prevention strategies was viewed as enhancing staff falls prevention efforts and motivation to change practice. Providing individualized patient education to patients with good levels of cognition can empower staff and patients to work as a team to address falls prevention on hospital rehabilitation wards

CHARACTERISTICS OF THE PATIENTS WITH FEAR OF FALLING SYNDROME IN MEXICAN ELDERLY

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The Fear of Falling Syndrome (FoF) is the feeling that a person has to be in constant risk of falling, without necessarily be preceded by a fall. We conducted an analytical observational study, with patients ≥65 years old, from reference hospital of Institute of security and social services state workers. Who meet criteria for fall syndrome. As socio-demographic variables, anthropometric, clinical and biochemical data were collected. 114 patients were included, 39 of them met FoF criteria, the mean age was 82.5 years (SD + 7.46), and 78 (68.4%) were women. The main geriatric syndromes encountered were major depressive disorder 80 (70.2%), frailty 54 (47.4%), sensory dysfunctions 98 (85.9%), urinary incontinence 58 (50.9%), gait and balance disorder 86 (75.4%), polypharmacy 107 (93.9%). The functionality of activity of daily living scale was evaluated with the Katz scale, founding 41 patients (36.8%) A, 24 (21.9%) B, 10 (9.6%) C, and less functionality 36 (31.7%) patients. Instrumental activity of daily living was evaluated using Lawton scale founding > 5/8 18 (15.8%) patients. The FoF prevalence was 34%, and was associated to patients with lower albumin levels ($p = 0.04$), higher HbA1c levels ($p = 0.02$) and we identified urinary incontinence OR 1.32 (CI 95%: 1.01–1.72) $p = 0.03$ and orthostatic hypotension OR 10.56 (95% CI 9.97–11.17) $p < 0.01$. Declining functionality for FoF leads the elderly person to a loss of quality of life. Knowledge of this entity is

limited, the results of meta-analysis are inconclusive, knowing the associated factors could contribute to the prevention and management of this syndrome.

REDUCING FALL RISKS IN THE HOME USING SIMULATION EDUCATION FOR HOSPITALIZED GERIATRIC PATIENTS

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Falls are the number one reason for hospital admissions and the leading cause of injuries among older adults. Each year, 2.5 million older individuals are treated in emergency departments for fall injuries and over 700,000 are hospitalized. As our population ages, the \$34 billion annual cost for US hospitals to treat falls will skyrocket. One out of three adults 65 and older and one out of two 80 years and older fall each year. Falls account for "25% of hospital admissions, 40% of nursing home admissions...40% admitted do not return to independent living and 25% die within a year" (CDC, 2012).

Hospital-based fall prevention strategies focus less on education and more on restricting movement to keep patients safe while in the hospital. These strategies should focus on applicability to the home setting and emphasize education, creating safer environments, and prioritizing fall-related research to reduce risk. Simulation-based education can provide a unique learning experience to maximize recall and retention, bridge the gap between hospital-based learning and post-discharge compliance, and stimulate a desire to make sustainable changes in the home to reduce injury risk. A minimal risk falls study launched in 2015 randomizes participants to an intervention group using a permuted-block randomization scheme to study the benefits of utilizing simulation versus traditional, written education. Preliminary results show significant advantages to using simulation education including, but not limited to, 54% fewer people experienced a fall and 38% fewer fell at least once after discharge, and 82% made sustainable changes to their home environment.

THE OTAGO EXERCISE PROGRAM—RESULTS FROM 5 YEARS OF DISSEMINATION IN THE UNITED STATES

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The Otago Exercise Program (OEP) is an evidence-based fall prevention program designed to be delivered by physical therapists and physical therapy assistants in 6 visits over a year period. Though highly effective, the program has been challenging to translate for implementation in the United States (US) due to a myriad of regulatory and reimbursement barriers. Innovative delivery models have been developed and tested in the US which have proven to be highly effective and lower cost than the traditional OEP. Three models will be compared in this paper: 1) The OEP delivered over an 8 week period; 2) the OEP delivered by non-PT; and 3) The OEP delivered virtually using a Kinect camera and monitored remotely by a physical therapist. All three models have

demonstrated significant improvements in fall risk outcome measures. These innovative delivery models will be compared and contrasted for cost effectiveness and outcomes, and key characteristics of effective delivery sites will be presented.

ETHNICITY AND SOCIOECONOMIC STATUS AS PLAYERS IN COMMUNITY-DWELLING OLDER ADULTS' FALLS

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The United States is becoming older and increasingly diverse in cultures, languages and socioeconomic standing. However, providing culturally and linguistically adequate health promotion programs for ethnically diverse older adults remains a challenge. Research investigating the relationships between ethnicity, socioeconomic status and disease has been limited. This clinical demonstration project explored the relationship between falls and ethnicity and socioeconomic status in a group of community dwelling older adults in San Antonio, TX, using a culturally and linguistically adapted clinical video novela on fall prevention. The video, available in English and Spanish, was designed using quality indicators from the Assessing Care for Vulnerable Older Elders (ACOVE) criteria. Data were collected using pre and post surveys asking general demographic information, fall risk factors, general knowledge of falls and satisfaction with video. Zip codes were used as a proxy for socioeconomic status. Data were managed with REDCap and analyzed using the SAS V9.4 statistical software. 172 individuals attending different senior community centers and one clinic screened the video. 45.2% self-identified as Hispanic. 31 watched the video in Spanish. Significant relationships were found between mean household income and fear of falling ($\chi^2=11.92$, $df=3$, $p<0.05$), ethnicity and fall history ($\chi^2=8$, $df=1$, $p<0.005$), ethnicity and fall injury ($\chi^2=8$, $df=1$, $p<0.005$) and ethnicity and risk of falling ($\chi^2=11.15$, $df=1$, $p<0.001$). In conclusion, there are significant differences in attitude towards falling among Hispanic vs. non-Hispanic individuals and those from different socioeconomic levels. These differences must be considered when designing and implementing fall prevention education programs in the community.

IMPACT OF 25(OH)D AND FALLS ON OLDEST OLD SURVIVAL

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Introduction: Some factors that contribute to active aging can benefit the raising number of oldest old people. Vitamin D and life style have shown impact on functionality and mortality. Objective: Evaluating if 25(OH)D, outdoor activity time and falls are predictors of survival in independent oldest old. Methods: We selected 258 community-dwelling and independent elderly people with 80 years old or more. We evaluated the mortality through the death certificate or register in medical records from April 2010 to March 2016. During the survival analysis, we have used the models

of Kaplan-Meier and Cox. Results: Around 70.5% were women between 80 to 89 years old (80.2%), 38.8% had daily sunlight exposure superior to 15 minutes and 20.1% were chronic fallers. Regarding 25(OH)D, 9.3% had serum levels < 10ng/mL, while 76.4% between 10–30ng/mL and 14.3% showed values > 30ng/mL. During the observational period, 65.9% of the old oldest have stayed independent, and 17.1% have deceased. The analysis of survival time have shown that men (HR=2.7, $p=0.003$), over 90 years old (HR= 4.12, $p<0.001$), with levels of 25(OH)VitD inferior to 10ng/mL (HR=3.2, $p=0.004$) and chronic fallers (HR=1.97, $p=0.042$) have shown a lower survival in comparison to the other oldest old. Conclusion: This study has identified a profile of oldest old more susceptible to a higher risk of death.

SESSION 1015 (POSTER)

FAMILY AND INTERGENERATIONAL RELATIONSHIPS III

ENTERING OR EXITING GRANDCHILD CARE DURING THE ECONOMIC CRISIS IN THE U.S.

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Family members experience role-based household relationships as sets of resources and demands, including time, money, skills, and attention. Grandparents have resources; and family members have demands. Balance between resources and demands affect the care they are able to provide and the care that adult children and their grandchildren would need. However, less is known about the predictors of transitions entering into and exiting the roles as grandchild care during the economic downturns such as the Great Recession. Using the three waves from the Health and Retirement Study 2006–2010, data is drawn from 12,753 respondents in 2008 (Wave 9) with at least one living grandchild with a parent. Using the logistic regression, total 33,802 grandparent-parent relationships clustered within multigenerational families were examined in this study. Findings show that entering childcare occurs in hard times especially when adult-children's demands exceed grandparents' resources. At the economic recession, grandparents are most likely to enter the roles as grandchild caregivers because of adult children and their families' needs arise. Grandparents are valued resources for adult children who are in needs of childcare services and economic assistance.

CARING FOR AGEING PARENTS—GENDER INEQUALITIES IN A GENDER-EQUAL WELFARE STATE?

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Norway, together with the rest of Scandinavia, is often seen as a vanguard with regard to changing gender roles. In the last decades, an important goal has been the dual earner/dual carer model. However, politics have been targeted couples with young children. Adult children's care for older parents has received limited attention, and recent Norwegian research has documented substantial gender differences in allocation of public help depending on both parents' and

their children's gender. Here, we address provision of care to parents among adult children in Norway, by taking account of both parents' and children's gender. We ask to what extent the degree of parental needs impact on sons' and daughters' care provision, and whether there are signs of more care involvement among more modern (gender equality oriented) men compared to more traditional men. The analyses are based on data from the Norwegian Life course, Ageing and Generation Study (N=14,884). The results show that sons are more inclined to help, but only as long as their parents are not in need of care. When parents, and mothers in particular, need help, daughters are more involved, and with increasing needs, gender differences become more and more marked. So far, there are no signs of a more caring son among modern men. The findings indicate that the gender equality debate needs to move beyond the early family years and care for children, and address division of care provision among adult children when ageing parents' become in need of help.

RECONCILING INTERGENERATIONAL AMBIVALENCE AND ONWARD TO INTIMATE JAPANESE AND KOREAN FATHERING

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This research analyzes the process by which intimate fathering is established among Japanese and Korean men. Due to globalization, new ideals of fatherhood are challenging traditional paternal roles in Japan and South Korea. Contemporary fathers striving to emulate more engaged parenting often wrestle with painful recollections of their own fathers' stern, distant, and patriarchal approach. How do men reconcile their aspirations for their own development as parents with their often-conflicted relationships with their fathers? Motivated by the concept of intergenerational ambivalence and social construction of masculinity, this study analyzes how Japanese and Korean participants of an international men's movement called Father School, craft a new fatherhood less tethered to breadwinning and distant patriarchy. With Father School guidance, men practice intimate fathering and adopt a life course frame that allows them to reconcile their mixed feelings toward their fathers. Based on the ethnographic study of multi-week seminars in the US, South Korea, and Japan, I illustrate the processual mechanisms that enable adult men to reconcile their ambivalence toward their adult fathers and practice a more contemporary fathering approach in their families. My analysis points to letter writing to adult fathers, affective family bonding practices, and small group confessional activities, as core processes that structure reconciliation and paternal change.

FORMAL CARE USE IN OLDER AGE: THE ROLE OF MARITAL TRANSITIONS

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When individuals need care, spouses are only second to adult children in care provided (AARP, 2015). Thus, marital transitions in later life may prompt changes in formal care use. But work that examines marital status and formal care uses cross sectional data without examining marital transitions as they unfold. We employed longitudinal data from

6 waves (2002–2012) of the HRS ($N = 8,160$) to examine whether changes in marital status (i.e., transitions to marriage, widowhood, or divorce) occurring in later life are associated with formal care use (i.e., home healthcare, hospital visits, doctor visits). Multilevel analyses were conducted in SAS. Level 1 variables (time-varying) included marital transitions, income, and outcome variables. Level 2 (time invariant) variables included race, gender, age, baseline marital status, and number of divorces, marriages, and times widowed at baseline. Only final models and primary IVs are presented. Transitions into divorce were not associated with immediate or longterm changes in outcomes. Respondents who married over the course of the study had a decreased likelihood of using home health care ($OR = 0.74, p = .049$) and reported more hospital visits ($\beta = 0.10, p = .049$) – these effects occurred in the wave immediately following marrying. Respondents who transitioned into widowhood experienced increases in number of doctor's visits ($\beta = 0.48, p = 0.002$) – this effect occurred over time, not immediately. These results emerged while considering marital status and marital histories at baseline and provide evidence of the impact of marital transitions on formal care use in later life.

WITHIN-FAMILY DIFFERENCES IN LIVING PROXIMITY AND INTERGENERATIONAL SUPPORT: IMPLICATIONS ON OLDER PARENTS' HEALTH IN CHINA

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Research on the impact of living proximity on children's provision of support in Chinese families has been based on cross-family designs. Recent studies of western families have shown significant within-family differences in intergenerational support. Taking the within-family differences approach this paper uses data from the China Health and Retirement Longitudinal Study (CHARLS, 2013) to examine how children's relative living proximity to older parents compared to that of their siblings influences their support to parents. Results suggest that sibling children at different living distance to parents coordinate/cooperate in elderly support. Children who live relatively farther among siblings provide the highest level of economic support but have the least contact with parents. While living closer to parents among siblings is associated with the most frequency contact with parents and the lowest level of economic support. These patterns differ between rural and urban parent-noncoresident child dyads, and are also moderated by parents' living arrangement, the gendered division of elderly support, and the reciprocity between parents and children. The effect of non-coresident children's relative proximity on provision of economic support is less prominent if urban parents live with sons. Rural daughters' provision of economic support is less affected by their relative living proximity to parents than rural sons' and differences in intergenerational contact associated with children's relative living proximity to parents are smaller for all daughters than for sons. Furthermore, differences in children's provision of economic support associated with their relative living proximity are larger if rural parents have provided grandchild caregiving for children.

DOES LIVING WITH UNMARRIED ADULT CHILDREN THREATEN MARITAL RELATIONSHIPS OF ELDERLY KOREAN COUPLES?

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Coinciding with the global economic crisis, the age at first marriage in Korea has been delayed. Traditionally, the independence of adult children away from parents has been expectable mainly when they get married, thus, it would mean that for the elderly parents to live with their adult children will also be anticipated to extend. This study aims to investigate whether co-residence between adult children and older parents disrupts the quality of marital relationships for elderly parents in Korea. Using quota sampling in terms of living arrangements (living together vs. living apart), 500 elderly parents, having at least one unmarried child aged 35 years old or above, were selected in Seoul, Korea in June 2016. The quality of marital relationships as a dependent variable was measured with four concepts: marital satisfaction, marital intimacy, marital consensus, and marital conflict. Co-residence of parents with adult children as an independent variable was measured with a binary variable. Regular financial support for adult children and socio-demographic variables were controlled. Findings from a series of OLS regression models and the ordered logit model show that parents living with adult children were less likely to report satisfaction, intimacy, and consensus in their marital relationships than those who living apart from their adult children, holding financial dependency of the child fixed. However, co-residence with unmarried adult children was not positively associated with marital conflicts between the elderly couples. The present study has implications for the marital relationships of elderly Korean couples by boomerang and/or failure-to-launch families.

DOES CLOSENESS MATTER?: PARENTS' EXPERIENCES WITH CHILDREN SUFFERING PROBLEMS AND DAILY WELL-BEING

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Research has established associations between children's problems (e.g., divorce, major health problem, addiction) and parents' well-being. Yet, few studies have examined whether parents' closeness to a child with these problems accentuates the effects. The current study assessed aging parents' everyday experiences with grown children who were incurring life problems. We asked whether feelings of closeness to the child moderated effects of daily experiences on the aging parents' daily mood and physical symptoms. Data were from *The Family Exchanges Study* wave 2 conducted in 2013. The sample included 207 parents ($Age = 79.86$) who reported during seven days on experiences including pleasant encounters, stressful encounters, and stressful thoughts about the adult children. Parents also reported their mood (positive and negative affect) and physical symptoms each day. Multilevel logistic regression models showed that

parents were more likely to have pleasant encounters and less likely to have stressful thoughts about problem children with high closeness than problem children with low closeness. Yet, parents' stressful encounters with problem children who were closer to parents did not differ significantly from the encounters with problem children who were less close. Further, multilevel regression models revealed that pleasant encounters and stressful thoughts about problem children with high rather than low closeness were associated with parents' better mood and fewer physical symptoms. Overall, findings suggest that lack of closeness may especially exacerbate the negative effects of offspring's problems on parents' well-being.

TRANSNATIONAL FAMILY SUPPORT EXCHANGES: AN EXAMINATION OF STRESS AND HEALTH STATUS

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Increasing longevity and rapid globalization have spawned the emergence of transnational families. Over the past forty years, aging research has repeatedly demonstrated that caring for an older person may affect the health and well-being of the provider. While providing support long-distance within a country is itself stressful, transnational support involves the additional challenges of distance, visa, travel expenses, cultural expectations, different circumstances, and different types of resources.

The challenges of providing transnational support carry implications for the health and well-being of both the elderly parents and adult children residing in two different nations; however, migrants and their families are said to also experience care provision stress. Using data gathered from an online survey of 129 Asian Indian adults living in the USA who have an elderly mother living in India, a comparison between maternal health status and adult offspring health status as well as self-reported stress levels by the support provider was examined. The correlation between maternal health status and adult offspring was not statistically significant. However, findings show that marital stress was the highest ranked stressor, followed by guilt experiences, and time difference between the two nations. The risks to the physical and mental health of immigrants who provide transnational support to elders are varied and multifold. Results facilitate our understanding of how health care provision strategies are maintained, modified, and generated in transnational exchanges. Examining these transnational support experiences may help us generate policy to mitigate the health risks and stressors that these immigrant adults may face.

CORESIDENCE, GEOGRAPHIC PROXIMITY, AND SOCIALLY PRODUCTIVE ENGAGEMENT AMONG OLDER KOREANS

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The study investigates the relationships between living arrangement of older Koreans and the engagement in socially productive activities (attending classes, social clubs, volunteering, joining NGOs and interest groups). Literature based on western contexts emphasizes that the individual resources, including education and socioeconomic status matter to the engagement. We argue that such a framework needs to add

the intergenerational solidarity into consideration in East Asia where older adults' social life is closely embedded with intergenerational relationships. Two hypotheses are tested: (1) Family norm hypothesis- older parents who live with their children would be more likely to engage in socially productive activities. The reason is that living with children is the late-life ideal and hence they would be more likely to develop their social circles in such living arrangement. (2) Assistance hypothesis- older parents who live with children are less likely to engage in socially productive activities than those who do not because it means that older parents need assistance due to health decline. The empirical examinations are based on two waves of Korean Longitudinal Study of Ageing (KLoSA) (n=7,869). The preliminary findings based on Wave 1 show that older adults whose children stay nearby are more likely to engage in activities than those who live with children while controlling for education, marital status, gender, mental health and disabilities, supporting the second hypothesis. The next step is to apply random effect estimations based on two waves in order to test whether when changes of living arrangement affect the engagement in activities.

THE CHANGING LANDSCAPE OF LATE-LIFE INTIMACY IN MODERN SWEDEN—A NATIONAL PORTRAIT

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This paper focuses on union form in cross-gender relationships in later life, against the background of the transformation of intimacy in late modernity. Results are based on a survey to 60–90 year old Swedes (n=1225; response rate 42%) and European census data. Sweden seems to be the only country where there are more divorced than widowed people in this age group. Almost 1/3 of Swedes, aged 60–90, categorized as singles by official Swedish census data on civil status, are in fact living as LATs or cohabitants. In new romantic relationships initiated 60+ the dominant union form is LAT (70%) followed by cohabitation (26%), while marriage is rare (4%). Less than 2 in 10 singles think that is important to be married – and among marrieds less than 8 in 10. Relationship history data shows that although half of the respondents have been married only once, one third (33%) have had 2+ cohabiting unions (marital/non-marital), half (46%) 2+ established relationships, and a majority (66%) 3+ sexual partners. The results indicate that the transformation of intimacy includes older Swedes. Discussion: Should we see older people as a vanguard in the exploration of late modern intimacy, rather than carriers of cultural lag?

SESSION 1020 (POSTER)

GAIT

ANKLE STRENGTH AND GAIT DYSFUNCTION IN AGING PATIENTS

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Gait dysfunction in aging patients is often multi-factorial and unfortunately, ankle strength is infrequently measured. In our Balance Center we evaluated 13 females and 15 males, mean age 79.6 years, range 62–99. All had co-morbidities but primarily balance dysfunction, unsteady gait and some falls. Dysmobility and loss of balance can occur in any direction. The ankle contacts the ground first and gives critical proprioceptive and kinesthetic sensory information. Dorsiflexion (DF), Plantar Flexion (PF), Eversion (EV) and Inversion (IN) muscle strength was measured with a hand-held dynamometer and calculated as a percentage of body weight.

The purpose of this study was to compare ankle strength in the patients with a control group without gait dysfunction which included 6 females and 4 males, mean age 75.3 years.

The percentage of DF/PF strength was statistically significantly less in the patients, 13.4% versus 28.7%. The percentage of EV/IN was also statistically significantly less in the patients 13.2% versus 4.5%. Our patients with gait dysfunction were slightly more than 2 times weaker for DF/PF and almost 3 times weaker in EV/IN compared to controls.

For EV/IN, 29% of the patients, but no control subjects, generated less than 5 pounds of force. Clinically, this medio-lateral weakness appeared to be a motor control problem because many of the patients did not know how to evert or invert the ankle and they lacked the kinesthesia.

In conclusion, our results indicate ankle weakness especially in the medio-lateral directions may be a factor in gait/balance dysfunction and falls.

GAIT SPEED AND MORTALITY IN OLDER ADULTS: WHY TIMING MATTERS

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Recently, an emerging body of literature has indicated a strong association between poor gait speed and mortality. However, these studies have several methodological limitations. Based on secondary analysis of data from existing longitudinal studies of aging, they generally measure gait speed at a single time point and use this time point as the time origin in assessing the association between gait speed and survival over several years. The objective of this study is to estimate the association between gait speed and mortality, using a meaningful time axis, and accounting for the time-varying effects of other health characteristics. The study is based on data from the Cardiovascular Health Study, a study of 5,201 individuals aged 65 years and over, with annual measurements of gait speed and several covariates over a period of 10 years. Using age rather than time-on-study as the time-axis, I apply a time-varying Cox model to estimate the independent effects of gait speed on mortality, while accounting for the effects of health characteristics, including depression, cognitive function, and chronic disease. For comparison, I provide estimates of models where variables are treated as time-fixed. Overall, I found that the time-varying measure of gait speed yields a stronger association with mortality compared to the time-fixed measure. Furthermore, the control for health and lifestyle factors attenuates the association in women, but not in men. Using time-varying measures of gait speed and controlling for health and lifestyle confounders

provides a more meaningful estimate of the association between gait speed and mortality.

CURVED-PATH WALKING: WHEN VARIABILITY IS GOOD

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The Figure-of-8 Walk test (F8W), a measure of walking skill, incorporates both straight and curved paths. While gait variability during straight-path walking is associated with adverse outcomes, variability during curved-path walking is critical for efficient turning. We examined variability of step length (SLV), step time (STV), and stride width (SWV) during F8W and expected greater variability in those with better motor skill.

Thirty-two older adults (mean age 72.1 ± 9.3 yrs) completed the F8W (walking a figure-of-8 around two cones 5 feet apart) on an instrumented walkway. Gait measures were: 1) variability, standard deviations of SLV, STV, and SWV, 2) F8W number of steps and time to complete, s. We examined differences in variability by skill group using ANOVAs (F8W time ≤ 8 seconds (F8H, high skill), F8W time > 8 seconds (F8L, low skill)). Correlations (*r*) adjusted for speed were used to examine associations between F8W and variability.

Motor skill groups differed for SLV (SLV: F8H = 22.2, F8L = 18.2, *p* = .024) and SWV (F8H = 23, F8L = 17.2, *p* < .001); no group differences for STV. Variability measures related to curved-path walking ability, F8W time (SLV, *r* = -.40, SWV *r* = -.70, STV *r* = -.51), and number of steps (SLV, *r* = -.42, SWV *r* = -.80, STV *r* = -.60).

Better motor skill in walking is associated with greater spatial variability. Individuals with better curved path walking ability (F8W time) are able to actively adjust spatial parameters for the walking task. Rehabilitation should include practice of curved paths and experience in active adjustments of step length and width.

LOW TEST-RETEST RELIABILITY OF GAIT VARIABILITY: AN INDICATOR OF POOR MOBILITY AND BALANCE?

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Test retest reliability of gait variability is less than ideal, i.e. ICC < 0.70. Low test-retest reliability or inconsistency of gait variability may be an indicator of impaired mobility, balance and overall health of the older adult. Our purpose was to examine the association of inconsistency of step time variability to mobility, balance and health in older adults. Participants included 46 community dwelling older adults who could ambulate independently (mean age = 78.09 years, SD = 6.2). Gait characteristics were measured twice, one week apart, using a computerized walkway. Step time variability (STV) was the standard deviation of the step times for all steps recorded during one session. Mobility, balance and health were measured during the first session using gait speed and global questions of mobility, balance, health and vigor. Using the difference of the STV measures from sessions 1 and 2 two groups were created: 1) inconsistent (IN, *n* = 14), STV

difference from session to session $> 0.013s$, 2) consistent (CN, $n=32$) STV difference from session to session $< 0.013s$. Differences between groups were determined by independent t-tests and Chi-square. IN compared to CN, walked slower (0.83 vs 1.01 m/s) and was less likely to report good or better mobility (36% vs 78%) and balance (21% vs 63%), all p 's < 0.05 . Overall health and vigor were similar between groups. Inconsistency in step time variability from week to week in older adults may not be due to measurement error, but may actually be an indicator of impaired mobility and balance.

INHIBITION, PROPRIOCEPTION AND STEPPING PERFORMANCE: IS THERE A SPECIFIC RELATION IN OLDER ADULTS?

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The perceptual inhibitory process has been suggested to be specifically involved in the integration of proprioceptive information that is necessary for an efficient postural performance in older adults. This ongoing study aimed to investigate the perceptual and motor inhibition requirements of planning and executing a choice step initiation task in young and older adults following experimental perturbation of proprioceptive information using bilateral Achilles' tendon vibrations. Two groups ($n \sim 50$ each) of young adults (range age 18–30 years), and healthy older adults (> 65 years of age) were asked to perform an inhibitory stepping reaction time (RT) task in which the participants had to step as quickly as possible in response to visual arrows that manipulated specific perceptual or motor inhibition, in two conditions: with or without vibrations. The preliminary results (up-to-date $n \sim 10$) showed that the vibrations induced higher RT performances irrespective of the perceptual or motor inhibition demands. Any specific role of the perceptual inhibition into the processing of proprioceptive inputs needs to be confirmed in healthy older adults. Compared to younger adults, older adults have greater variability in step behaviour, with longer total stepping time, when using localized vibrations in conditions requiring inhibition. More participants continue to be included to determine robustly whether modulating afferent proprioceptive inputs and inhibition are two processes that share, at least in part, the same cognitive resources in older adults, while executing a choice step. But the current results validate the view that inhibitory process is a core executive function of dynamic postural control.

NEUROMOTOR CONTROL, AGING AND EVERYDAY WALKING

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Neuromotor control and efficiency of walking is represented in the optimal relationship between step length and cadence (walk ratio, WR). Aging results in suboptimal WRs and inefficient walking. In older adults, we explored the neuromotor control of usual walking, WR, and motor skill in usual (gait variability) and curved path walking (Figure-of-8 walk, F8W). Older adults ($n=82$, mean age 74.9 yrs. ± 7.5)

participated. Walking measures derived from an instrumented walkway: 1) WR, step length (m)/cadence (steps/min), 2) gait speed, cm/s, 3) gait variability, standard deviations of stance time (STV, s), step length (SLV, cm), and 4) F8W time, s, and number of steps to complete. WR categories were defined by distance from optimal range (WRo = optimal, WR1 = sub-optimal, WR2 = most suboptimal). ANOVAs were used to compare mean variability and F8W time and steps across WR categories, with test for trend (p_{trend}). The F8W time and steps increased, and usual speed decreased across WR categories (F8W time, s: WRo = 7.7, WR1 = 9.2, WR2 = 10.7; F8W steps: WRo = 13.7, WR1 = 15.2, WR2 = 18.1; speed, cm/s: WRo = 116, WR1 = 106, WR2 = 90; all $p_{\text{trend}} < .001$). Variability did not differ across WR categories (STV, s: WRo = 0.03, WR1 = 0.03, WR2 = .04; SLV: WRo = 3.4, WR1 = 3.0, WR2 = 3.6, $p_{\text{trend}} = .145$, $p_{\text{trend}} = .400$, respectively). Neuromotor control in walking is important for the adaptability needed to switch between straight- and curved-paths, typical of everyday walking.

INCREASED DIFFICULTY OF DUAL-MOTOR TASKS EFFECTS STEP LENGTH IN YOUNG AND OLDER HEALTHY ADULTS

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Many adults have difficulty doing two things at once, especially walking and completing another motor task. In older adults, this could lead to a fall. Further, falls during walking have been associated with changes in gait variability or the natural stride-to-stride fluctuations while walking. The aging process contributes to a more variable gait cycle, which contributes to falls, and has been used to predict falls occurrence. This project investigated the effect of task difficulty during dual-motor tasking on gait variability in young and older healthy adults. Fifteen young adults (20.6 ± 2 years, 167.4 ± 6.5 cm, 65.0 ± 5 kg), and five older adults (72 ± 3 years, 169.2 ± 13.3 cm, 68.7 ± 10.9 kg) completed a series of dual-task conditions, $3\frac{1}{2}$ minutes each, where the opaqueness of the tray and/or the amount of water in glasses on top of the tray (task difficulty) varied while walking on a self-paced treadmill. For each condition: sample entropy was calculated on step length, step time and step width. Older adults showed significantly less repetitive step length values than young adults ($p=0.04$). Step length was less repetitive during baseline walking as compared to conditions in which vision or task difficulty was altered (p 's = 0.005, 0.021, 0.006, $< .001$ respectively). Larger sample size may help increase the significant differences between groups: trends suggest that a secondary motor task impacts step length in both populations. Older adults were impacted to a greater extent suggesting a more variable, less repetitive gait, consistent with previous literature in prediction of falls.

ROAD NETWORK HILLINESS AND DEVELOPMENT OF WALKING DIFFICULTIES AMONG COMMUNITY-DWELLING OLDER PEOPLE

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Aims: To study associations between objective road network hilliness and development of walking difficulties (WD) within two years, and to examine how hilliness as a perceived barrier and frequency of moving through the neighborhood affect to this.

Methods: Prospective analyses of community-dwelling 75-90-year-old people without any WD at baseline and living at the same address throughout the 2-year follow-up (n=546, 59% women). The average slope in the road network within 500m distance from home was defined using GIS (range 2.7–11.2%). Self-reports of hilliness as perceived barrier for outdoor mobility (yes/no) and frequency of moving through the neighborhood (0–3 / ≥ 4 times a week) were collected at baseline, and WD over 500m (yes/no) at baseline and follow-up. Logistic regression analyses were adjusted for age, gender, number of chronic conditions, years of education, years in current address, and length of road network.

Findings: Of the participants 18% perceived hilliness as a barrier, 15% moved through the neighborhood 0–3 times a week, and 15% developed WD over the 2-year follow-up. Higher road network slope increased the risk for developing WD (OR=1.22, CI 1.01–1.48). Hilliness perceived as a barrier (OR=1.51, CI 0.84–2.74) and frequency of moving through the neighborhood (OR=3.41, CI 1.94–6.02) attenuated the association between the road network slope and WD (OR=1.21, CI 0.995–1.47).

Conclusions: Hilliness perceived as a barrier and frequency of moving through the neighborhood partly mediate the association between objective road network slope and WD. Further study is needed to determine how hilliness affects behavior and consequently the development of WD.

EFFECTS OF VIRTUAL UPHILL WALKING ON ENERGY EXPENDITURE AND LOCOMOTOR-RESPIRATORY COUPLING

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Uphill walking becomes more difficult with age due to physiological changes. Aerobic respiration which increases to meet the increased energy demand becomes limited. The link between our movements and breathing that maximizes economy is termed locomotor-respiratory coupling (LRC). This project expands on previous LRC research using incline as the independent variable instead of walking speed. Virtual reality also provided level or uphill environments to see if vision could alter energy expenditure and LRC. Participants, 4 older adults (69 ± 3.6 years, 160 ± 12.4 cm, 61.3 ± 11.6 kg) and 10 younger adults (22.5 ± 1.2 years, 175.2 ± 8.0 cm, 77.9 ± 9.0 kg), walked on a treadmill that was either level (0%-grade) or inclined (10%-grade) while paired with level or inclined virtual reality. A baseline condition (level walking with no virtual reality) and an oscillating condition (level walking with sinusoidal level-uphill virtual reality) were also included. Average energy expenditure was used to quantify the energy requirement and cross recurrence quantification analysis (cRQA) was used to quantify LRC. Although not significant, energy expenditure decreased with the addition of virtual reality for the older group, while it increased for the younger group and while energy expenditure was similar

for all level conditions, the older group used less energy for inclined walking. Additionally, older adults always required a larger radius for cRQA ($p=0.032$) and cRQA's max line, mean line, and entropy may become significant with a larger sample size as they were always lower for the older group. Older adults exhibited less coupling, yet required less energy during uphill walking than younger adults.

EFFECT OF MOTOR-COGNITIVE TRAINING ON POSTURAL CONTROL OF ELDERLY: SYSTEMATIC REVIEW

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Objective: To analyze the effectiveness of motor-cognitive training on postural control of elderly people. **Methods:** We conducted a search in the databases PubMed and Web of Science, considering the period of 2011 to 2016, using the strategy: ("aged" OR "elderly" OR "older adult" OR "older people" OR "older person" OR "geriatric" AND "dual task" OR "dual-task" OR "dual task training" OR "dual tasking" OR "dual task elderly" OR "dual-task training" OR "cognitive engine" OR "cognitive-motor" OR "dual task cognitive engine" OR "motor cognitive dual task" OR "multi tasking" OR "multi-task"). We selected randomized clinical trials (RCTs) that used motor-cognitive training to improve postural control of elderly people. Papers not available in full in the collection of on-line journals USP Library, duplicates and studies that did not assess the static or dynamic postural control were excluded. **Results:** The search strategy result in 15 studies (122 in PubMed and 93 in the Web of Science). It was selected 12 studies. Most articles demonstrated superiority of different types of cognitive-motor training (CMT) compared to isolated training to improve postural balance and temporal gait parameters, with and without dual task. Training once a week demonstrated positive effects on the march, but long-term training attenuated the decline in physical function of older people in many ways. Adherence for cognitive training improves executive function, especially when management tasks. The incidence of falls and fractures reduced one year after training. **Conclusions:** The motor-cognitive training improves postural control, cognition, quality of life and reduces falls of elderly people.

SESSION 1025 (POSTER)

HEALTH AND SOCIAL SERVICE ASSESSMENTS AND INTERVENTIONS

PROMOTING THE HEALTH OF RURAL CAREGIVERS THROUGH THE CAREGIVER LITERACY SERIES

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Repeatedly as multidisciplinary professionals we are concerned about the individual patient we serve – especially as we consider their cognitive and neurological needs. The Caregiver Literacy Series, is a series of ten specific modules designed to enhance the coping of the caregiver and family members through scientific and educational resources. Four specific therapeutic workbooks and accompanying

CDs provides an overview of information about the specific neurological and biological aspects of the dementia disorder and how these aspects affect the individual's behavior. The series designed through the use of the Self Efficacy Model (Bandura, 1968) and Prochaska and DiClemente's Stages of Change (1988) theoretical frameworks has demonstrated some positive impact in improving one's understanding of the illness, decreasing caregiver burnout and improving depression levels for users. The efficacy of these educational tools was measured by various psychometric scales including the Care giving Burden scale, Compassion Fatigue and Satisfaction Scale and Center for Epidemiologic Study Depression Inventory. Some of the educational module topics include *Understanding the Care giving Role; Care giving and Depression; Care giving and People with Alzheimer's Disease; Care giving and People with Behavioral Issues*. This presentation will showcase the specific modules of the series related to Alzheimer's Disease, and showcase data on the efficacy of this intervention in a rural population of caregivers meeting the needs of their loved ones advancing in age. Qualitative and qualitative results suggest that these tools provide both information and respite to the potentially isolated caregiver and aids in the coping process.

FROM PASSIVE CARE TO ACTIVE CARE: PROMOTING SENIORS' HEALTH WITH HOME CARE AIDES

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As aging societies strive to strengthen home and community-based services systems, home care aides (HCAs), also called personal care assistants, play increasingly important roles for frail older adults. In the current home care paradigm of "passive care", HCAs provide prescribed help with daily activities, rather than actively stimulate older clients' reserves to maintain independence. To innovate home care practice, we piloted a safe, low-cost physical activity program delivered by HCAs for older adults in a Medicaid-funded home care setting in the United States. HCAs were trained to deliver a brief motivational enhancement and three chair-bound movements to motivate their clients to do physical activity daily and help maintain their independence. Mixed methods were used to evaluate the 4-month intervention. Survey data showed significant improvement in clients' function to perform daily activities targeted by the intervention ($p < .01$) as well as in clients' physical performance tests and other outcomes such as reduced interference with daily activities due to pain and fear of falling. The program was well-received by home care clients ($N=54$) and their HCAs ($N=46$) as indicated by the high retention rates and by remarks provided by clients and their HCAs. Building physical activity into the everyday care of older adults and the routine job of HCAs is feasible. The promising results urge a cultural shift in home care towards an active service model in which home care aides and their clients work together on a safe, simple physical activity program to maintain or improve function to remain in the community.

SCREENING OLDER ADULTS FOR FOOD INSECURITY DURING CHECK-UPS: WHAT DO HEALTH PROFESSIONALS THINK?

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Food security screening is becoming increasingly common at well-child visits in the U.S. Systematic screening of older adults for food insecurity is much less common, despite increasing rates of food insecurity among seniors and the significant impact of food insecurity on health outcomes and chronic disease. Our study sought to understand health professionals' attitudes and beliefs about food security screening and referrals for older adults and barriers to implementation. We conducted 20-minute telephone interviews with a diverse group of health professionals ($n=16$) who are currently seeing older patients and do not currently screen for food insecurity in routine practice. Overall, those interviewed recognized the importance of good nutrition and food security for older patients and did not think a 2-item screener would be difficult to administer in routine practice. Three major challenges were identified: limited time available to meet with patients, a lack of resources available to address food insecurity when it is identified, and prioritizing food insecurity at both the health system and the patient levels, when competing interests such as billing and required screenings or chronic conditions and other social needs are present. Primary care practice may be one place where food insecurity among older adults can be identified and seniors referred to appropriate services and supports to enhance positive health outcomes and encourage management of chronic diseases. While community services are a critical piece in the referral process, health systems and insurers may consider ways to seamlessly integrate screening and discussions with patients around food insecurity.

EFFECTS OF EMPATHY CLUBS ON HEALTH CARE AMONG HIV-AFFECTED GRANDPARENT-HEADED HOUSEHOLDS IN VIETNAM

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In areas of Vietnam with high rates of HIV/AIDS, Empathy Clubs (ECs) have become interventions for grandparents raising grandchildren. ECs offer psychosocial care and knowledge of community resources, such as healthcare events. This mixed methods study aimed to 1) explore the factors influencing health care for grandparents and grandchildren and 2) understand the differences in health care access between grandparents in ECs and those who are not. The research team interviewed 30 grandparents raising grandchildren in urban and rural areas of Hai Phong, Vietnam. Fifteen of the grandparents were involved in ECs and fifteen were not. The grandparents completed the Access to Healthcare Scale and a qualitative interview. The results showed a statistically significant difference between the two groups $t(2)=6.53$, $p=0.04$ and indicated that EC membership contributed to free healthcare for grandchildren. 73% of the EC group had free healthcare for their grandchildren compared to 26.6% of the non-EC group. The study found that ECs were most successful in terms of HIV testing for grandchildren. 100%

of the grandparents in the EC group had their grandchildren tested, whereas only 40% in the non-EC group had their grandchildren tested. Qualitative findings indicated that both groups of grandparents were not accessing healthcare services to address their significant health needs. The majority of the grandparents experienced barriers such as limited or no health insurance, physical health problems, poverty, and stress. Attributes that improved health among the grandparents included access to community health events, HIV testing, social support through ECs, resilience, and sacrifice.

COMMUNITY COMPREHENSIVE GERIATRICS ASSESSMENT WITH SERVICE DEVELOPMENT IN CAMBODIA

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Cambodia is a health poor country with health expenditure 5.68% of GDP in 2014 according to the WHO, with an ageing population. In the 2008 census, 6.34% of the population were over 60, rising to 11.1% predicted by 2030. At present there are no focused services existing in the country to care for the complex and specific health needs of older people and very little in terms of expertise.

A consultant geriatrician from the UK and a Cambodian social worker, undertook comprehensive geriatrics assessment (CGA) in the community, identifying and assessing older people for their health, financial and social needs. We studied 38 older people age 59 to 92 over a 4 month period in 3 semi-rural villages in Siem Reap province.

Many of the health needs in older people in Cambodia are very similar to those recognised in developed countries, such as cardiovascular disease, diabetes, incontinence, dementia and poor mobility. For example, of the 38 surveyed 29% suffered from severe incontinence affecting quality of life, 34% had difficulty using their squat toilet, 68% had problems with their vision and it was considered that 37% would benefit from a physiotherapist.

The service that was developed involved a trained social worker co-ordinating access and transport to health services that already exist, provision of equipment, expertise in physiotherapy, nutritional support and financial assistance when required.

We produced a simple, reproducible, cost-effective model to deliver basic health and social care support to older people in a developing country with an ageing population.

QUALITY ASSESSMENT OF ELDERLY LIFE OF COMMUNITY DWELLING PROJECT IN RIO DE JANEIRO, BRAZIL

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Currently, Brazil has 23% of its population consisting of elderly. Seeking better health conditions and quality of life, the participation and social support networks are the focus of gerontology. The Community Dwelling Project for the Elderly of the Municipal Secretariat of Active Ageing, Resilience and Care (SEMEARC) of Rio de Janeiro City Government gives users a space of coexistence and social integration through

various activities. The objective was to evaluate the quality of life of elders in the program. We conducted an exploratory, transversal and descriptive quantitative research. The sample consisted of 113 women aged 73.05 ± 7.50 . To measure the quality of life, WHOQOL Bref and WHOQOL – Old were used. The results for the WHOQOL-BREF point to Global Life Quality with 71.8%, the highest score in the psychological domain with 74.7% and the lowest score in the environmental domain with 66.3%. As for the results of the WHOQOL-OLD, they indicate a total average score of 73.95%. The sensorimotor functioning facet had the highest average score 81.58%, showing good sensory performance. However, the death or die facet obtained the lowest average 67.48%, showing that there is a need to broaden the discussion on finitude. It is concluded that the Community Dwelling Program helps to raise self-esteem and improve the quality of life of elderly, demonstrating itself to be an efficient public policy for the elderly population of Rio de Janeiro.

MERGING HEALTH CARE WITH SENIOR HOUSING: A PROCESS EVALUATION

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This paper reports the results of a case study on a successful partnership between a large health care organization and housing for seniors that resulted in lower emergency room visits and hospitalizations. The program provides on-site, primary care visits by a physician and a nurse in addition to intensive social services to residents in an affordable senior housing apartment building located in Pennsylvania. Using Avedis Donabedian's "Structure-Process-Outcome" model as a theoretical framework, this study sought to provide guidance for replication in similar settings.

With program structures in place and outcomes measured, this case study collected and analyzed qualitative information taken from program documents and key informant interviews on care processes involved in the program.

Qualitative analysis identified common processes across respondents; however, the nuanced processes that lead to successful outcomes suggest that defined structures and processes may not be sufficient to produce similar outcomes in other settings. Further research is needed to determine the program's replicability and policy implications.

HEALTH LITERACY AMONG KOREAN ADULTS AND KOREAN IMMIGRANTS IN THE U.S.

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Background: Health literacy is necessary to understand health information and make appropriate decisions regarding one's health. Largely influenced by cultural setting as well as age, to date no study has compared age-specific health literacy between immigrants and people from their home country.

Objective: This study aims to investigate (1) the health literacy level of Korean citizens and Korean immigrants in the United States (U.S.) and (2) factors that influence health literacy across three age groups (20–44, 45–64, and 65 and older).

Methods: A quota sampling method was used to collect cross-sectional survey data from 404 Korean participants

and 404 Korean immigrants. The Korean Participants' data were collected from February to March 2014 and data of Korean immigrants in U.S. were collected in 2009. Andersen's behavioral model, with its three components of predisposing, enabling, and need factors, was used as the theoretical framework for this study.

Results: Korean participants had a higher mean score on health literacy than did the Korean immigrants. Only one of predisposing (gender) and enabling factors (education) were significant variables influencing health literacy in Korean immigrants, while several predisposing (gender, employment, religion, and economic status), enabling (education and frequency of doctor visit) and need (frequency of doctor visit) factors were significantly associated with health literacy in Korean adults. These results were different from the three age groups.

Conclusion: Our findings indicate that Korean adults in both countries need to have a community-based health literacy educational program that is tailored to the needs of each age group. This age-specific and geographically competent intervention program will eventually reduce the health disparity disproportionally experienced by these at-risk populations with low health literacy.

“WHAT’S PAST IS PROLOGUE:” FINDINGS FROM WIGL PROJECT WAVE 1 ON BEING A WOMAN GERONTOLOGIST

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WIGL (Women in Gerontology Legacy) Project emanates from the Gerontological Society of America's Task Force (now Committee) on Women, and captures the life course trajectories of older female gerontologists via audio, video, and written interviews. Over 36 months, WIGL researchers interviewed 53 women gerontologists who have been active in research, education, and/or applied work for between 25–40 years. Professional association recognition of study participants' academic and applied achievements qualified them for study inclusion. One aspect of these interviews focused on examining how participants own experiences with aging influenced their professional growth and contributions. After qualitative analysis, two predominant themes emerged: *interconnectedness* and *personal gerontologist*, based on professional expertise. Within interconnectedness, interviewees demonstrated a great range in how their own aging experiences had impacted their research agendas. Brody (2010) who stated, “my future perspective is informed by my past and present perspectives”, best captures this interconnectedness between professional and personal lives. The second theme, *personal gerontologist*, revealed the myriad ways in which individuals responded to older women gerontologists. While family and friends who were dealing with aging-related issues accessed many for advice, a number of interviewees confirmed that this was not the case, despite their many years in the aging field. Since WIGL participants are well-known for their contributions to theoretical and

applied gerontology, their experiences as women gerontologists adds depth to our understanding of what it means to balance personal and professional identities, and roles.

IMPLEMENTING INTEGRATED SERVICES AT THE NATIONAL LEVEL: A VIEW OF 25 YEARS OF INNOVATIONS IN QUEBEC

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For 25 years, Quebec has been very innovative in the integration of services. Integrated service models are innovations involving various operational components (Case management, etc.), that can be implemented in various ways: “*let it happen, help it happen or make it happen*”, and applied to different essential works for change management. Cloutier and collaborators (2015), describe four of such works:

1. **A conceptual work**, which involves the creation and communication of stable representations, which are helpful in guiding the action of the various actors.

2. **A structural work**, which consists of the consolidation of the regulatory aspects of the system, that is, the redistribution of formal action capacities of actors involved in the intended change.

3. **An operational work**, which involves the creation of conditions such that the actors who are targeted by the innovation actually experiment new ways of doing things.

4. **A relational work**, which involves the accompanying of various actors with diverse roles and intentions.

This presentation summarizes the evolution of this movement of integration of services from the early 1990s until today through an analysis of the speech of 130 key witnesses of these transformations. Though we observe a strong conceptual continuity between successive reforms, it is clear that the movement seems to be moving on a conceptual standardization of the integration of services. Is the integration of services project inherently technocratic? Given the Quebec experience, it seems that yes, although this fact is less the result of conceptual models as of their empirical implementation.

GARMENTS AS TRANSITIONAL OBJECTS: NEW POSSIBILITIES IN RE-EVALUATING THE SUBORDINATE SENSE OF TOUCH

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Universally the hierarchy of the senses predicates visual dominance. Hearing is largely perceived as second in line, in the West, followed by, the “subordinate senses of touch, taste and smell” (Roque S L et al 2015). This paper will argue the efficacy found in the transitional object for persons living with dementia who have moved from their familiar home to the unfamiliar environment of a care-home is largely due to the surface of the object – the tactile quality, perhaps even more than the physicality and presence of the object itself. Using garments as transitional objects and focusing on the key component, cloth, this paper aims to explore new possibilities in how people living with dementia experience the world they live in.

This study gathered information from residents living with dementia (from moderate decline to moderately severe decline) in a care home setting. A variety of meaningful and

engaging sensory activities involving cloth, garments and accessories formed the basis of the study. Semi-structured interviews were also conducted to gather qualitative data.

The types and textures of fabrics that have elicited a measurable positive response amongst the participants will be described. The implications of their responses to these fabrics within the context of comfort, sensation, memory and familiarity will be discussed.

The sense of (meaningful) touch is under-rated and needs to be re-evaluated for the positive benefits that it can bring to persons living with dementia within a care-home setting.

HEALTH BEHAVIORS AND HEALTH OUTCOMES: COMPARISON AMONG THREE OLDER AGE COHORTS

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Previous research found differences in social involvement, aging perception and health status among different older age cohorts (Field & Minkler, 1988; Garfein & Herzog, 1995; Seccombe & Ishii-Kuntz, 1991). In the current study, we aim to examine differences in both health-related behaviors and health outcomes among the three age groups: young old (65–74), the old (75–84), and the oldest old (85+). To investigate this, we collected data from older adults residing in one Midwest county ($N=433$), among which 76% were female and 28.2% were young-old ($n=122$), 42.3% were old ($n=183$) and 29.6% were the oldest old ($n=128$). A series of analysis of variance tests and chi-square tests were conducted. The results showed no significant difference in self-reported chronic diseases [χ^2 (2, $N=433$) = 4.25, $p=.12$], self-reported depression [χ^2 (2, $N=433$) = 1.63, $p=.44$], exercise duration every time they exercise [F (2,430) = 1, $p=.37$], nor in exercise frequency [F (2,430) = 2.79, $p=.06$]. However, the old had significantly higher social participation frequency than young old [χ^2 (1, $N=305$) = 6.51, $p=.01$] and the oldest old [χ^2 (1, $N=311$) = 4.86, $p=.03$]. Our results showed no significant differences in health outcomes but differences in health behaviors (social participation) were apparent. Thus, our study implied the compensatory effect of social participation in health and the fact that more attention may need to be paid to young-old.

“HOW CAN WE HELP?”: A BIO-PSYCHO-SOCIAL RISK SCREENER FOR COMMUNITY DETECTION OF VULNERABLE ELDER

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We examine additive effects of BioPsychoSocial (BPS) health to help identify vulnerable elders, and link them to appropriate care. Objectives are, to (1) outline a theoretical basis for measure (2) report BPS Risk Screener's items' and test its structure, and (3) discuss the tool's application to interventions, both as a stratified care-planning tool and as an outcome for evaluation. A quantitative cross-sectional, psychometric study was conducted using face-to-face survey

interviews with $n=1,325$ Singaporean elders, aged over 60 carried out in their homes. Standardized questionnaires (Easy-Care standard 2010 and Lubben Social network Scale) were included to help determine BPS domains using factor analysis. Three individual B(io),P(sycho) and S(ocial) domains were derived, then a combined BPS managing score was tested against: self-reported general health; number of falls; cognitive impairment; longstanding diseases; and linked data on utilisation of tertiary care. Results showed 52 questionnaire items were reduced to 35 (factor loadings over 0.5), which were in three distinct BPS clusters. These were independently associated with self-reported health: B: 1.99 (1.64 to 2.41), P: 1.59 (1.28 to 1.98), S: 1.33 (1.10 to 1.60), and the fit improved when combined into an additive BPS score 2.33 (1.92 to 2.83, <0.01). The score predicted mounting risk, particularly between lower and higher levels (score of 4 or over) for service usage outcomes. The BPS Risk screener's greatest attribute is that it renders the clients' domain needs transparent, and can inform future care planning for elders. The use of the tool will also depend on the intervention goals.

DEMENTIA CARE MAPPING (DCM): ODDS OF IT'S USE AS AN OBSERVATORY TOOL TO MEASURE QUALITY OF CARE

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A literature review was performed to present critique and to understand use of Dementia Care Mapping (DCM) in different patient situations. The review aimed to help in decision making for choosing DCM as an assessment tool to measure care-quality based on patients' optimal needs. Keywords and thesaurus searches were performed in Ovid interdisciplinary databases to find articles those specifically used DCM to measure quality and published between 1992 and 2016. Medical Subject Headings (MeSH) search terms “dementia care mapping” AND “quality of life” was used. Other keywords were “well-being”, “quality of care”, “wellbeing”, “quality-of-life”, “quality-of-care”, “QOL” and “DCM”. Out of sixty one yielded results, seventeen articles met inclusion criteria and were examined in this review. The critiques included inadequate sample size, sampling bias, short evaluation periods and a lack of consideration of the confounding variables commonly associated with dementia. Methods used to validate the use of DCM in different studies were highlighted. The review identified DCM has good validity and inter-rater reliability. However, content validity remains less convincing and it can only be considered as a moderately valid instrument for patients suffering from moderate to severe dementia. Although DCM is a very useful and one-of-a-kind tool for staffs who wish to improve the quality of their care, but it is a very time-consuming method and requires considerable training and attention of responders to complete the forms. It is recommended that this tool should be amended and used side-by-side of other tools to compare correlations of outcome measures.

DEVELOPMENT AND PILOT OF AN INDEPENDENT CARE ASSESSMENT FRAMEWORK IN SINGAPORE

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In Singapore there is currently no consistent assessment tool or process which can identify a patient's cognitive, functional and social needs to determine what services would enable ageing in place. For this reason, Singapore has embarked on an Independent Care Assessment Framework (ICAF) pilot to standardise how patients are referred into long term care services and to build a consistent language of assessment for continuity of care.

The pilot encompasses (1) the development of an eligibility assessment tool to capture the essential parameters to determine a client's care needs and (2) the creation of an algorithm which can generate a hierarchical care needs level score to guide service recommendations.

The ICAF pilot began in January 2016 and will be carried out over two years in all public hospitals and selected long-term care services in Singapore. This process will be carried out in consultation with an appointed Clinical Advisory Panel. An iterative approach will be applied where continual enhancements to the algorithm and assessment will be made upon analysis of data collected. The agreement between care needs assigned by experienced assessors and the algorithm will be studied and used to inform improvements to the framework.

Based on the data collected thus far (N=200), 41% of clients are male while 58% are female. Their average age is 76 years old. Seventy-one percent are cognitively impaired, 63% have functional impairment and 42% are socially at-risk. These parameters will continue to be monitored during the on-going ICAF pilot study.

RECOMMENDATIONS FOR IMPLEMENTING A BIO-PSYCHO-SOCIAL RISK SCREENER FOR STRATIFIED CARE AT OLDER AGES

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Background: Successful translation of evidence-based innovations to real-world settings is dependent on innovation attributes, implementation context and strategies. This study was conducted to explore translational issues, at a pre-adoption phase, for a novel BioPsychoSocial (BPS) risk screener developed to inform stratified care at older ages. **Methods:** qualitative mixed methods were conducted with elders themselves, policy makers, community service providers and clinical referral teams: 1) administration of the screener to the elders (n=40) and 'managing scores'

generated; 2) in-depth interviews to explore the elders' views on suitability of survey and their scores; 3) researchers' reflections on the screener administration; 4) stakeholder focus groups (n=6) on strategies to improve implementation. **Results:** Three key translational approaches and two key strategies (i.e., adaptation and integration) were identified. First, screener attributes (in terms of its relevance, compatibility and simplicity) can be improved through cultural adaptation of the screener and integration of risk screening with interventions. Second, survey methodology can be adapted to better engage with the elders, who exhibited varying degrees of interest, ability and truthfulness. Third, existing workflow in home visits conducted by community workers can be adapted to incorporate the screener. New screener administrators should also be identified carefully and trained on both administration skills and cultural competency in engaging the elders. **Conclusion:** The BPS risk screener had demonstrated favourable attributes for its translation to a context of multiethnic community-dwelling elders. Adaptation strategies would connect the screener to the elders; whereas integration strategies would connect the screener to the existing delivery system.

DEVELOPMENT OF A PERSON-CENTRED COGNITIVE TOOL: HOW TO PROVIDE STRENGTH-BASED MEMORY CARE

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As the aging population grows, there is an increasing focus on interventions that support person-centred and wellness-based approaches to care for older adults. This is particularly evident for those in supported living (SL) centres and the community, where the focus is on maximizing strengths, and reducing the need for admission to long-term or acute settings for more advanced care. Despite this, current cognitive assessment tools focus primarily on diagnosis or functional deficits in order to determine care needs, while there are limited strength-based and person-centered cognitive tools available.

Our research challenges this practice gap through understanding the 'gold standard' of person-centered care, in order to develop a tool that supports a wellness-focused approach to meet residents' everyday lifestyle goals and health support needs. This participatory action research study is a partnership between the Geriatric Research Unit at the University of Calgary and United Active Living, a SL facility in Calgary. In this study, researchers work alongside Memory Care staff and cognitive residents in developing an assessment approach that incorporates resident goals, memory care programming considerations, and cognitive support to maximize resident well-being.

This presentation will argue for critical engagement with a person-centred care philosophy that moves from the rhetoric of the approach to the application of the philosophy in relation to assessment. We will overview the process involved in developing the tool and present the draft assessment tool for discussion.

SESSION 1030 (POSTER)

HEALTH CARE NEEDS AND UTILIZATION

OLDEST-OLD PATIENTS IN ACUTE CARE HOSPITALS: A PORTUGUESE NATIONWIDE 15-YEAR RETROSPECTIVE STUDY

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The oldest old is one of the fastest growing segments of the population in most developed countries. This exponential growth is expected to place a heavy demand on healthcare systems worldwide, since the oldest old are intensive users of healthcare services. This study aims to analyze inpatient hospitalizations by persons aged 80+ between 2000 and 2014 in Portugal. Administrative data from all public acute care hospitals in the Portuguese National Health Service was considered (national hospitalization database). Exploratory descriptive analyses regarding the number and nature of the episodes and discharge diagnoses were performed. A total of 1,837,613 inpatient episodes (number that doubled from 80590 in 2000 to 166210 in 2014) were analyzed. The majority were unplanned admissions (85.9%), of which 73% were medical (without any surgical intervention) and 12.9% were surgical. The most frequent diagnoses (classified in Major Diagnostic Categories) were Diseases and Disorders of the Respiratory System (22.2%), Diseases and Disorders of the Circulatory System (17.1%), and Diseases and Disorders of the Nervous System (10.8%). This study pointed to an increasing importance of oldest old patients in acute care hospitals, and provides insights into the clinical characteristics of these patients. The demand for hospital services by the oldest old should be a major concern for policy agents and healthcare professionals. Further studies should focus on variables associated with adverse outcomes, namely in-hospital mortality rates.

TRENDS IN HOSPITAL ADMISSIONS BY PORTUGUESE CENTENARIANS

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The number of centenarians worldwide is projected to increase rapidly from 441,000 in 2013 to 3.4 million in 2050. In Portugal, centenarians almost tripled over the last decade from 589 in 2001, to 1526 in 2011. The aim of this study is to examine hospitalisations between 2000 and 2014 by patients aged 100+ years using administrative data from all public hospitals in the Portuguese National Health Service located in the continent. ICD-9-CM codes associated to secondary diagnoses and the Charlson Comorbidity Index were considered to assess comorbidities. Exploratory descriptive analyses of data regarding the number of episodes, discharge diagnoses and comorbidities were performed. During the 15-years period, a total of 6,410 episodes of hospital admissions occurred, most of which were inpatient episodes (94.7%). The number of admissions more than doubled from 311 in 2000, to 688 in 2014. Most

frequent discharge diagnoses (grouped by CCS) were pneumonia (19.9%), fracture of neck of femur (hip) (7.8%), acute cerebrovascular disease (5.6%), and non-hypertensive congestive heart failure (4.7%). Most frequent comorbidities in inpatient episodes were congestive heart failure (16.4%) and renal disease (10.2%). Our findings document the importance of respiratory and cardiovascular diseases as reasons for hospitalization among extremely long-lived individuals, which is in line with the main causes of mortality in Portugal. Further studies should be conducted in order to identify the impacts of increased hospital admission rates among this population, in order to better manage their care needs and improve service delivery.

HEALTHCARE UTILIZATION AND BEHAVIORAL HEALTH IN OLDER ADULTS WITH OPIOID ABUSE

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Opioid abusers, particularly those that are middle-aged adults and older, often suffer from co-occurring mental health, chronic pain, and other substance use problems. Yet, little is known about the utilization of hospital and community based care services for this group. This study compared differences in healthcare utilization among middle-aged and older adults with opioid abuse to age-matched individuals without opioid abuse; and (2) identified predictors of healthcare utilization in older adults with opioid abuse diagnoses. Our study sample (N=58,934) included Western New York Medicaid recipients aged 50 and above during the June 2014-June 2015 period. Using data mining methods, risk factors influencing healthcare utilization were identified, and included mental health, chronic pain, smoking, and other substance abuse diagnoses. Healthcare utilization was categorized by the number of in-patient, out-patient, and emergency department encounters during the study period. Correlational statistics were used to compare utilization differences between opioid abusers and people without opioid abuse. A generalized linear model with Poisson error and log link was used to identify predictors of healthcare utilizations for opioid abusers. Results indicate that opioid abusers had significantly higher utilization across different types of healthcare services compared to their age-matched counterparts. Among older adults with opioid abuse, gender, mental health comorbidities, smoking, other substance use disorders, and chronic pain were significant predictors of healthcare utilization. These results will enable future opioid abuse treatment research to modify treatment plans based upon the unique care needs of this population.

HEALTH ECONOMIC EVALUATION OF CASE MANAGEMENT FOR FRAIL OLDER PEOPLE: EFFECTS OF AN RCT

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The aim of this study was to evaluate the effects of a case management intervention for frail older people (aged 65+ years) by cost and utility. In total 153 frail older people living at home were randomly assigned to either an intervention (n = 80) or a control group (n = 73). The 1-year intervention

was carried out by nurses and physiotherapists working as case managers, who undertook home visits at least once a month. Differences in costs, EQ-5D and EQ-VAS based quality-adjusted life years (QALYs), and incremental cost-effectiveness ratio were investigated. All analyses used the intention-to-treat principle. For the 1-year study, no significant differences between the intervention and control groups for total costs, EQ-5D-based QALY or EQ-VAS-based QALY were found. Incremental cost-effectiveness ratio analysis was not conducted because no significant differences were found for QALYs or total costs. However, the intervention group had significantly lower levels of informal care in terms of help with instrumental activities of daily living both as costs (€3,927 vs. €6,550, $p = 0.037$) and provided hours (200 vs. 333 hours per year, $p = 0.037$). The conclusions are that the intervention was cost neutral and does not seem to have affected health-related quality of life. One reason may be a too short follow-up period. The intervention reduced informal care in hours and cost of help with instrumental activities of daily living. This suggests that the intervention provides relief to informal caregivers.

IMPACT OF HEALTHY AGING ON MEDICAL AND LONG-TERM CARE EXPENDITURES IN THE LAST YEAR OF LIFE

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This study examined the impact of healthy aging on medical and long-term care expenditures in the last year of life in Japanese older adults. The subjects were those aged ≥ 65 years ($n=326$) who died in fiscal 2013 in Bibai, Hokkaido, Japan and used public medical and long-term care insurance services at least one time in fiscal 2013. We classified the subjects into three groups: < 80 years old ($n=76$), 80–89 years old ($n=155$), and ≥ 90 years old ($n=95$). We compared the mean medical and long-term care expenditures per capita among the three groups during the last year, and determined whether aging affected these expenditures. The largest expenditure were that for those with < 80 years old (4.45 million yen), followed in turn by those with 80–89 years old (4.09 million yen) and those with ≥ 90 years old (3.78 million yen). Also only in women ($n=169$), the largest expenditure were that for those with < 80 years old (5.41 million yen), followed in turn by those with 80–89 years old (4.57 million yen) and those with ≥ 90 years old (3.84 million yen), and, in addition, using general linear models and post-hoc test, those with < 80 years old were significantly larger for those with ≥ 90 years old ($p=0.015$). In conclusion, healthy aging could reduce terminal care cost in Japanese older adults.

BEHAVIORAL HEALTH CARE NEEDS AMONG AGING VETERANS IN RURAL OUTPATIENT CLINICS: PROVIDERS' VIEWPOINTS

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Aging Veterans frequently have cognitive and behavioral health problems in addition to physical health issues. Meeting these complex needs is challenging, particularly in rural areas with scarce resources. This project utilized an exploratory qualitative data collection method to better understand and address these needs.

Focus groups (FG) of rural providers ($N = 62$) were conducted on site at eight VHA Community Based Outpatient Clinics (CBOCs) in three western states. Facilitators (2 per FG) used a semi-structured format with open-ended questions to prompt conversations among participants about patients' complex behavioral health and physical health issues, family/caregiver concerns, clinic workflow, internal/external referrals, and desired services/resources. FG sessions were digitally recorded and transcribed verbatim with participant consent. Observation notes were also completed. Analysis began with an a priori set of coding categories (FG questions). We employed team coding to identify and refine codes and categories as new themes and patterns surfaced. Three major themes (with multiple subthemes) emerged from the discussions: challenges working with this population, caregiver issues, and interventions to improve care. Subthemes include provider burden, remoteness from urban medical center, difficulties coordinating specialty services, barriers to providing family and caregiver support; and difficulty navigating resource networks.

Rural providers from VHA CBOCs in the western U.S. identified numerous challenges that complicate care for aging Veterans with co-morbid cognitive and behavioral health issues in rural settings and also offered practical suggestions to improve care. Findings are informing development of an evidence-informed intervention to improve access to specialty behavioral health care for these Veterans.

GENDER-SPECIFIC PREVALENCE OF COMORBIDITIES AND USE OF HEALTH CARE SERVICES IN GERMAN CENTENARIANS

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Centenarians are the fastest growing segment of the population in many industrial nations; most of them are women. However, research on gender differences in terms of demographic characteristics, chronic conditions, and use of medical, pharmacological, and nursing care services is sparse.

To draw on to describe the socio-demographic characteristics of the centenarian population and patterns of use of medical, pharmacological, and nursing care services in this population separately for men and women.

This descriptive analysis will be based on master data from 1.8 million persons insured with a German statutory health insurance fund who were resident in Berlin or north eastern Germany. The study population comprises all those reaching the age of 100 or older on December 31, 2013 ($N=1,121$).

The number of centenarians increased between 2006 and 2013 by 25% in Berlin and by 59% in north eastern Germany. In terms of gender differences, the vast majority of centenarians are female (91%). Men accounted for only 9.2% of the 100+ year olds, and for none of those aged 107–109. The half of the centenarians were in long-term care. Women were more often in long-term care and less often without any care compared with men. Further findings on the gender-specific use of health care services will be discussed.

The study provides insights into health service use in centenarians against the background of their existing health conditions. The findings contribute to the gender-specific development of needs-based care structures for this population.

GERIATRIC CARE POST-MEGA EARTHQUAKE 2015 NEPAL

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Nepal was hit by a devastating earthquake of 7.8 magnitudes on 25 April 2015 followed by a strong aftershock on 12 May. Over 8 million people are affected in 39 out of 75 districts, 11 of which are most critically hit. This caused over 8,670 deaths, injured 21,422. As a consequence 2.8 million people have been displaced. The most affected from this disaster are the Children and Geriatrics.

The consequences of earthquakes on elderly population are not limited to physical injuries but also results in an increase in adverse consequences of chronic illness because of lack of regular checkup-followup facilities and shortage of medicines. The affected people are neither able to travel for medical services nor can get access at their local levels. Lack of attention of the family members, absence of social security, non-availability of hospital care and financial dependency on children or relative are the prominent factors which worsen the life of Geriatrics.

Considering this fact, the Geriatric Society of Nepal (GSN) ran Health Camps with special focuses for Geriatrics to protect them from health issues and impact of earthquake. These GSN Health Camps concentrated on Health Check-up for earthquake affected patients, Psychosocial counseling for traumatized and stressed people, Referral and follow up services for elderly, Health care education for patients and their family members.

This type of targeted Health Camps post Disaster helps in understanding the needs of Geriatrics and solves them locally. The vulnerable group of elderly population should be taken well care post any disaster.

PREVENTION OF CATHETER-ASSOCIATED URINARY TRACT INFECTION IN A COMMUNITY HOSPITAL IN SINGAPORE

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Background: Catheter-associated urinary tract infection (CAUTI) is a common hospital acquired infection which can lead to prolonged hospitalisation and mortality. Ang Mo

Kio-Thye Hua Kwan Hospital is a 360-bedded Community Hospital in Singapore, providing inpatient rehabilitation and subacute care. The majority of patients are geriatric and referred from tertiary hospitals.

A multidisciplinary Quality Improvement team was formed in March 2015 to reduce CAUTI.

Aim

The median CAUTI rate was 5.3 per 1000 catheter days in 2014. We aim to reduce CAUTI rate by 30% in 3 years.

Methods: Analysis of CAUTI cases showed majority had an indwelling catheter (IDC) on admission and developed CAUTI with the same IDC. The identified gaps were: Inefficient CAUTI data collection, lapses in IDC care and no IDC removal protocol.

Changes tested and implemented in stages at a pilot ward:

- Improved CAUTI data collection method
- IDC reminder system
- Nurse-led protocol to empower nurses to remove catheters
- Using S hook to lower urine bag during ambulation
- Daily audit of IDC care

Frontline staffs were engaged regularly for feedback. The changes were modified, tested and improved after PDSA cycles.

Results: CAUTI cases in the pilot ward reduced from 13 to 6 from 2014 to 2015, with 2 cases detected in the first 5 months of 2016. Results on compliance to IDC care have also been encouraging.

Conclusion: We plan to test and spread the changes to other wards to reduce CAUTI rate in the hospital. Getting feedback and buy-in from the ground helps in designing sustainable changes.

SESSION 1035 (POSTER)

LONG-TERM CARE AND ASSISTED LIVING I

BEDTIME: PARTNERED BABY BOOMERS' PRIVACY EXPECTATIONS IN RESIDENTIAL CARE

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Many couples in Australian residential care facilities experience institutional interference in their sexual relationships. Duty of care usually takes precedence over privacy. Some institutions separate couples, residents' doors may be kept open at all times, staff enter without knocking, ignore 'do not disturb' signs, or gossip about residents. In this presentation I report on findings of a phenomenological study using a self-administered online survey of partnered Baby Boomers (born 1946–65) conducted in 2016, which reveals their attitudes to these intrusions and their expectations of privacy. The majority of respondents expected to remain sexual throughout their lives, considered physical intimacy with their partners essential to their wellbeing, and required a high degree of privacy to maintain their relationships in care settings. Many expressed it was 'their business', and no-one else's, what happened in their rooms. Recommendations for providers include (1) clear written policies in relation to

residents' privacy; (2) individual privacy assessments of residents upon admission; (3) inclusion of privacy needs in resident care plans; and (4) creation of a culture that allows staff and residents to develop understanding and rapport with each other. Enabling new residents and their families to make informed decisions when choosing a facility has the potential to improve the experiences of both residents and staff.

PERCEIVED BARRIERS AND FACILITATORS TO HOME AND COMMUNITY-BASED PLACEMENT IN THE VETERANS HEALTH ADMINISTRATION

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The U.S. Department of Veterans Affairs (VA) administers the largest integrated health care system within the United States with more than 1,700 sites of care serving close to 8.8 million Veterans annually. The demand for VA funded long-term services and supports have risen concomitantly with the aging of the Veterans population. Because national VA policy has been to rebalance the provision of long-term care away from nursing homes and towards home- and community-based services (HCBS) options, lessons from the VA's experience in promoting greater use of non-institutional services and supports may prove informative for other initiatives seeking to shift the locus of care internationally. The purpose of this study is to identify factors that promote or impede the diversion of long-term care recipients from institutional nursing home care to non-institutional HCBS during the long-term care referral process, a heretofore limited area of study. Data derives from analysis of thirty-five semi-structured interviews performed with key informants from 12 VA Medical Centers (VAMCs). Results indicate that care teams recommend whether or not to refer Veterans for an HCBS or nursing home consult. Veterans' care needs and preferences and social and financial resources influence these recommendations; so too does the perspectives of care team members. Lack of staffing and failure to offer the specific types of services needed limits the use of HCBS. Distance and crime/safety concerns pose further barriers in rural and urban jurisdictions, respectively. Budgetary imperatives influence the relative availability of HCBS across VAMCs. Findings highlight the impact of provider-level practices and system-level constraints in impeding the successful diversion of long-term care recipients from nursing homes to alternative settings in the home and community.

THE RELATIONSHIP BETWEEN CHANGES IN HOME CARE EXPENDITURE AND USE OF INFORMAL CARE

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In light of population ageing combined with cuts in government spending the financial sustainability of long-term care is high on the political agenda in many countries. In this paper we examine the relationship between rising home care expenditure and use of informal care among independent

community-dwelling persons aged over 50 in eight European countries. We use data from 2004 to 2013 – a period characterised by rising expenditure and investments in home care. The eight countries studied are Austria, Belgium, Denmark, France, Germany, the Netherlands, Spain and Switzerland. Unlike other studies we include expenditure on home care in our analysis as a characteristic of the care system next to individual factors such as need, predisposing factors and enabling factors. We analyse the effect of a change in home care expenditure using multinomial logistic regression with fixed effects on the longitudinal data from the *Survey of Health, Ageing and Retirement in Europe*, combined with national data on home care expenditure from the OECD (Organisation for Economic Co-operation and Development).

We find that, when home care expenditure in a country rises, fewer over-50s receive informal care. Consequently, the average informal care use in the European countries studied was lower in 2013 than nine years earlier. The changes in home care expenditure mainly affected people with milder care needs, who have several options open to them for meeting those needs.

CHALLENGES TO SUCCESSFUL TRANSITIONS FROM INSTITUTIONS TO LIVING IN THE COMMUNITY

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The Money Follows the Person Rebalancing Demonstration (MFP) is a U.S. initiative helping states transition people needing long-term services and supports from institutional settings to the community in order to honor individual preferences and rebalance Medicaid expenditures. In Connecticut, MFP transition coordinators complete a standardized checklist of transition challenges for each individual during the transition process. Twelve challenge categories are recorded cumulatively until the person transitions, or if not transitioning, until the case closes. Quality of life surveys are completed at baseline, 6, 12, and 24 months after transition. This study examined transition challenges as predictors of successful transitions, including length of time to transition, risk of post-transition reinstitutionalization, and post-transition community integration. Analysis of challenge checklists (n=7021) indicates that persons whose cases closed without transitioning had significantly greater challenges relating to physical (OR=1.2) or mental health (OR=1.3), consumer engagement (OR=1.8), other involved individuals (OR=1.7), and home and community-based services (HCBS) programs (OR=1.5). For persons who transitioned, five challenges significantly (p<.05) and independently predicted longer transition times: consumer engagement, housing, legal issues, HCBS programs, and other involved individuals. Challenges with mental health and engagement prior to transition significantly predicted reinstitutionalization twelve months following transition. Participants with mental health and nursing facility challenges had lower community engagement at 6 months after transition, while those with physical health and services challenges had less community engagement across all three follow-up times. Knowledge of pre-transition challenges enables program managers to make

policy and programmatic changes to enhance the probability of timely, successful transitions.

DEVELOPMENT OF A UNIVERSAL SATISFACTION SCORE FOR LONG-TERM CARE FACILITIES

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Collecting satisfaction information from long-term care residents is important. We have seen a philosophical change in healthcare that now includes the patient and their preferences, as an integral part of the system of care. However, numerous satisfaction surveys exist and no uniform satisfaction measure or score can be used to compare facilities. This would be useful for both benchmarking and report cards. A parsimonious satisfaction measure was recently developed by the American Health Care Association (AHCA). This measure is the CoreQ. This research will detail the development and underlying basis of the CoreQ. The CoreQ consists of a limited number of satisfaction items that were used to create an overall satisfaction score. Information from more than 20,000 seniors was used to develop and test 5 CoreQ instruments. These CoreQ instruments include nursing home short-stay residents, long-stay residents, and family; and assisted living residents and family. The process of developing and choosing the items included in the CoreQ will be described. The testing of the CoreQ will be described (e.g., reliability, validity, exclusions, risk adjustment). The reliability of the measure at the data element level; the person/questionnaire level; and, at the measure (i.e., facility) level will be presented. The CoreQ is currently in use by over 1000 facilities. We will also present the experience and current uses of the information collected to date. This will include the distribution of scores and the correlation with other quality measures.

SERVICE USE AND HEALTH OUTCOMES AMONG LOW-INCOME OLDER ADULTS WITH UNMET NEEDS

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When older individuals fail to receive any or sufficient assistance for daily self-care and functional activities, a situation of unmet need is created. Prevalence of unmet need in the United States ranges from 20% to 58% of older adults with disabilities. Functional criteria for receiving assistance from federal and state programs vary. This study investigated patterns of service use among 1,040 low-income older Virginians seeking assistance from a Medicaid waiver program during the 2014 and 2015 fiscal year. Over the 2-year study duration, 660 clients met both financial and functional need eligibility requirement for Medicaid; 380 clients were not eligible because they did not meet Virginia's stringent functional need requirement (limitations in 4+ instrumental or basic activities of daily living). Of non-eligible clients, 222 received minimal and 158 received no Medicaid-supportive services. Non-eligible clients were more likely than eligible clients to live in rural areas ($X^2=23.139$, $p<0.001$) and access Older Americans Act funded services ($F=16.650$, $p<0.001$). Non-eligible clients receiving no services were significantly more

likely to have died ($F=11.686$, $p<0.001$), compared to non-eligible clients receiving minimal services ($p<0.001$) and eligible clients receiving waiver services ($p<0.001$). Hospitalizations were infrequent, but were more likely among non-eligible clients ($F=7.374$, $p=.007$). Trends suggest that individuals receiving 2 or fewer services ($F=1.948$, $p=.102$) had greater hospitalization risk. Based on these findings, policy provisions need to consider the long-term health implications experienced by older adults not eligible for waiver programs and develop targeted service delivery initiatives to reduce the likelihood of individuals living with unmet needs.

SYSTEMATIC REVIEW OF MEASUREMENT OF NURSING HOME CULTURE CHANGE

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Nursing home culture change (NHCC) aims to change the way care is provided in nursing homes. Valid and reliable measures are needed to evaluate the impact of NHCC on outcomes. A systematic review of available instruments provides an overview of current instruments designed to measure NHCC and provide criteria for others to evaluate and choose instruments according to their own purpose. The purpose of this review is to identify instruments used to measure NHCC at the organizational level, describe the psychometric properties, and to examine to what extent the instruments have been used empirically to assess resident, staff, or organizational outcomes. Method: A systematic review was conducted using Medline, Embase, CINAHL, PsycINFO, ProQuest, and Web of Science databases, limited to articles published between January 1995 and December 2014. Citations were included if they reported: (1) the development and/or validation of an instrument; (2) evaluation of NHCC on an organizational level; and (3) quantitative results following administration of an instrument. Results: Ten instruments to measure NHCC on an organizational level were identified. A common limitation of the instruments reviewed was the lack of psychometric testing; thus, their validity and reliability needs further exploration. Three of the 10 instruments reported Cronbach's alpha and one reported construct validity. Implications: The systematic review demonstrated a number of tools available for measurement of NHCC on an organizational level. Lack of development description hindered their assessment and studies examining the relationship between NHCC and outcomes are rare. Further psychometric testing of the instruments is also needed.

NATIONAL TRENDS IN OMBUDSMAN RESIDENT ADVOCACY IN LONG-TERM CARE FACILITIES (2006–2015)

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Since its inception in 1972, the Long-Term Care Ombudsman Program (LTCOP) has played a critical role in protecting and promoting the health, safety, welfare and rights of long-term care residents by maintaining a regular presence in facilities nationwide. Dramatic changes in

the long-term care landscape, however, including the rapid aging of the U.S. population and the tremendous growth of non-institutional residential options, have placed increasing demands on programs. Based on data from the National Ombudsman Reporting System, we describe national trends in ombudsman staffing and volunteer capacity in serving long-term care residents. While nursing homes and beds have been steadily declining as the field moves toward more board and care type facilities, the overall number of facilities and residents requiring ombudsman services has increased by nearly 11% from 2006 to 2014. During this period, the number of paid staff has remained fairly stable but the number of volunteer ombudsmen (who serve as key advocates for residents) has decreased by 11%. From 2006 to 2014, quarterly visits to nursing homes and board and care facilities have declined by 10% and 14%, respectively. While the increase in facilities overall presents challenges to maintaining regular visits, the loss of volunteers may have exasperated these challenges. As the elderly population and the number of long-term care facilities continue to grow, the LTCOP will increasingly be a vital resource for residents, particularly for vulnerable elders. Understanding the program's ability to advocate on their behalf is critical to ensure that all residents receive quality care.

CHANGING CHAIN OWNERSHIP IN THE NURSING HOME SECTOR AND ITS IMPACT ON SPECIALTY SERVICE PROVISION

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Nursing homes offer an array of specialty services, including the most prevalent types of dementia care, post-acute rehabilitative services, and hospice. Corporate ownership may support specialty care services in a number of ways, by making possible the sharing of costs across facilities or providing connections for sharing best practices. This paper explores whether changes in chain ownership of nursing homes impact provision of specialty care. The Online Survey Certification and Reporting (OSCAR) data were used to identify chain ownership and specialty care provision from 1993 to 2010. Nursing homes report the provision of nine types of specialty care, including care for those with Alzheimer's, AIDS, dialysis, head trauma, hospice, Huntington's, rehabilitative, ventilator, and disabled child services. Annual chain characteristics were coded from self-reported membership. Contemporaneous market and state data were added from other sources. We dropped the more rare forms of specialty care that did not change in prevalence over time. The remaining forms of specialty care, including Alzheimer's, rehabilitative, hospice and ventilator units, have shown dramatically different trends in prevalence although facilities change little in their reporting of all forms of specialty care. Most changes in prevalence occurred when nursing homes enter or exit the data. The availability of Alzheimer's beds peaked in 2004 despite continued growth since then in the prevalence of dementia among residents. Larger chains, with more than

30 facilities, acquired facilities with a higher prevalence of Alzheimers care but there is no evidence that these chains convert beds post acquisition. Overall, chains do not appear to convert beds to specialty care but do seek acquisition targets with services to fit with the chain strategy.

RESIDENTIAL CARE AIDES' EXPERIENCES OF PERSONHOOD IN DEMENTIA CARE SETTINGS

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Conceptually, person-centred care entails fostering the personhood of residents and the residential care aides (RCAs) who provide much of their hands-on care. Yet, to date, staff personhood has been overlooked in the empirical literature. Drawing on data from a larger ethnographic study examining the influence of the organizational and physical care environment on dementia care provision, this paper explores RCAs' experiences of personhood. In-depth interviews with 29 staff (21 RCAs, 3 LPNs and 5 managers), and more than 230 hours of participant observation, were conducted in two Canadian nursing homes with specialized dementia units. Two overarching themes, 'personhood undermined – management-staff relations' and 'personhood undermined – workplace policies and practices' illustrate how, despite exposure to features believed beneficial to their working environment (e.g., smaller staffing ratios, relatively good remuneration, manageable workloads), RCAs encountered repeated affronts to their personhood. The first theme encompasses the importance of being known (i.e., as persons and of their job demands) and valued (i.e., appreciated for their work in non-monetary terms). The second highlights the salience of work-life balance, full staffing coverage, supportive human resource practices, and information sharing. RCAs' experiences reveal how the ongoing search for cost-efficiencies, cost-containment, and cost-accountability overshadows their individuality, indicating a key disconnect between conceptual ideals and workplace realities. Organizations seeking to provide quality dementia care are encouraged to focus on the creation of person-centred management and workplace practices thereby providing tangible evidence that RCAs, and their work, matter.

DEPRESSION AMONG OLDER RESIDENTS IN LONG-TERM CARE: AN ILL UNDERSTOOD AND UNDERTREATED PROBLEM

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420,000 older people live in care homes in the UK. Residents tend to be frail and many have dementia. Evidence suggests that between 4 and 25% have major depression and 29 to 82% have depressive symptoms. The factors that appear correlated with depression include: functional impairment, physical health problems, loneliness, loss and the depressogenic effects of living in an institutionalised environment. Depression is linked to increased mortality, suicide, and reduced quality of life. Barriers to recognition and treatment include: limited staff awareness of depressive symptomology, challenges in assessing its presence especially in people with dementia and variable access to health services. Antidepressants are the most common treatment

although they are often prescribed in sub-therapeutic doses. Behavioural and cognitive therapies are also effective although rarely available. In terms of management, in reach provision by primary care services appears effective. Improvements in the management and treatment of depression has a number of evidenced strands: supporting the older person's transition into the home; staff training to increase detection; a commitment to person centred care; education of GPs about the particular needs of residents; consistent access to health care; and an inspection regime committed to driving up quality. Clinical guidelines are also helpful. Although some research has been done in this area little is known about the nature and course of depression amongst care home residents nor their subjective experiences. Much more attention needs to be paid to this hidden issue as depression is common, profoundly undermining of well-being, and significantly under treated.

NURSING HOME SATISFACTION MEASURES: WHAT IS THEIR RELATIONSHIP TO QUALITY?

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Consumers and their families need information to help choose nursing homes (NHs) that best suit them. Government, too, needs good information to perform its oversight and program management functions, incentivize better performance, and respond to consumers' information needs. Incorporating consumer perspectives could improve public reporting of NH quality. Little is known, however, about the relationship between resident/family satisfaction, and quality of life (QoL) and/or other quality measures and whether they supplement existing quality measures. This study investigates these relationships, and explores how different factors predict satisfaction. Using resident/family satisfaction survey data from 2887 NHs in all 50 states, along with data on NH characteristics and performance (using CASPER, LTCFocus, and NH Compare data), we found that, in 2013, overall satisfaction was high, averaging 3.3 for both residents and family members (on a scale of 1 to 4). Satisfaction was highest for families regarding nursing care quality, and for residents in feeling safe; it was lowest for families in staffing adequacy and for residents in meal quality. Overall satisfaction had near-zero or very low Pearson correlations with staffing variables. Nor was the link to quality measures strong: correlations with CMS NH star ratings were low (0.24 for residents and 0.31 for families), and with NH deficiencies near-zero. These results suggest that resident/family perspectives indeed add a unique component to the assessment of overall NH quality, and support the call to add satisfaction and experience ratings to public reports of NH quality.

QUALITY OF LIFE IN NURSING HOMES: ELEVATING THE STATUS OF RECORDING TO A RELATIONAL PRACTICE

K. Barrie, *Institute of Healthcare Policy and Practice, University of West of Scotlan, Edinburgh, United Kingdom*

Internationally, nursing home care provision demands radical change. Lack of honesty about the complexity of so-called 'basic care' together with performance cultures have created a more transactional and confused environment,

detracting from authentic care work grounded in human relationships. A personal outcomes approach, comprising three inter-related components of engaging, recording and using information, can result in more effective, inclusive, enabling and relational ways of working but raises particular challenges in collective living settings for older people with complex and often fluctuating needs and priorities.

This session presents results from an action research study conducted in collaboration with multi-disciplinary staff from six nursing homes in Scotland to facilitate a focus on personal outcomes. Grounded in the philosophy of relationship-centred care, the study recognised the importance of everyday acts of noticing alongside scheduled care planning processes, including being attentive to, and properly valuing, the life stories and more embodied stories of people with communication or cognitive impairments. Building upon the ways staff already come to understand and negotiate what matters to a person and to family members, and thinking about how such insights might be used by others, the study facilitated a shift from recording as a bureaucratic task with a primarily retrospective orientation demonstrating compliance, to a practice foregrounding information useful for maintaining the identity of the older person, building relationships and shaping future care. It also highlighted the practical and ethical dilemmas encountered daily, and the necessity of successful negotiation amongst everyone involved in individual and collective decision making processes.

CHANGE OVER TIME IN THE USE OF CARE IN THE LAST 5 YEARS AMONG PEOPLE WITH DEMENTIA

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Advanced age and dementia are important contributors to care use, especially long-term care (LTC). We studied the impact of age on use of LTC and hospital care (HC) in last five years of life in those who died from dementia in three time periods.

Data were drawn from Finnish National Registers. The outcome variables, (1) use of LTC and (2) use of HC, were followed for the last five years of life for all those who died in 2001, 2007, or 2013 at the age of 70–79, 80–89, or 90+. Generalized Estimated Equations were used to estimate the impact of age and year of death, taking into account other major diagnoses and gender.

Between years 2001, 2007 and 2013, age at death and the use of LTC increased. Use of LTC was highest in the oldest old and HC in the youngest old, but the differences between age groups decreased during the study period. Among those aged 70–79, use of LTC increased. In the oldest age group, use of LTC increased until 2007 after which it decreased. Use of HC decreased among younger age groups. In the oldest, use of HC increased slightly.

Advanced age is an important driver of LTC in those with dementia. Longer lives and increased age at death likely lead to higher need for LTC. Yet the effect of age on use of LTC

and HC decreased between the study years. Causes behind the increase in LTC use in the youngest group should be studied further.

CONVINCING THE LEADERS: PERCEIVED BARRIERS TO THE IMPLEMENTATION OF NURSING HOME CULTURE CHANGE

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Nursing home culture change has been around since the emergence of the Eden Alternative in the early 1990's, yet few long term care communities use its practices. Culture change practices radically change nursing home operations and organizational structures in ways that flatten the organizational hierarchy and share decision making power with elders and direct care workers. Implementation studies have shown that organizational change is challenging and requires sustained engagement from leadership. The aim of this translational research study was to identify what keeps nursing home leaders from adopting culture change so that barriers could be addressed, resulting in more living communities adopting person-centered culture change practices.

The Maryland Culture Change Coalition conducted a culture change training series across the state in the Summer of 2015 aimed at nursing home administrators and assisted living managers. Exit surveys were given to all participants. Ninety eight participants completed the survey. The most common barriers identified were about regulations and their enforcement, and about the effectiveness of culture change practices.

Together these indicate ongoing concerns with regulations and the application thereof. If administrators are not convinced that culture change practices improve outcomes for older adults then they are less likely to consider making changes that they perceive as threatening to the health of the organization. This suggests a need for more outcomes research, clearer policies, and education for administrators and surveyors.

THE STATUS OF QUALITY CONTROL OF GERIATRIC CARE INSTITUTIONS IN SHANGHAI: A SURVEY

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To investigate the situation of quality control in geriatric care institutions (GCI) and identify the existing problems and propose management strategies, a questionnaire survey and field survey was conducted in 270 GCIs in Shanghai in 2014, including facilities, human resources, characteristics of elder patients, distribution of adverse events and quality of geriatric care. Descriptive methods were used for data analysis. Totally 25 geriatric care hospitals (GCH) and 245 community health service centers (CHSC) responded to the survey. There were 6140 beds for elderly care in GCHs where mean length stay of elder patients were 140 days, while 10265 beds in CHSCs where mean length stay of elder patients were 119 days. The proportions of nursing assistants, nurses, medical physicians and technicians in GCHs were 37.91%,

29.11%, 19.62% and 13.35%, while those in CHSCs were 14.14%, 34.59%, 36.47% and 14.80%. The top five most frequent adverse events in GCHs were fall, medication, catheter, diet and transfusion related events, while those in CHSCs were medication, fall, catheter, transfusion and hurt related events. During field survey, public GCHs were found better in quality of elderly care than private ones after expert assessments. Our results indicate that administrators in GCIs should improve medical and nursing facilities, increase human resource, optimize geriatric nurse training system, implement risk analysis and quality management to promote quality of care for the elderly.

SELF-RATED HEALTH AND THE COMBINATIONS OF SELF-CARE DISABILITIES AMONG DISABLED ELDERS IN TAIWAN

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Introduction: Self-rated Health (SRH) is a commonly measured concept in gerontological studies. The single item measures people's subjective rating of their current health status. A great majority of Long-term Care users are physically disabled elders with a poorer rating of SRH. Yet, few studies have examined the associations between different combinations of self-care disabilities (e.g. Activity of Daily Living, ADL) and SRH. In this study, combinations of 6 ADL disabilities among a group of disabled elders were identified to correlate with their ratings of subjective global health.

Methods: Data were taken from a face-to-face interview survey (N=514) of disabled elders, aged 60 or over in 2008, who were users of long-term care services in central Taiwan. Self-rated Health was measured with a single item, "regarding your state of health, would you say it is excellent (=5), good, average, poor, or very poor (=1)." The 6 items in the ADL scale, tapping to the performance on 6 self-care tasks, were toileting, bathing, eating, dressing, transferring, and walking. The coding for each of the tasks was: "no difficulties" = 0, "somewhat difficult" = 1, "very difficult" = 2, and "cannot do it at all" = 3. Both the total number of the 6 tasks with difficulties and the summing score of the 6 items were calculated.

Results: The correlation between the number of ADL disability items and SRH was -.022 ($p < .001$). "Walking" appeared in all of the frequently identified combinations of ADL disabilities, implying that it was often the first self-care disability a disabled elders would develop over the disablement process. The combination of ADL disabilities with highest mean SRH rating was not from the participants who were free of any ADL disabilities (N=57, mean SRH = 3.07), instead the participants with the combination of "walking" and "bathing" (N=37, mean SRH = 3.35) and the participants with the combination of "walking," "bathing," and "toileting" (N=26, mean SRH = 3.27) had the highest SRH ratings.

Conclusion: For the long-term care services users with ADL disabilities, some of them still show resilience and were able to find a way to interpret their health as adequate, as long as the provided services could meet some of their care needs.

SESSION 1040 (POSTER)

MENTAL AND COGNITIVE DISORDERS: ASSESSMENT AND INTERVENTION

OFF-LABEL USE OF ANTIPSYCHOTIC MEDICATIONS ACROSS LONG-TERM CARE SETTINGS IN KOREA

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Introduction: Off-label use of antipsychotic medications refers to the utilization of drugs for an unapproved indication. Mitigating psychiatric conditions are often a reason for off-label use, which can cause unintended safety issues. The purpose of this study is to examine the prevalence and variations of off-label use of antipsychotics among older people with long-term care needs in nursing home (NH) and long-term care hospital (LTCH) settings.

Method: We conducted a nationally representative sample survey of 2,542 older people in 91 NHs (n=1,275) and 52 LTCHs (n=1,267) in South Korea in 2013, including comprehensive geriatric assessments and medication order reviews. Off-label use of antipsychotics was defined by applying the FDA's 2005 "black box warning." We calculated at the organizational level the prevalence of off-label use of antipsychotics and the interquartile range of the prevalence.

Results: The overall percentage of older people receiving antipsychotics for unapproved indications was 16.9%, and the prevalence was similar at NHs (16.4%) and LTCHs (17.3%). The variance in mean prevalence of off-label use of antipsychotics in both settings was large, and it was larger at NHs than LTCHs even after adjusting for individual characteristics.

Conclusion: Preliminary evidence suggests that organizational characteristics affect antipsychotic prescribing independent of resident case-mix. Additional research on off-label use of antipsychotics in LTC settings is needed.

REDUCING ANTIPSYCHOTIC USE IN NURSING HOME RESIDENTS WITH DEMENTIA

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Inappropriate use of antipsychotics in elderly nursing home (NH) residents with dementia has gained national attention. Adverse effects from the use of these drugs can result in poor health outcomes, as well as increased mortality rates. The overarching aim of this study was to determine the perception of NH employees of symptoms and situations that prompt the initiation or continuance of antipsychotics in dementia residents and to identify perceptions of major challenges to reduction in antipsychotic use. A survey was administered to 319 NH employees (i.e., directors of nursing, administrators, staff nurses, social service, and activity personnel) from Louisiana. Participants were asked to rank order their perception of the importance of the role that nine symptoms or situations have played in the initiation or use of antipsychotics in dementia residents. In conjunction with descriptive statistics to analyze survey results, content analysis of participants' comments from open-ended questions was

performed. Findings (ranked in the order from most to least important) were: combativeness; psychosis; resident placed on antipsychotic during treatment in acute care behavioral/mental health facility; agitation; admitted to NH on antipsychotic; severe sleep pattern disruption; wandering; resistance to care; and family requested. Responses overwhelmingly highlighted the need and interest for educational opportunities about evidence-based, non-pharmacological interventions and potential adverse effects of antipsychotics. Findings from this survey were used to tailor a statewide educational intervention targeting NH staff. Recommendations that emerged from survey findings can also be used by interested stakeholders from other geographical regions to reduce the use of antipsychotics.

THE RISE IN OCCURRENCE IN MENTAL HEALTH ISSUES AMONG LONG-TERM CARE RESIDENTS

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The purpose of this study is to document the trends in the incidence, prevalence and demography of long-term care residents with complex psychological needs over the previous decade. Admission records from residents at two U.S. long-term care institutions were selected for review. Data from 2016 were collected and compared with records from 2006. In addition to demographic characteristics, information was collected about a) the presence of mental illness b) the type mental health diagnosis, c) the presence, type and level of cognitive impairment and d) the number and types of medications used. Results indicated that between 2006 and 2016, there was a statistically significant rise in the number of residents with documented co-morbid mental health problems over time (n=250, p<0.05). This rise in the number of residents with diagnosed mental health issues upon admission was associated with a statistically significant rise in the use of both anxiolytic and anti-psychotic medications. In addition to the general trend towards increases in diagnosed mental health problems, there were also substantial increases in the number of residents dually diagnosed with both cognitive impairment and mental illness. This increase in both the prevalence and complexity of resident mental health problems has serious implications for both family members and healthcare providers. Increased education, staffing and services may be needed to address the complex medical and mental health needs of this vulnerable population.

SENSORY LOSS AND DEMENTIA: INSIGHTS INTO LONG-TERM CARE NURSES' EXPERIENCES OF CARE AND ASSESSMENT

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More than half of long-term care (LTC) residents are reported to be living with dementia, affecting their ability to understand and express information, thereby having profound implications for effective interactions. This is further

compounded by hearing and vision loss which also affects two thirds of residents. Persons living with dementia have identified the assessment of such sensory impairment, along with its treatment and care, as a key research priority. As part of a larger project aiming to develop a package of effective sensory screening tools to identify LTC residents with dementia in need of specialist referral, an environmental scan was conducted to capture the tools and strategies currently being used by front line staff in this setting. A purposive sample of 20 registered nurses and registered practical nurses was interviewed across 2 facilities in Ontario, Canada, and asked about: their experiences of working with persons who have dementia and sensory loss; how they identify which residents have sensory impairment; ways in which current screening procedures could be improved; and, key elements to include in a sensory screening package. Using a strength-based analytical framework, we highlight “pockets of excellence” in nurses’ practices of care and assessment. Results from a two-step qualitative content analysis reveal diverging institutional frameworks of practice, along with shared barriers and enablers to the care and identification of sensory loss in this population. We also discuss examples of effective and creative strategies used by nurses to conduct informal assessments and enable communication with older adults who have dementia.

A NATIONAL APPROACH TO IMPROVING DEMENTIA CARE: THE DEMENTIA DYNAMICS TOOLKIT

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Under the Encouraging Better Practice Initiative, the Australian Commonwealth Department of Health and Aged Care funded a team from Flinders University to develop and disseminate the Dementia Dynamics Toolkit to all residential aged care homes in the country with the aim of building capacity in person-centred dementia care. The DD Toolkit comprises a manual, eLearning and micro-training DVDs, and a website which provides access to technical and implementation support. A national sample of aged care staff and management were surveyed pre/post the dissemination of the toolkit. Data was also collected during the project via workshop evaluations, pop-up surveys online, email surveys and telephone interviews. Of the 2768 residential aged care homes in Australia, 60% have staff and management completing the eLearning. This paper provides an overview of the project and presents data collected specific to examining staff-based measures of individualised care (ICI), work practices, person-centred leadership and responsive behaviour in relation to completion of the eLearning. Data analysis indicates that in care homes where a critical mass of staff have completed the eLearning the general institutional climate has shifted, with a consequential decrease in responsive behaviour expressed by residents with dementia. Overall, staff and management who have completed the eLearning have higher individualised care scores, report more person-centred work practices and feel more empowered in their workplace. The flexibility of the toolkit is highlighted through descriptions of the different ways care homes have made use of the resources.

COMMUNICATION LEADING TO SHARED MEANING IN THE NURSING HOME

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Patterns of communication between nurses and physicians directly impact nursing home (NH) resident quality of care. Nurses not fully explaining clinical change and physicians not eliciting needed information has compromised effective communication. This qualitative study used a Sensemaking model of communication between NH nurse/physician to understand shared meaning informed by oral and written strategies.

Sample-19 nurses, 22 MDs. 33 communication events were the focus of 16 interviews, 17 nurse notes, 22 MD orders, and 16 MD notes. Using grounded theory and ethnographic interviewing (1st & 2nd cycle coding, constant comparative analysis, analytic memos) with a Sensemaking-based semi-structured interview guide and examination of related medical records, communication events were analyzed. Cases were created to illustrate communication processes. Trustworthiness was addressed through an audit trail of decision-making memos, triangulation of prolonged interviews with medical records, and using Sensemaking to guide interpreting codes and developing theory.

Nurses established relationships by intentionally approaching MDs at monthly NH visits, creating individualized communication exchange, contact lists, and MD information sharing. MDs noted nurses’ availability or phone contacts directed their coming to know the nurse and their capabilities. Case analysis yielded contrasting views by nurse and MD of the same event. Nurses described symptoms, and MD orders or transfer requests. MDs noted importance of crafting resident information for decision-making.

Nurses and physicians sought agreement about next steps or decisions. Education should emphasize how to reach shared meaning. Research should examine impact of nurse/MD communication on resident outcomes.

RELIABILITY AND VALIDITY OF THE RESISTIVENESS TO CARE SCALE AMONG COGNITIVELY IMPAIRED OLDER ADULTS

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Resistiveness to care generally occurs when an individual with cognitive impairment interferes with caregivers’ attempts to provide care, and commonly occurs during personal care interactions such as bathing, toileting, and oral care. The purpose of this study was to test the reliability and validity of the Resistiveness to Care Scale (Mahoney et al., 1999) using a Rasch Measurement Model among a larger group of nursing home residents with moderate to severe dementia. This was a descriptive study using baseline data from 261 residents participating in an ongoing trial testing a Function and Behavior Focused Care intervention for cognitively impaired nursing home residents (FBFC). The average age of the residents was 84.64 (SD=9.60) and the majority were female (N=198, 74%), white (N=161, 61%), and not married (N=185, 69%). The mean MMSE was 7.23 (SD=5.10). There was sufficient evidence of internal consistency with findings similar to the

original scale development which was done with a non-independent sample of 68 residents younger residents (mean age of 72) providing 232 observations in which the alpha coefficient was .82. Psychometric testing using Rasch analysis supported the validity of the measure. The findings from this study provide new support for the reliability and validity of the Resistiveness to Care Scale for use with older adults with dementia in nursing home settings. Future work with the measure may benefit, however, from the addition of items that are easier to endorse or express with regard to resistiveness to care.

INTRODUCING MONTESSORI-BASED VISITING IN A CANADIAN LONG-TERM CARE HOME: RESULTS AND RECOMMENDATIONS

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Enhancing quality of life for residents with advancing dementia remains one of the most significant problems of residential care. Nevertheless, there is growing recognition that when activities are appropriately adapted to individual interests and abilities, residents with dementia can enjoy sustained participation. One method that has seen considerable success in this regard is the Montessori method, introduced by Cameron Camp, and based on the work of Italian physician and educator Maria Montessori (1870 – 1952). We recruited and trained 18 community volunteers to use a Montessori-based approach to visit residents in a secure dementia care unit. In this presentation, we describe the design and implementation of this volunteer visiting program and provide brief data-driven summaries of resident, volunteer, family, and staff input. We offer specific recommendations from our experience to those interested in developing similar Montessori-based initiatives in dementia care settings.

COSTS OF A STAFF COMMUNICATION INTERVENTION TO REDUCE DEMENTIA BEHAVIORS IN NURSING HOME CARE

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Background: Persons with Alzheimer's disease and other dementias experience behavioral symptoms that frequently result in nursing home (NH) placement. Managing behavioral symptoms in the NH increases time required to complete care, adds to staff stress and turnover, and increases costs of care. The Changing Talk (CHAT) intervention improves staff communication by reducing elderspeak and led to reduced resident resistiveness to care (RTC). We evaluated the cost effectiveness of CHAT in reducing elderpeak and RTC.

Methods: Costs to provide CHAT were determined for each NH (N=11) using process based costing.

Analysis: Based on the number and type of staff attending the CHAT training, and materials and interventionist time, an average cost per participant was calculated for each NH.

Regression estimates from the parent study were applied to determine costs per unit reductions in staff elderspeak and resident RTC.

Results: A one percentage point decrease in elderspeak was associated with an average 0.43 reduction in RTC. CHAT led to a 12.9% average drop in elderspeak use by NH staff. The average 12.9% reduction in staff elderspeak use predicted a 5.59% decrease in RTC per resident. Assuming that each staff cares for 2 residents with RTC, the cost effectiveness ratio for each 1% RTC reduction per resident is \$7.13.

Conclusions: Cost variations to reduce elderspeak and RTC were based on the number of factors such as baseline elderspeak and the number of residents with RTC. Overall, the 3-session CHAT program is a cost-effective intervention for reducing RTC in dementia care.

THE EFFECT OF AROMATHERAPY ON AGITATION AND CAREGIVER BURDEN IN PATIENTS WITH DEMENTIA

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Introduction: In dementia, psychiatric and behavioral symptoms develop over time. One of the most frequently observed behavioral symptoms is agitation. The caregivers of dementia patients with agitation have an increased burden. Therefore, studies are needed to examine the effect of aromatherapy on agitation in dementia. The aim of this study was to examine the effects of aromatherapy on agitation in patients with moderate to severe dementia and caregiver burden. **Method:** The study was carried out in patients with dementia and their caregivers at two university hospitals in Turkey. The study sample comprised a randomly selected aromatherapy (n=14) and control group (n=14). Patients in the study were stratified by dementia phase and taking antipsychotic medication. The intervention group was given aromatherapy via hand massage and inhalation for 4 weeks in their home. The control group received no intervention during the study. The data were collected using Neuropsychiatric Inventory (NPI), Cohen-Mansfield Agitation Inventory (CMAI) and Zarit Burden Interview (ZBI). **Results:** The NPI scores of intervention-group significantly decreased at weeks 2 and 4 compared with control patients ($p<0.05$). In addition, CMAI and ZBI scores were significantly lower in the intervention group compared with the control group at week 4 ($p<0.05$). **Conclusion:** After aromatherapy, agitation, neuropsychiatric symptoms and caregiver burden in the intervention group had significantly decreased compared with the control group.

THE EFFECTS OF WEB-BASED PHYSICAL RESTRAINT-REDUCTION EDUCATIONAL PROGRAM

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Physical restraints have been frequently used in Korean nursing homes. This study was conducted to evaluate the effects of web-based physical restraint-reduction educational programs on Korean nursing students. A randomized, single-blind, control-group pretest-posttest design was used to evaluate the effects of web-based physical restraint-reduction educational programs (six session-educations for 54.33 minutes). A total of 169 nursing students (85 in experimental group and 84 in control group) in four Korean nursing schools completed this study. The experimental group received the web-based physical restraint-reduction educational programs and the control group did not receive the program. Data were collected immediately before and after the intervention (between December in 2015 and January in 2016). Three instruments were used to measure nursing students' knowledge, perception, and attitudes regarding use of physical restraints in nursing homes. There were statistically significant effects of the web-based educational programs on nursing students' knowledge ($t = 5.97, p < .001$) and perception ($t = -9.67, p < .001$) regarding the use of physical restraints. There was no significant effects of the web-based educational program on nursing students' attitudes ($t = 1.72, p < .087$) regarding the use of physical restraints. The results show that web-based physical restraint-reduction educational program is an effective intervention to improve nursing students' knowledge and perception regarding the use of physical restraints in nursing homes. More intervention studies to improve students' attitudes toward physical restraint-reduction are required using more rigorous research methods. Also, restraint measurements targeting nursing students need to be developed and evaluated.

CLINICAL AUDIT: QUALITY OF PALLIATIVE CARE IN LONG TERM-CARE FACILITIES IN WESTERN FRANCE, 2015

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Most of the elderly patients hospitalized in Long-term care (LTC) facilities are under palliative care. However, little is known about the quality of the care they receive in this setting. French health care Information system do not give precise information on their end-of-life. We conducted a study to assess families satisfaction with care after the death of their relative in LTC.

We asked 40 families of all patients deceased during one month (October 2015) in 13 LTC facilities of Western France, to respond the Family Perception of Care Scale. Respondents indicate their agreement with 25 items, rated on a seven-point Likert scale. Items are gathered in 4 sub-scales: resident care, family support, communication and rooming. Finally, respondents were invited to include written comments.

First results indicate the existence of a polarization of families satisfaction, without any nuances: either they consider the care received by their love one as perfect, either they consider it as clearly inadequate. Most of the commentaries concern resident care and communication with the

staff. The survey is still in process, complete results will be presented. The difficulties faced will be discussed.

Our study Palliative care; Long-term care; Long-term care facilities; Geriatric department

ASSOCIATION OF DIABETES AND ITS COMPLICATIONS WITH DEPRESSION IN OLDER PEOPLE OF INDIA

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Diabetes is a known risk factor for mental health disorders but studies on elderly diabetic in developing countries are limited. Each country should assess its own burden on mental health due to chronic diseases like diabetes. A cross sectional comparative study (180 diabetic cases, 180 age-sex matched non-diabetic controls; aged ≥ 60 years) were recruited from Geriatric Medicine OPD between November, 2014 to June, 2016. Depression was assessed using Geriatric depression scale (GDS). There was significantly higher prevalence of depression in diabetic (35.6%) as compared to non-diabetic (16.7%) (p -value < 0.01). On subgroup analysis, Diabetic neuropathy was more associated with depression (49.3%) than those without diabetic neuropathy (27%) (p -value 0.002) among diabetic group. Diabetes is associated with increased risk of depression, while diabetic neuropathy is associated with even more risk of depression. So, all diabetic patient (especially those with diabetic neuropathy) should be assessed for depression at each health care visit.

PREVALENCE OF MENTAL DISORDERS AND ITS ASSOCIATED FACTORS AMONG CHINESE ELDERLY PEOPLE

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Elderly people were at high risk for mental disorders. Most studies in China on geriatric mental health were focused on single mental disorder such as depression and dementia. Besides, screening scales on mental disorder symptoms were used and the results could be biased. In this study, using data with diagnosis information based on the Chinese version of the Structured Clinical Interview for Diagnostic and Statistical Manual (DSM-IV) Axis I disorders (SCID) by trained psychiatrists, we aimed to explore the prevalence rate of mental disorders and its associated factors among Chinese elderly people.

Data for this study was derived from the 2012 Tianjin Mental Health Survey, which employed a multistage stratified and probability proportionate to size sampling method. Participants were firstly screened with Chinese version General Health Questionnaire and 8 additional items that assessed other risk factors for mental disorders, and divided into 3 risk groups. All subjects from high risk group, 44.5% from moderate risk group, and 10.4% from low risk group were selected for diagnosis of mental disorders with SCID.

Of the 15,538 people selected for interview, 128,99 people were investigated and 3,450 aged 60 years or older. The adjusted 1-month prevalence rate of mental disorders among Chinese elderly people was 13.0%. Factors associated with

mental disorders included female gender, older age, being currently unmarried, and low educational attainment.

The results revealed a high prevalence rate of mental disorders among Chinese elderly people. Targeted intervention programs should be conducted to improve the mental health status among Chinese elderly people.

PROMOTING ACTIVE AGEING IN OLDER PEOPLE WITH MENTAL DISORDERS: DEVELOPMENT AND TESTING OF A TOOL

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This study was carried out in Thailand. A survey instrument was developed based on the mixed methods research. The first phase, a qualitative study with two focus groups was used to initially develop the instrument. The second phase, a quantitative study was used to develop and test a draft of the survey instrument which included two main steps. The instrument development consisted of item generation, content validity, face validity, and a pilot study. Then, a cross-sectional study of 575 primary care providers was surveyed with a response rate of 72%. Psychometric properties were tested for internal reliability using Cronbach's alpha, and construct validity using exploratory factor analysis. The survey instrument was categorised as; participants, education, health, leisure, and security for conceptual and theoretical meaningfulness. A 5 point Likert scale was used ranged from 0(never) to 4(always). The initial content validity index was 0.82 and the final of survey instrument was revised into 54 items. The total Cronbach's Alpha from the pilot study was 0.975. Three items were removed because corrected item-total correlation coefficient was lower than 0.30. Test-retest reliability was a significant correlation with total score 0.97($P < 0.01$). Factorability of all items was confirmed with correlations greater than 0.30. Significant results obtained on Barlett's test of sphericity [$\chi^2 (1431) = 18737.05$, $P < 0.001$] and the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.95. This paper reports preliminary evidence of the psychometric properties of a new survey instrument. Five factors identified assessment of promotion in active ageing for older people with mental disorders in communities.

CORRELATIONS OF NURSING PRACTICES FOR ELDERLY WITH COGNITIVE IMPAIRMENT AND COMPETENCE IN HOSPITALS

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In Japan, the proportion of elderly people in the population increased to 25% in 2013, and will increase to 38% by 2055. The number of elderly people with dementia in Japan has been increasing due to the increasing proportion of very old people among the elderly. In this context, many elderly people with dementia require physical treatment and admission to acute care hospitals. The Self-Assessment Scale of Nursing Practice for Elderly Patients with Cognitive Impairment (NPCI) was developed to

evaluate person-centered care practices for elderly people with dementia; the Clinical Nursing Competence self-Assessment Scale (CNCSS) was developed to evaluate clinical nursing competence. This study examined correlations between scores on the NPCI and CNCSS among 280 nurses working in two acute care hospitals; data were collected from March to July 2015. Participants self-administered the questionnaires. The NPCI has the following sub-scales: "creative care suited to the patient and their cognitive function," "care that emphasizes the patient's viewpoint," "care with a psychosocial approach that predicts potential problems," and "care that recognizes the will and worth of the patient." Six of the CNCSS' 13 sub-scales were used in this study. Correlation coefficients were calculated between scores on each questionnaire; NPCI and CNCSS sub-scale scores were significantly correlated. Multiple regression analysis indicated that the NPCI's "supportive human relationships" and "ethical practices" sub-scales were significantly correlated with all CNCSS sub-scales. These results indicate that clinical nursing competence training and accreditation should encourage nurses to use person-centered care practices to treat elderly people with dementia.

SESSION 1045 (POSTER)

NUTRITION AND DIET QUALITY II

NUTRITIONAL AND FUNCTIONAL STATUS OF OLDER PEOPLE LIVING IN YOGYAKARTA, INDONESIA

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Malnutrition is associated with poor health outcomes and places substantial burden on Indonesia's healthcare system. However, the prevalence, and impact, in community-residing Indonesians aged ≥ 65 years remains unknown. We conducted a cross-sectional study to determine the nutritional (using the 18-item Mini Nutritional Assessment (MNA) and serum albumin concentration) and functional (using grip strength and gait speed), status, of residents from the Yogyakarta region. Participants from two urban (City of Yogyakarta; $n=324$) and two rural (Kulonprogo Regency; $n=203$), districts, were assessed. According to the MNA, 5% were malnourished, 54% were at risk of malnutrition and 41% were well-nourished. Rural and urban participants were more likely either malnourished (3vs.6 %) or at risk of malnutrition (73vs.43 %) than well-nourished (24vs.51%). Rural compared with urban participants had lower body weight (mean $\pm$ SD; 44 ± 9 vs. 52 ± 12 kg), body mass index (20 ± 3 vs. 23 ± 4 kg/m²) and albumin concentrations (3.9 ± 0.2 vs. 4.0 ± 0.2 g/dL) (all, $P < 0.001$). Although there was no difference in grip strength between rural and

urban participants (15.9 ± 6.2 vs. 16.8 ± 6.7 kg, $P > 0.05$), there was a tendency for gait speed to differ ($P = 0.057$); post-hoc analysis, indicated lower gait speed for participants from the rural district of Panjatan ($n = 125$, 0.51 ± 0.2 m/s) and the urban districts of Jetis ($n = 96$, 0.49 ± 0.2 m/s) and Gondokusuman ($n = 221$, 0.53 ± 0.2 m/s) compared with the rural district of Girimulyo ($n = 75$, 0.60 ± 0.2 m/s) ($P < 0.05$). In conclusion, 59% of Yogyakarta citizens were malnourished or at risk of malnutrition and, although the prevalence of poor nutrition was greatest for people from rural districts, functional status assessed by grip strength and gait speed was largely comparable.

FUNCTIONAL TOOTH UNIT COMPOSITION AND NUTRIENT INTAKES: THE CONCORD HEALTH AND AGEING IN MEN PROJECT

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Associations between inadequate nutrient intakes and poor dentition in older adults have been shown. The aims of this study are to investigate associations between nutrient intakes and composition of posterior functional tooth units (FTUs) in older men.

Preliminary analysis of a standardized validated diet history assessment and comprehensive oral health examination in 410 community dwelling men (mean age: 84 years) participating in Concord Health and Ageing in Men Project. FTUs were categorized as replaced and/or natural teeth and categorized by number of FTUs. Attainment of Nutrient Reference Values (NRVs) for total energy and key nutrients (protein, Fe, Zn, riboflavin, Ca and vitamin D) were incorporated into a 'key nutrients' variable dichotomised 'good' (≥ 5) or 'poor' (≤ 4).

43.2% ($n = 177$) had 'replaced' only FTUs, 31.7% ($n = 130$) had natural only FTUs and 36.8% ($n = 151$) had < 7 FTUs. Most men met their NRVs, however only 27% met their NRVs for fibre, 26% for potassium, 13% for calcium and $< 1\%$ for vitamin D. In adjusted logistic regression analysis, 'replaced' only FTUs, compared to 'natural only' FTUs, were associated with intakes below the recommendations for folate OR: 1.95 (95% CI: 1.16–3.29), riboflavin, 2.23 (1.03–4.83), magnesium 2.22 (1.32–3.74) and fibre 1.81 (1.06–3.10). Adjusted analysis also showed that men with < 7 FTUs, compared to complete FTUs OR: 2.28 (95% CI: 1.19, 4.41) and those with 'replaced' only FTUs, compared to 'natural' only FTUs 2.00 (1.09, 3.66) were more likely to have poor nutritional intake of key nutrients. Our study shows that composition of FTUs in older men is associated with inadequate intake of some nutrients.

WEIGHTED VEST USE FOR PRESERVING MUSCLE MASS DURING WEIGHT LOSS IN OLDER ADULTS

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Muscle mass loss during weight loss is partially attributed to decreased gravitational load; thus, externally replacing lost body mass may be effective for reducing muscle loss during caloric restriction. To assess the feasibility of this approach, we randomized 37 older (65–80 yrs) adults with obesity ($BMI = 30\text{--}40$ kg/m²) to a 5-month intervention, with (Diet+Vest) or without (Diet only) use of a weighted vest during normal daily activities. The WL goal of 10% was achieved using the Medifast 4&2&1 Plan[®] (4 meal replacements, 2 self-prepared meals and 1 snack/day) and weekly group behavioral counseling meetings. Diet+Vest was asked to wear a weighted vest, progressing to 10 hours/day, with weight added weekly according to individual loss of body mass. At intervention end, vest wear time (mean $\pm$ SD) was 6.7 ± 2.2 hours/day and vest weight was 13.8 ± 5.6 lbs. Both groups lost a similar amount of body mass (Diet= -11.2 ± 4.4 kg ($11.8 \pm 4.5\%$); Diet+Vest= -11.0 ± 6.3 kg ($10.7 \pm 5.9\%$)). Fat mass, lean mass, and % body fat decreased significantly ($p < 0.0001$), with no differences between groups; lean mass comprised $\sim 1/4^{\text{th}}$ of the total mass lost in both groups (Diet= $22 \pm 16\%$; Diet+Vest= $26 \pm 17\%$). Changes in lower-extremity physical function (gait speed, chair rise, stair climb) did not differ between groups; however, leg extensor strength, power and muscle quality tended to decrease in Diet (by 3–9%; $p = 0.03\text{--}0.15$), but were unchanged in Diet+Vest. These initial results indicate there may be a beneficial effect of weighted vest use for preserving muscle strength/quality independent of muscle mass retention.

DIET QUALITY AND COGNITIVE FUNCTION IN OLDER AUSTRALIAN MEN AND WOMEN

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Previous research into nutrition and cognitive function has focussed on individual nutrients or foods, with inconsistent results. The dietary pattern approach enables assessment of whole diet quality. The aim of this study is to examine associations between diet quality and cognitive function in men and women. Adults aged 55–65 years in the Wellbeing, Eating and Exercise for a Long Life (WELL) study ($n = 617$) completed an 111-item food frequency questionnaire in 2010 and 2014. The dietary guideline index (DGI), a measure of adherence to the Australian Dietary Guidelines assessed diet quality. The Telephone Interview of Cognitive Status modified (TICS-m) assessed cognitive function in 2014. Associations between previous (2010) and recent (2014) diet quality and cognitive function were assessed using linear regression. Key food groups (fruits, vegetables, protein, dairy, cereals) and dietary behaviours (diet variety, adding salt, low-fat, high-fibre) were also investigated. There was no association between 2010 DGI score and TICS-m. After adjustment for age, education, urban/rural area, depression, physical activity, BMI and cardiovascular conditions, a higher 2014 DGI score was associated with a higher TICS-m score

in men (coefficient=0.04, 95% CI 0.01, 0.07). Associations between high-fibre bread (coef=1.05, 95% CI 0.11, 1.99), added salt (coef=-1.79, 95% CI -2.90, -0.68) and TICS-m were also observed in men. Cross-sectionally, men who consumed a diet closer to the Australian dietary guidelines, with high-fibre breads and less added salt reported better cognitive function. Future studies should investigate trajectories of dietary change over time as determinants of cognitive function in older age.

CONCORDANCE OF ANTHROPOMETRIC, SELF-REPORTED AND BLOOD MEASURES OF NUTRITIONAL EVALUATION IN ELDERLY

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This study aimed to assess the concordance between some measures often used as nutritional status markers. We used data from elderly (n=1,256) evaluated in the third wave of SABE Study (Health, Well-being, and Aging) conducted in 2010 in Sao Paulo, Brazil. We evaluated nutritional status using the most common measures: Body Mass Index (BMI), hemoglobin and albumin concentrations, calf circumference, score in mini nutritional assessment (MNA) and self-perception of nutritional status (question: “do you consider yourself well-nourished?”). Differences between groups were estimated using χ^2 test with Rao-Scott correction, considering populational weights for estimates. The prevalence of Hypoalbuminemia (<3.5g/dL) was 7.9% of low body weight elderly (BMI<22kg/m²), proportion similar to normal weight elderly (6.8%; p=0.652). Anemia was more prevalent in low weight elderly, but the difference was not significant (12.2 and 7.2, respectively; p=0.078). Both anemia (15.9% and 7.5%, p=0.019) and hypoalbuminemia (15.9% and 7.5%, p=0.019; 20.1% and 7.5%, p<0.001) were more prevalent in elderly with calf circumference <31cm in relation to those with values ≥31cm. They were also more prevalent in those considered malnourished by MNA comparing with well-nourished (anemia: 14.4 and 5.9%, p=0.011; hypoalbuminemia: 21.6 and 6.0, p=0.002). Hypoalbuminemia was significantly higher in those who self-perceived malnourished (14.9% and 7.5%, p=0.019), but anemia and low calf circumference were not significantly. Thus, nutritional status is a complex part of geriatric evaluation and should count on several measures, including anthropometric, self-perception and blood indicators, to allow a complete understanding of nutritional status, once body weight alone may not reflect it correctly.

SALT CONSUMPTION AND OVERWEIGHT AMONG OLDER ADULTS: DATA FROM NUTRITION UP 65

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A few studies suggested that salt consumption might be related with weight gain. We aimed to quantify salt consumption in a representative sample of Portuguese older adults and to evaluate the association between salt intake and overweight (including obesity).

A cluster sampling approach was used, representing Portuguese older adults (≥65 years) according to age, sex, education level and regional area within the Nutrition UP 65 study. This cross-sectional evaluation was conducted in 2015 and 2016. From a sample size of 1500 participants, 1312 were eligible for the present analysis, 57.3% were women, 23.5% were aged ≥80 years. Salt consumption was evaluated through one 24h urinary sodium excretion and excessive salt consumption was defined as ≥5g/day, according to the World Health Organization cut-offs. Overweight/obesity was defined as BMI>27kg/m², according to the Nutrition Screening Initiative criteria for older adults. A multivariable binary logistic regression model was conducted to evaluate the association between salt consumption and overweight/obesity, and Odds Ratios (OR) and respective 95% Confidence Intervals (95%CI) were calculated.

Salt consumption ≥5g/day was observed in 85.1% participants [median (interquartile range)=7.9(4.6) g/day], and the prevalence of overweight or obesity was 69.6%. After adjusting for potential confounders, excessive salt consumption (OR=1.48, 95%CI: 1.06–2.17) was associated with being overweight/obese.

These results emphasize the need for implementing nutritional strategies concerning the reduction of salt consumption among this age group, and particularly in the overweight or obese.

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ASSOCIATION OF BODY COMPOSITION AND PHYSICAL FUNCTION WITH VENTILATORY LIMITED OBESE OLDER ADULTS

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We evaluated whether ventilatory limitation during peak cardiopulmonary exercise testing is associated with worse body composition and physical function in healthy older adults with obesity but without chronic pulmonary disease. 177 healthy adults, 65–80 years old, with obesity (BMI=30–45kg/m²) underwent cardiopulmonary exercise testing on a treadmill, body composition measurement using DXA, and physical function assessment. Participants were categorized into 4 groups based on the lower 95% confidence limit for mean VO₂peak (17.49ml/kg/min) and the median breathing reserve at peak exercise (BR_{peak}, 37.2). Those with low VO₂peak/low BR_{peak} were considered to have ventilatory limitation (VL, n=33), normal BR_{peak}/low VO₂peak had non-ventilatory limitation (NVL, n=48), low BR_{peak}/high VO₂peak were healthy obese (HOb, n=55), and normal BR_{peak}/high VO₂peak were fit obese (FOb, n=41). VO₂peak was lowest in VL (14.7±1.7ml/kg/min vs 15.5±1.7ml/kg/min vs 20.7±2.6ml/kg/min vs 19.9ml/kg/min) and was associated with lower oxygen pulse (10.3±1.5ml/HR vs 10.8±2.2ml/HR vs 13.3±2.5ml/HR vs 13.6±3.1ml/HR)

and higher VE/CO₂ (34.2 ± 5.2 vs 30.1 ± 3.1 vs 31.7 ± 2.5 vs 28.5 ± 3.1) compared to NVL, HOb, and FOb respectively ($p < 0.0001$ for all). While total body mass was similar across all groups, fat mass and percent body fat was highest in VL and lowest in FOb ($p < 0.0001$). Lean body mass was lowest in VL and highest in normal FOb ($p = 0.03$). Low VO_{2peak} groups had lower short physical performance battery scores ($p = 0.02$), slower gait speed ($p < 0.0001$) and 400-meter walk ($p < 0.0001$) compared to high VO_{2peak} groups, independent of BRpeak. In conclusion, ventilatory limitation at peak exercise capacity is associated with worse body composition in older obese adults without primary lung disease.

PROBLEMATIC DRINKING IS ASSOCIATED TO MUSCLE MASS AND MUSCLE FUNCTION IN ELDERLY MEN WITH DIABETES

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Background: Alcohol consumption is particular serious in diabetic subjects (T2D), as hypoglycemic states can occur due to an inhibition of hepatic glycolysis. Muscle is supplied with energy by the breakdown of glucose, frequent episodes of hypoglycemic conditions could result in muscle breakdown. Aim of the current analysis within the Berlin Aging Study II (BASE-II) was to analyze the association of problematic drinking behaviour to muscle mass and muscle function in diabetes.

Methods: Cross-sectional data of 1456 elderly BASE-II participants (50.8% women; 64 ± 4 years old) were analysed. Alcohol consumption and problematic drinking was assessed using the Alcohol Use Identification Test (AUDIT). Muscle mass was measured using dual energy X-ray absorptiometry (DXA), grip strength using a Smedley dynamometer. Adjusted regression models were calculated to assess the association of problematic drinking to muscle mass and grip strength.

Results: Problematic drinking was evident in 11.1% of BASE-II participants, 12.1% had diabetes. In adjusted models (adjustment for age, BMI, smoking status, morbidities, HOMA-IR, CRP, TSH, physical activity and antidiabetic medication) we found a statistically significant association between problematic drinking to muscle mass (Beta: -22.5; SE: 9.8; $p = 0.026$) and grip strength (Beta: -7.8; SE: 2.9; $p = 0.010$) in elderly diabetic men. These results were not evident in women and subjects without T2D.

Discussion: Alcohol consumption, particularly problematic drinking is associated with poorer muscle mass and grip strength in elderly men with diabetes. This topic should be addressed in these subjects as they could be at increased risk for early dependency.

ENERGY INTAKE AND FUNCTIONAL LIMITATIONS IN MALNOURISHED, GERIATRIC PATIENTS AT HOSPITAL DISCHARGE

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Inadequate dietary energy intake results in weight loss which is associated with functional limitations and frailty in geriatric individuals (1).

We investigated energy intake in malnourished patients at hospital discharge and its association with functional limitations, grip strength and risk of depression.

Malnutrition was assessed with the Mini-Nutritional Assessment (MNA) and dietary intake at discharge with a 24h-recall. Energy intake below 24 kcal/kg body weight/day was considered low (2). Frailty was identified with the Fried criteria (3). Restrictions in self-reported functional limitations (Longitudinal Aging Study Amsterdam questionnaire), activities of daily life (ADL), depression (Center for Epidemiologic Studies) and appetite (Council on Nutrition appetite questionnaire) were evaluated by validated questionnaires. Patients were questioned regarding fall frequency within the previous 12 months. Grip strength was measured with dynamometry.

115 patients (77.5 ± 6.9 years; 55.7% women) were included. 53.5% were malnourished ($MNA \leq 7$) and 46.5% were at risk ($MNA 8-11$). 55.7% had low energy intake (17 ± 4 kcal/kg body weight/day; 0.7 ± 0.3 g protein/kg body weight/day). 72.2% were pre-frail/frail. 98.2% had functional limitations. According to ADL, 67.9% were dependent. 52.1% were at risk of depression, 67.0% exhibited loss of appetite and 61.7% had fallen in the previous 12 months. Patients with low energy intake were more often functionally impaired (72.7% vs. 50.0% , $p = 0.018$). Energy intake at discharge correlated with grip strength ($r = 0.308$, $p = 0.001$).

In the majority of malnourished geriatric patients at hospital discharge, energy intake is still below reference values and is associated with functional limitations and reduced strength.

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6-MONTH OUTCOMES OF A HOME-DELIVERED MEAL PROGRAM FOR ACUTE NUTRITIONAL RISK

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Purpose: To describe the changes in self-rated health status in individuals at acute nutritional risk who received medically-appropriate frozen meals delivered weekly by a community-based organization.

Methods: Individuals with an acute illness and at acute nutritional risk who were referred by a healthcare professional to receive medically-appropriate home-delivered meals for up to 6 months from the Metropolitan Area Neighborhood Nutrition Alliance (MANNA) in Philadelphia, PA were invited to participate in the program evaluation. Telephone interviews were conducted at baseline (within 2 weeks of receiving meals), 1 month, 3 month and 6 months. The following tools from the Performance Outcome Measurement Project (POMP) were administered at each time period: satisfaction with home-delivered meals, functional status, and social/emotional well-being.

Results: A total of 52 (Mean age 60.79 years ± 13.69) individuals agreed to participate in the program evaluation over a 3 month period. Participants were primarily female (61.5%), were Black (71.2%) and lived alone (55.8%). The primary diagnosis of participants included cancer (44.2%), renal disease (23.1%), diabetes (15.4%) and HIV/AIDS

(15.4%). At baseline 32.7% of participants had weight loss, 19.2% were at risk for malnutrition, and 13.5% had an impaired ability to prepare meals. Compared to baseline, at 6-months there was an overall increase in self-rated health status ($p=.006$), and increased satisfaction with social activity ($p=.01$).

Conclusions: Individuals with an acute illness and at acute nutritional risk reported an increase in self-rated health and social activity while receiving weekly medically-appropriate home-delivered meals for 6 months.

THE RELATIONSHIP BETWEEN SCHISANDRAE CHINENSIS SUPPLEMENTATION AND MUSCLE STRENGTH IN OLDER WOMEN

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Background: Several studies reported that the direct relaxation effect of schizandra chinensis on animal smooth muscle was more dominant than the endothelium dependent NO pathway in corporal tissue and that activation of K⁺ channels and inhibition of TRPC6 channels could be one mechanism of schizandra chinensis induced relaxation of smooth muscles. The fruit of Schizandra chinensis (SC) is a well-known traditional herb used for pharmacological purposes in Asian countries (e.g., Korea, China and Japan), however, the association of SC suppl. and physical function in older population remains unclear.

Purpose: A controlled, randomized, double-blind trial to evaluate the effect of schizandra chinensis supplementation on skeletal muscle mass and muscle force in older women.

Subjects and Methods: Forty-eight female participants (intervention group, n=26; control group, n=22) were included in this study. The intervention group performed ingested two capsules containing either schizandra chinensis or cellulose with every day for 12 weeks breakfast and dinner. The schizandra chinensis capsule contained 250mg of schizandra chinensis, whereas the placebo capsule contained 250mg cellulose. Comparison of changes in body composition measured by DXA, muscles quadriceps strength by Biodex, and laboratory tests between the control and intervention groups during 12 weeks.

Results: After intervention, significant group $\times$ time interactions for the strength of quadriceps muscle force were found. Also, significant group $\times$ time interactions for appendicular skeletal muscle mass were found.

Conclusion: Schizandra chinensis supplementation may help to improve the age-related loss of skeletal muscle mass and muscle force in older women.

BIOIMPEDANCE-DERIVED PHASE ANGLE AND MORTALITY AMONG OLDER PEOPLE

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Phase angle measured by bioelectrical impedance analysis (BIA) may be a marker of health state. This study aims to investigate the link between phase angle and mortality in older persons, and to evaluate whether we can define a phase angle cut-off.

We included all adults over 65 years who underwent a BIA measurement at the Geneva University Hospitals between 1990 and 2011. We retrieved the phase angle and co-morbidities at the last BIA measurement and the mortality until December 2012. The analyses were performed with the Nutriguard® device because they allow the calculation of sex-, age- and body mass index (BMI)- standardized phase angle using German reference values. Sex-specific and standardized phase angle were categorized into quartiles, where quartile 1 corresponds to the lowest phase angle values and is used as reference category. We evaluated the association of mortality with sex-specific or standardized phase angle through univariate and multivariate (age, sex, comorbidities, BMI categories and settings) Cox regression models, Kaplan-Meier curves and ROC curves.

1307 (38% women) underwent a measurement with the Nutriguard device. Death occurred in 628 persons (44% women). In a multivariate Cox regression model, the risk of mortality decreased progressively as the standardized phase angle quartile increased (HR 0.71 (95%CI 0.58, 0.86), 0.53 (95%CI 0.42, 0.67), 0.32 (95%CI 0.23, 0.43). The discriminative value of continuous phase angle, assessed as the area under the ROC curve, was 0.724 (95%CI 0.70, 0.75) not leading to define an acceptable phase angle cut-off to perform individual prediction of mortality.

This study shows the association of phase angle and mortality in elderly patients, independently of age, sex, comorbidities, BMI categories and settings (ambulatory vs hospitalized).

COMPARISON OF OLDER VS. YOUNGER HOSPITALIZED ADULTS WITH A MALNUTRITION DIAGNOSIS IN THE U.S., 2010

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Purpose: To examine differences in demographic characteristics and comorbidities in a nationally representative sample of older (≥ 65 years) and younger (18–64 years) hospitalized patients with diagnosis of malnutrition (dxmal).

Methods: Data are from the 2010 Healthcare Cost and Utilization Project (HCUP), which contain patient-level data with ICD-9CM diagnosis codes on hospital inpatient stays. Data were weighted to generate nationally representative estimates of US hospitalizations. Characteristics of older and younger adults with a dxmal during their hospital stay were identified and compared.

Results: Among patients with a dxmal, those ≥ 65 years were 1.5 times more common than those <65 (727,858 vs 467, 378). Older dxmal patients were more likely to have chronic comorbidities than younger adults. However, among older dxmal patients, length of stay (11.6 vs 13.7 days, $p<.001$) and cost of care (\$80,191 vs 106, 535, $p<.001$) were lower and more older dxmal patients died during their hospital stay (10.7% vs 6.6%, $p<.001$). Older dxmal patients were three-times more likely to be admitted to the hospital from a skilled nursing facility (6.4% vs 2.0%, $p<.001$), and twice as likely to be discharged to an intermediate or skilled care facility (49.2% vs 25.0%, $p<.001$).

Conclusions: Older hospitalized dxmal patients appear to be more frail and have greater comorbidity than their younger counterparts. While their length of stay and cost of care is lower, their mortality is higher. It may be beneficial to carefully monitor nutritional status in hospitalized older adults with dxmal, especially those admitted from skilled nursing facilities.

IDENTIFICATION OF A MULTIDIMENSIONAL FOOD-AMINO ACID-DEFINED CIRCADIAN LONGEVITY ZONE

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The amino acids cysteine, glycine, serine and tyrosine all increased steadily during evolution of primate to human milk, hinting that this combination may support the extraordinary human longevity which co-evolved. Methionine continued its long downward trend during primate evolution, so this amino acid declined steadily in heart tissue and then milk proteins from mice to man, spanning cat, dog, cow, horse and elephant evolution as well as rodent and primate. These amino acid changes are sufficiently precise to enable unbiased SIMCA multivariate analysis to predict primate/human lifespan with 99 percent accuracy, and to score and map all foods within the US Department of Agriculture Nutrition Database (Release 26) into zones comprised of proportions resembling short-lived species, or milk from the longest-lived primates. This presentation provides a tour of foods with longevity-correlated proportions, generally higher in serine and tyrosine and lower in methionine, which map together in 20-dimensional amino-acid-space near human milk, caviar and germ-line tissues that defy aging indefinitely. These carefully-evolved proportions are then linked to daily circadian peak periods of high methionine and genetic damage that by hypothesis represent a burst of daily aging that occurs unless we protect ourselves by carefully selecting nutrient proportions at each meal (either baboon-like proportions or non-aging-germ-line proportions). Longevity-linked ratios in burritos are then shown to predict surprisingly low rates of Alzheimer's, cancer, heart disease, stroke and other age-associated illnesses within Hispanic-Americans aged 80 and above, and the partial reversal of advanced kidney disease when cats are fed a specially-formulated kidney-support diet.

SARCOPENIC OBESITY INDUCED BY SHORT-TERM HIGH-FAT FEEDING IN AGED RAT

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Background: Sarcopenic obesity was defined as the combination of excess weight and reduced muscle mass or strength. Studies described the loss of muscle mass and strength in aged rat. And short-term high-fat feeding in rat increased the fat accumulation in multiple organs. The object of the study was to establish a rat model of sarcopenic obesity by short-term high-fat feeding.

Methods: Male SD young (2-month) and old (18-month) rats ($n = 30$ respectively) were fed a control diet (CD) ($n = 15$ respectively) or a high-fat diet (HFD) ($n = 15$ respectively) for 8 weeks. Body composition was measured by magnetic resonance techniques at the age of 4 and 20 months respectively ($n=59$). Grip strength normalized to lean body mass was measured in rats of each group ($n=59$). Muscle function were further examined by different stimulated protocols to determine the changes in contractile characteristics including the the maximum twitch force (Pt) and the maximum tetanic force (Po). The hindlimb muscles of 8 rats were collected for pathological experiments. Muscle lipid contents were reflected by Sudan black B staining and LAI (lipid accumulation index).

Results: In young rats, HFD consumption resulted in significant increases in body weight, fat mass, and muscle mass compared with control diet. In aged rats, however, muscle mass was slightly reduced in HFD-fed group compared with control group. Meanwhile, body weight and fat mass in HFD-fed old rats increased compared with old control rats. Muscle lipid content was increased in glycolytic tibialis anterior muscle but no changes in oxidative soleus muscle for the HFD-fed rats. Grip strength was significantly reduced in HFD-fed old rats compared with old control rats. However, no significant difference in grip strength between HFD-fed young rats and young control rats. The maximum twitch force (Pt) and the maximum tetanic force (Po) of hind-limb skeletal muscle were significantly decreased in HFD-fed old rats compared with rats of other groups.

Conclusions: These results showed that a rat model of sarcopenic obesity could be established in aged rats by short-term high-fat feeding.

DIETARY HABITS OF JAPANESE ELDERLY IN AREAS WITH HEAVY SNOWFALL

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[Purpose] This study examines the dietary habits of in the Japanese elderly individuals in areas with heavy snowfall.

[Methodology] Questionnaires were distributed to 1004 elderly in City B, Prefecture A; 494 responses were targeted for analysis. Survey items included attributes, food intake

conditions, dietary habits, impression of a balanced diet, height, weight, deglutition state, medical status, self-rated level of health, and measurement of psychological independence. Scores for dietary variety were calculated from food intake conditions. The scores were classified into three groups. Taking dietary variety as the criterion variable and attributes, dietary habits, BMI, deglutition state, medical examination status, and measurement of psychological independence, TMIG-IC as explanatory variables, an χ^2 test or correlation coefficient was calculated.

[Results] Average age was 75.7 (SD $\pm$ 7.1) years, males were 45.5% and females were 54.5%, family composition was couples at 40.7% and those living alone at 10.5%. Average BMI was 22.8 (SD $\pm$ 3.2). Individuals making food on their own were 47.6%. Means of shopping included shopping by car at 59.1%; 81.6% preferred supermarkets for shopping for perishables. The average dietary variety score was 3.4 (SD $\pm$ 2.2). For dietary variety, gender, level of health, impression of a balanced diet, shopping means, meal preparation, and sharing side dishes were significantly related. Dietary variety and mental independence had a weak correlation. For females, Dietary variety and JST-IC subscale (information gathering) had a weak correlation.

[Discussion] This study suggests that self-rated level of health and level of mental independence are important indicators for dietary variety.

MODEL OF RELATIONS BETWEEN THE SOCIAL DETERMINANTS OF HEALTH ASSOCIATED WITH OBESITY IN THE ELDERLY

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Objective: To test the plausibility of the hypothetical model of relations between the social determinants of health (SDH) in a population of obese elderly. Design: Cross-sectional descriptive study conducted with the elderly population of a health family program of Distrito Federal, Brazil. Participants: 206 elderly classified as obese in the nutritional assessment performed by Mass Index and bioelectrical impedance. To research the SDH was used Household Survey. The Path Analysis was used AMOS, SPSS 20.0 to determine the relationships between variables. Results: the education explained 6.9% of the income variation ($\beta = 0.262$), income and gender explained 9.3% of the variation in alcohol consumption ($\beta = 0.255$), 6.4% of the smoking variable was explained by age ($\beta = -0.159$), gender ($\beta = -0.182$) and education ($\beta = -0.135$), 7.3% of physical activity was explained by alcohol consumption ($\beta = 0.124$) and for leisure ($\beta = 0.188$), 2.9 % of the variation in the consumption of vegetables ($\beta = 0.170$) and 3.3% of fruit ($\beta = 0.182$) was explained by the presence of the diet, 2.7% of the diet variable variation was explained by income ($\beta = 0.164$), 3.5% of family functional level was explained directly by age ($\beta = 0.168$) and education ($\beta = 0.148$), 8.3% of community involvement is explained by gender ($\beta = 0.190$) and education ($\beta = 0.216$). Conclusion: SDH influence in obesity in the elderly in respect of how the elderly live and the conditions that have to live.

THE ADHERENCE OF ELDERLY WOMEN WITH METABOLIC SYNDROME TO A FOOD RESTRICTION PROGRAM

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In this study, 40 elderly women with metabolic syndrome joined a food restriction and exercise program (EF) of 271 days divided into three phases: Phase I (21 days), Phase II (90 days) and phase III (160 days). In Phase I participants received a food plan (PA) prescribed with calorie restriction of 30%, attended lectures, workshops and an aerobic and anaerobic EF program. In the other phases they were instructed to proceed with the proposed protocol without direct monitoring of the nutritionist. Anthropometric, biochemical, food consumption and adherence to the PA data were collected before (pre) and after (post) each phase. At the end of phase I, II and III the study found a quantitative adherence to the program of 100%, 60% and 20% respectively. Significant statistical difference was found when comparing the averages of before and after phase I of the anthropometric data: Abdominal Circumference (pre: 100,36cm and post: 94,87cm ($p = 0.001$)); Body Mass (before: 72,07kg and post: 69,92kg ($p = 0,001$)); Percentage of body fat (pre: 40.07% and after: 38.62% ($p = 0.003$)); Body Mass Index (pre: 30,07Kg / m² and after: 29.17kg / m² ($p = 0.001$)). Weight loss and the individual monitoring with the professional nutritionist presented themselves as factors that contributed positively to the adherence of the elderly women to the program. The absence of a professional nutritionist in the second and final phase contributed to the discontinuance of the elderly.

SESSION 1050 (POSTER)

OSTEOPOROSIS

ETHNIC VARIATIONS IN VITAMIN D LEVELS AND BONE QUALITY IN BLACKS AND WHITES

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Studies have shown that vitamin D deficiency is common in Blacks, yet Blacks have lower prevalence of bone fragility fractures or osteoporosis than Whites. Broadband ultrasound attenuation (BUA) bone measurements have been used in studies to explore the association between vitamin D levels and bone quality in White and non-white populations. We investigated vitamin D status with corresponding BUA measurements assessed cross-sectionally in a bi-ethnic cohort: 232 Blacks and 260 Whites, aged 30–95 years. Subjects were part of the calibration sub-study of the large Adventist Health Study-2 (AHS-2) of about 96,000 participants. At enrollment, subjects completed a large baseline questionnaire including information on demographics, dietary practices, and medical history. At the calibration clinics, blood was drawn for later

serum 25(OH)D assessment and calcaneal BUA measured. In multivariable analyses, age was negatively associated with BUA, most strongly among females, but also among males (β -coefficient -0.69 and -0.28, respectively). Gender and race modified the relationship of serum vitamin D on BUA. In males, after adjusting for age, race, BMI, history of fractures, physical activity, smoking history and calcium intake, serum vitamin D was positively associated with BUA (β -coefficient 5.35 $p \leq .05$) and after also adjusting for serum vitamin D, BUA among Black men was significantly higher than among White men (β -coefficient 6.95 $p \leq .05$). However, for women, after also controlling for menopausal status and hormone therapy, there was no difference in BUA between Black and White females. Further studies are needed to understand how racial/ethnic differences in hypovitaminosis D influences bone health.

OSTEOPOROSIS TREATMENT AMONG OLDER WOMEN IN THE NATIONAL AMBULATORY MEDICAL CARE SURVEY (NAMCS)

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The safety of bisphosphonates has been called into question recently. While substitutes for osteoporosis management have become more common, profiles of those using substitute medications are not known. We hypothesized that older women (age ≥ 65 years) with chronic comorbidities would substitute other medications for bisphosphonates compared to younger women (age <65 years). We analyzed visit data of 2015 osteoporotic women from the 2005–2012 National Ambulatory Medical Care Survey (NAMCS). Osteoporosis-related treatments included bisphosphates, selective estrogen receptor modulators, denosumab, teriparatide, calcium, Vitamin D, and estrogen supplements. We used multivariable logistic regression to examine the relationship between age and comorbidities with prescription of bisphosphonates versus other osteoporosis medications, adjusting for potential confounders including race, physician specialty, and payer type. We weighted the estimates by drug mentions to account for the complex sampling frame. The majority of patients were White (79%), age ≥ 65 years (73%) with ≥ 3 comorbidities (59%). Of osteoporosis-related treatments, bisphosphonates comprised the majority of osteoporosis-treatment medications (68%). Women age ≥ 65 years had a similar distribution of substitute medications as younger women (30% versus 22%), and those with ≥ 3 comorbidities were similar to those with fewer comorbidities (31% versus 30%). Those with ≥ 3 comorbidities (Odds Ratio (OR): 1.12; 95% Confidence Interval (CI): 0.84–1.49) had a similar likelihood of receiving substitute medications compared to women with fewer comorbidities. In recent NAMCS data, the majority of osteoporosis-related treatments included bisphosphonate prescriptions. Age and comorbidities did not influence the type of osteoporosis medication prescribed.

ASSOCIATIONS BETWEEN TRABECULAR BONE SCORE AND VERTEBRAL FRACTURES ACCORDING TO SPINE T-SCORES

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Trabecular bone score (TBS) has been shown to be significantly related to vertebral fractures. The study aimed to evaluate the associations between TBS and vertebral fractures according to BMD T-scores.

Areal BMD at the lumbar spine (L1-L4) was assessed in 957 women aged 45 years and older from Seoul National University Bundang Hospital from February 2015 to 2016 using dual x-ray absorptiometry (DXA) scan and TBS was further analyzed using iNsight software (Med-Imaps, Pessac, France). Vertebral fractures were identified on lateral X-ray films of the spine.

Mean age was 66.4 ± 10.5 years and vertebral fractures were observed in 93 (9.7%) subjects. Twenty-four percent of fractures were occurred in normal BMD, 44.1% in osteopenia and 32.3% in osteoporotic ranges. According to the TBS levels, 7.5% fractures were happened in higher TBS levels (>1.350), 55.9% in middle TBS (1.201–1.350), and 37.8% in lower TBS levels (≤ 1.200). Adjusted odds of lumbar spine T score for fractures was 0.40 (95% CI 0.32–0.51, $p < 0.001$). Odds of each increase of 1 SD in TBS was 0.75 (95% CI 0.57–0.98, $P < 0.05$). Adjusted ORs for lumbar spine T-score were only significant in osteoporotic or osteopenic subjects, whereas adjusted ORs for 1SD increases in TBS was only significant in women with normal T-scores.

In conclusion, both lumbar spine T-score and TBS were significantly associated with vertebral fractures. However, lumbar spine T-score predicts fractures well in women with osteopenia or osteoporosis, but TBS levels are better predictable in subjects with normal BMD.

PREVENTIVE EFFECTS OF TREATMENT FOR OSTEOPOROSIS ON AGE-RELATED WEIGHT LOSS IN POSTMENOPAUSAL WOMEN

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Decline of body weight with aging is a major risk factor for frailty, osteoporosis and fracture, suggesting that treatment for osteoporosis may affect body composition. However, the effects of treatment for osteoporosis on body composition are not well known. The present study aimed to identify the relationship between treatment for osteoporosis and body composition markers. We measured bone mineral density (BMD), body composition, and bone remodeling markers in 551 Japanese postmenopausal women with Selective estrogen receptor modulators (SERMs) (SERM treatment group; N = 143) treatment, with bisphosphonates treatment (BP treatment group; N = 193) and without treatment by any osteoporosis drug (No treatment group; N = 358) for 4 to 7 years (mean observation periods; 5.5 years) and analyzed the relationship of these with

BMD, body mass index (BMI), body weight, and biochemical markers. The mean (SD) age of the participants was in 68.9 (9.3) year SERM treatment group, 68.6 (9.8) year in BP treatment group and 63.7 (10.6) year in No treatment group. Percent-changes in body weight and BMI were significantly different between women taking SERMs or BPs and those not taking any osteoporosis drugs ($P < 0.01$ and < 0.01 , respectively). In multiple linear regression analysis, SERMs and BPs treatment was a significant independent determinant of body weight and BMI. Long-term use of SERMs and BPs may prevent reductions in BMI and body weight, usually observed in elderly women.

ESTABLISHING AN ANTI-OSTEOPOROSIS MEDICATION MONITORING AND MANAGEMENT SERVICE IN NORTHERN TAIWAN

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Background/Purpose: Recently data showed that adherence of oral anti-osteoporosis medications (AOMs) were only about 40% in 4 months and 20% in one year in Taiwan. We aimed to determine the effects of AOM management program on medication adherences in northern Taiwan.

Methods: Five hundred patients with osteopenia/osteoporosis and with/without fractures with one of the following criteria were referred to this program: newly prescribed with AOMs, recent change of AOMs, poor adherence to AOMs or participating physicians requests. Research coordinators conducted baseline assessments, which included osteoporosis/fracture diagnosis and risks, medical conditions, and life styles. Educational booklet on osteoporosis managements was provided and taught after assessments. The primary outcome was the osteoporosis medication adherence measured by medication possession ratio (MPR, at 4, 8, 12, and 18 months after enrollment. Bone mineral density (BMD) was measured by dual X-ray absorptiometry (DXA) at femoral neck, total hip, and lumbar spine (L1-L4) at baseline and when indicated by treating physicians. This report presented 4 month follow-up data.

Results: Mean age was 74.5 ± 10.4 years for the entire cohort (87.0% were women). The lowest mean T-score was -2.93 ± 0.81 . About 7/8 (87.4%) patients had at least one chronic medical condition. For the entire cohort, 49.8% were newly prescribed with AOMs, 11.0% were recent change of AOMs, 7.8% were poor adherence to AOMs, and 31.4% were requested from participating physicians. At baseline, 47.2% used Denosumab, 17.2% used Zoledronic acid, 15.4% used Alendronate, 10.8% used Raloxifene, 7.4% used Ibandronate, 1.8% used Teriparatide and 0.2% used Strontium ranelate. About 3/4 (73.4%) were reimbursed by National Health Insurance. Overall medication adherence at 4 months was 95.9%. Specifically, 100% for Denosumab and Zoledronic acid, 99.4% for Teriparatide, 98.8% for Ibandronate, 88.3% for Alendronate, 80.8% for Raloxifene, and 58.8% for Strontium ranelate.

Conclusion: Our preliminary data suggested that medication management program significantly improved adherence in 4 months with pending one year follow up data.

A DEMONSTRATION STUDY OF THE FRACTURE LIAISON SERVICE (FLS) MODEL OF CARE

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Although half of women and one-quarter of men over 50 sustain an acute osteoporotic fracture, less than a quarter receive appropriate secondary fracture prevention. The goal of this demonstration project was to examine the effectiveness of a cloud-based registry application to support the FLS model of care ("FLS App") for secondary fracture prevention at 3 academic medical centers.

Methods: The Bone Health Collaborative (National Bone Health Alliance, National Osteoporosis Foundation and CECity/Premier), developed a web-based registry application to deploy the FLS model of care to coordinate post-fracture care. The pre-post study design examined the number of men and women over age 50 years who received appropriate assessment (bone mineral density [BMD], vitamin D levels) and pharmacologic treatment within 6 months of an acute fragility fracture. A retrospective chart review was used to collect baseline data at each health care facility (N=344 patients). For the post evaluation (N= 148 patients), the FLS coordinator or champion examined these parameters during the 6 months following enrollment and collected pertinent data on the FLS App. Provider and data collection surveys were used to elicit provider satisfaction and barriers to collecting patient information prior to implementation of the project and at the conclusion of the study. Comparisons between pre-post FLS periods were done using chi-square tests.

FRACTURE PREDICTIVE VALUES OF FRAX® FOR SENILE MEN IN BEIJING

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Objective: To evaluate the fracture predictive applicability of FRAX® (Fracture Risk Assessment tool) for senile men in Beijing, and to discuss the effect of 25(OH)D on FRAX®. **Methods:** A total of 348 senile men were involved and the personal data were collected including the age, height, weight, parent brittle fracture history, oral steroid history, history of rheumatoid arthritis, drinking history and smoking history. The serum concentrations of 25(OH)D were measured, and bone mineral density at lumbar spine₁₋₄ (L₁₋₄), left femoral neck, and total hip were measured by dual-energy X-ray absorptiometry. Each individual 10-year hip and major osteoporotic fracture probability was calculated by FRAX® Chinese model. Participants were divided into 4 groups by age and 4 groups according to serum 25(OH)D levels. The results of FRAX® in different groups were compared, and the effect of vitamin D status on FRAX® was investigated. **Results:** Only 4 participants achieved the diagnostic criteria of high risk of osteoporotic fracture. The 10-year probability of hip fracture was 0.96 ± 0.31 (0~4.2) and increased with age. The difference was statistically significant between

groups of all age ($P < 0.05$). The 10-year probability of major osteoporotic fracture was 3.57 ± 0.98 (1.3~7.6), and the difference was not statistically significant between groups of all age ($P < 0.05$). The 10-year probability of hip fracture increased with decreasing vitamin D levels, and the difference was statistically significant among all groups ($P < 0.05$). The 10-year probability of major osteoporotic fracture of vitamin D deficient group was higher than the probability of sufficient group ($P < 0.05$). **Conclusion:** FRAX® Chinese model may underestimate 10-year osteoporotic fracture probability of semile men in Beijing. Many factors such as vitamin D nutritional status maybe to improve the predictive value.

SIGNIFICANT GENE-GENE INTERACTION OF TNF- α AND VDR ON OSTEOPOROSIS COMMUNITY-DWELLING ELDER

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Osteoporosis (OST) is a complex multifactorial disease. Prior studies evaluated gene effects separately on OST. We evaluated gene-gene interactions of polymorphisms in tumor necrosis factor- α (TNF- α) and vitamin D receptor (VDR) genes on OST in elders.

A total of 472 elders were included from *Taichung Community Health Study for Elders*; polymorphisms (TNF- α : rs1799964, rs1800629, rs3093662; VDR: rs7975232, rs1544410, rs2239185, rs3782905) were genotyped. Bone mineral densities (BMD) of lumbar spine (LS), femoral neck (FN), and total hip (TH) were measured by DEXA. Overall and site-specific OSTs were defined as BMD T-score ≤ -2.5 standard deviations. Predictive models' ability to discriminate OST status was evaluated by areas under the receiver operating characteristics (AUROC) curve.

After considering age, BMI, physical activity, smoking, and drinking, significant interactions of TNF- α rs1799964 and VDR rs2239185, and TNF- α rs1800629 and VDR rs3782905 on overall and LS OST; interaction of TNF- α rs1799964 and VDR rs3782905 on LS OST in women were observed ($P < 0.05$). AUROC (95% CI) for Model1 (traditional factors), Model2 (Model1 + rs1800629 and rs3782905), and Model3 (Model2 + gene-gene interaction) for overall OST were 0.77 (0.70, 0.84), 0.79 (0.72, 0.86), and 0.81 (0.75, 0.88) in women, respectively. There were significant differences in AUROC between Models3 and Model1 ($P = 0.028$), and Models3 and Model2 ($P = 0.047$), indicating gene-gene interaction improved OST discrimination.

Adding gene-gene interaction into traditional factors model did improve OST risk prediction in Han Chinese elders, and help to identify high-risk individuals for OST appropriate management and intervention.

SERUM MAGNESIUM AND BONE HEALTH: A STUDY OF THE ELDERLY NUTRITION AND HEALTH SURVEY IN TAIWAN 1999

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We analyzed data from the *Elderly Nutrition and Health Survey in Taiwan 1999*. We chose this dataset as it has data on both serum Mg levels and bone health. Among participants who had blood samples obtained (N=1,509), 210 older adults had reported fracture(s). Variables included in our linear regression models for BUA were age, sex, blood levels of hemoglobin, albumin, and creatinine. For logistic regression models for self-reported fracture, BUA measurement was included in addition to the above covariates. Our study revealed that self-reported fracture cases (N=210, female 56%, mean age 72.6 ± 6.2) and controls (N=1,352, female 47%, mean age 71.8 ± 5.2) had similar mean serum Mg levels (2.20 ± 0.19 vs. 2.18 ± 0.19 mg/dL). Fracture cases had significantly lower mean BUA compared to controls (54 ± 21 vs. 61 ± 19 , $p < 0.001$) as well as in T- and Z-scores. Serum Mg level and BUA was not significantly associated by univariate ($\beta = -0.87$, 95% CI: -4.73, 2.99) and by multivariate linear regression ($\beta = 0.29$, 95% CI: -2.94, 3.52). Adjusted odds ratio (OR) of serum Mg level for self-reported fracture was 1.74 (95% CI: 0.81, 3.77). We observed that increasing age, female gender, lower hemoglobin and lower creatinine levels were independent risk factors for lower BUA values. Participants with higher BUA had lower risk of self-report fracture (adjusted OR=0.985, 95% CI: 0.975, 0.995). Age and sex became insignificant with adjusting the above variables. *In conclusion*, our study of a population-based survey of Taiwanese elderly revealed that serum Mg level was not associated with bone density measurement by BUA nor with self-reported fractures.

ARE KNOWLEDGE AND LOCUS OF CONTROL IMPORTANT FACTORS IN REDUCING RACIAL INEQUITIES IN OSTEOPOROSIS?

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There are unexplained racial inequities in osteoporosis prevention activities. We recruited Black and White women with osteoporosis (T-score ≤ -2.5 at any skeletal site) to investigate the role that knowledge and locus of control play in the racial differences on osteoporosis prevention activities. We measured osteoporosis knowledge using the 10-item "Osteoporosis and You" scale. We measured locus of control using the Multidimensional Health Locus of Control (MHLOC) scale, which assesses three belief dimensions: internal, chance, and powerful others (e.g. doctors, family members, spiritual being). We used MHLOC Form A to assess overall health and Form C to assess bone health. Forty-five women (White: 36; Black: 9) completed scales. The mean (SD) age was 73.3 (9.5) years with no difference in age between the two groups. We observed higher osteoporosis knowledge among White women [8.5 (1.2) out of 10] compared to Black women [6.7 (3.1); p -value = 0.015]. We did not find racial differences in the MHLOC internal or chance belief subscales for overall health; however, Black women had significantly higher scores on the powerful others subscale [Black: 23.8 (6.4); White: 18.5 (4.6), p -value = 0.009]. We did not find any racial differences in any MHLOC subscales for bone health. To date, our study revealed that Black women have lower overall osteoporosis knowledge and higher dependence on others for their overall health. This

knowledge can be used to generate targeted educational interventions for Black women and provide guidance for healthcare providers to improve and emphasize osteoporosis prevention activities with Black women.

FRACTURE RISK AMONG TAIWANESE ELDERLY: A STUDY OF THE ELDERLY NUTRITION AND HEALTH SURVEY

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The *Elderly Nutrition and Health Survey in Taiwan 1999* dataset was used for analyzing risk factors of self-reported fracture. Patient survey data was available for 2038 patients, including: 290 self-reported fractures, demographic, smoking & alcohol use status, past medical history, current medication use, and dietary recall data. Variables, including dietary intakes, medication or supplement, were examined for a significant association with PUD. Association between PUD and fracture was used to build a multi-variable logistic regression model. Variables included in the logistic regression models were age, sex, use of supplements, PUD, GI medication use, total calorie intake, folic acid intake, magnesium intake, and phosphate intake. The results show PUD is associated with self-reported fracture with crude odds ratio (OR) of 1.71 (95% CI, 1.22–2.40, $p=0.0017$). Similarly, GI medication use is associated with self-reported fracture with crude OR=1.96 (95% CI, 1.41–2.72, $p<0.001$). Multivariate logistic regressions were created step-wise to demonstrate the relationship between PUD, GI medication use and fracture. Age, gender and supplement use remain significant at $p<0.05$; all dietary intake variable became insignificant. Adjusted OR for PUD becomes insignificant at 1.37, (95% CI: 0.934–2.004, $p=0.11$) while GI Medication use remains significant with adjusted OR=1.68 (95% CI: 1.163–2.424, $p=0.0057$). Overall, the model has a p -value=0.9206 for goodness of fit criteria. The step-wise approach for building the multivariate logistic regression model demonstrated that GI medication use is more heavily weighted as a covariate with PUD to explain the self-reported fracture in the Taiwanese Elderly Nutrition and Health Survey Data.

KNOWLEDGE OF OSTEOPOROSIS AMONG THE LAYPERSON

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The purpose of this study was to determine the knowledge of laypeople about osteoporosis. Specifically, is there a generational or gender difference in knowledge of osteoporosis?

Osteoporosis and associated fractures are serious public health concerns. Millions of dollars are spent yearly to educate the public about prevention of and control of osteoporosis. A literature review revealed a sparse documentation of the general public's knowledge concerning osteoporosis.

A 23 item True/False survey to assess basic knowledge was developed by the researchers based on a review of the literature. Participants were recruited using an on-line survey platform along with pen and paper formats at onsite locations- college campus and senior citizen luncheons.

One hundred thirty-five completed surveys were returned (Age: 18–30: $n=41$; 50–older: $n=94$) (Gender: males: $n=41$; females: $n=94$).

Independent t-tests revealed a statistically significant difference in age and gender: older females (age 50 and older) demonstrated a greater knowledge base of osteoporosis than their male and younger (age 18–30) counterparts.

Chi square analyses were performed on the 6 most frequently missed items. Two questions were found to be statistically significant. A greater number of males than expected thought osteoporosis could be prevented. A greater number of younger participants than expected thought a family history of fractures was not a risk factor for osteoporosis. There were other frequently missed items that revealed a knowledge deficit regardless of age and gender. A greater understanding of these deficits are essential as educators equip physical therapy students to become effective health care practitioners.

CHARACTERISTICS OF ANTI-OSTEOPOROTIC MEDICATION UTILIZATION FOR OLDER ADULTS IN TAIWAN

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Background: Osteoporosis is one of the major public health issue worldwide. In Taiwan, the prevalence of osteoporosis was about 11% for those who over 65 years old. Current status of utilization of anti-osteoporotic medications among older adults and characteristics of prescription pattern among health professionals in Taiwan was not well-explored.

Aim: The aim of this study was to examine the characteristics of anti-osteoporotic medication utilization and prescription pattern for older adults in Taiwan.

Methods: This study was a secondary data analysis by using the Taiwan National Health Insurance Research Database from 2001 to 2011. Older adults aged over 65 years old were included.

Results: During 2001 and 2011, 1,169,457 older adults aged over 65 years were identified. Of them, 1,169,457 (52.0%) were female. For age distribution, there were 642,548 (54.9%) aged between 65 to 74 years, 415,512 (35.5%) between 75 to 84 years, 110,743 (9.5%) between 85 to 99 years and 744 (0.1%) were centenarian. Of these older adults, 38,523 (3.20%) had ever been prescribed of anti-osteoporotic medications. Among available anti-osteoporotic medications in Taiwan, the most frequently prescribed medication was Fosamax 29,634 (76.9%), followed by Evista 6,439 (16.7%), Forteo 2,628 (6.8%), Calcitonin 1,525 (4.0%), Bonviva 1,161 (3.0%), and Aclasta 532 (1.4%). Top 5 health professionals prescribed anti-osteoporotic medications were orthopedic doctors (61.5%), neurosurgeon (14.2%), rheumatology doctor (4.8%), rehabilitation doctor (4.2%), family physician (3.3%).

Conclusion: The prescription of anti-osteoporotic medication is lower than the prevalence of osteoporosis. More attention should be paid for under treatment of osteoporosis in Taiwan.

APPLICATION OF HEALTHCARE INTEGRATION IN PERIOPERATIVE PERIOD MANAGEMENT OF AGED HIP ARTHROPLASTY

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Objective: To assess the application effect of Healthcare integration in perioperative period management of aged Hip arthroplasty. **Methods:** 30 patients were randomly selected from 60 patients to implement Healthcare integration management model(the experimental group), traditional care service mode was given to the other 30 patients(the control group). On the 14th day after operation, patients'satisfaction degree, health education awareness and clinical nursing compliance were compared. **Results:** Compared with the control group, the patients' satisfaction degree, health education awareness rate, clinical nursing compliance of the experimental group were improved. **Conclusions:** Compared with ordinary care model, healthcare integration model can improve the patients' satisfaction and awareness rate, smooth the clinical nursing process, alleviate the pain of patients, and improve the quality of patients' life. So it is advised that healthcare integration model be widely applied in perioperative period management of aged Hip arthroplasty.

BONE MINERAL DENSITY TESTS AND THE RISK OF FRACTURES AND ADMISSION

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Introduction: Korean National Health Screening Program for the Transitional Ages (NSPTA) underwent a bone mineral density test to target 66-year-old woman. By comparing the ratio diagnosed with osteoporosis between the examinees and non-examinees, outpatient care according to the diagnosis, and hospital admission by the fracture, the largest complication of osteoporosis, the effectiveness of screening will be determined.

Methods: Data from NSPTA was used, which offers basal health screening and bone mineral density results of women aged 66 years. Community-dwelling elderly were followed from 2007 to 2011 to determine the outcome measures of overall fractures, femoral fractures and admissions for femoral fractures. Also we compared drug-related osteoporosis cure rate, admission rate due to osteoporosis-related fractures.

Results: Participants comprised 909,869 women aged 66 years; non-Screening Group 334,267 (36.7%), Screening group was 575,602 (63.3%). Diagnosis rate of osteoporosis underwent a bone mineral density test subjects was 45.4%; by DEXA scan rate was 57.1%. Determining the odds ratio for prescription drugs based on examination status by logistic analysis, adjusted OR is 1.68 (95% C.I. 1.62–1.74), which means prescription rate increases in BMD Screening Group. As a result of comparing the admission rate for hip fracture, the major complications of osteoporosis, hospitalization

is reduced by approximately 17% in the Screening Group (adjusted hazard ratio 0.83).

Conclusions: Osteoporosis is a high prevalent disease from older women and is associated with a higher risk of hospitalization due to fractures. Therefore, it is advisable to screen the bone mineral density for drug therapy in prevention and early detection. This can significantly reduce hospitalizations due to hip fracture and therefore leads to cost-effectiveness.

SESSION 1055 (POSTER)

PREVENTION, HEALTH CARE AND HEALTH PROMOTION

A CLINICS-BASED SURVEY ON THE DETERMINANTS OF SUCCESSFUL SMOKING CESSATION IN OLDER ADULT SMOKERS

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This study aims to identify determinants of successful smoking cessation after three months of treatment and six months of follow-up, and to investigate the differences smoking cessation behaviours in older adult smokers.

192 patients that aged 65 y/o and more all attended a smoking cessation clinic at a General Hospital in Taiwan from 2011 to 2014. These patients filled up a questionnaire which included demographic, morbid and smoking habits data. They were subjected to an interview at the clinics to determine their treatment for 3 months. 6 months and 3 years later, patients were contacted by telephone and were asked if they remained without smoking.

After 6 months and 3 years, 126 and 67 patients were contacted and 31.3% and 19.3% of patients responded that they were still without smoking. After 6 months of follow-up, on univariate analysis, successful 16-week clinics follow-up completment, sucessfully smoking cessation at 3-month follow-up and medication use, appeared as a protective factor associated to abstinence. On multivariate analysis, only sucessfully smoking cessation at 3-month follow-up appeared as a protective factor. However,

After 3 years, on univariate analysis, less cigarette smoking number and sucessfully smoking cessation at 3-month follow-up appeared as a protective factor associated to abstinence. On multivariate analysis, still only sucessfully smoking cessation at 3-month follow-up appeared as a protective factor.

In this clinics-based sample of older smokers, the use of medication including Nicotine patches and Varenicline was associated with better abstinence rates in initial half one year. Young-old adult smokers, more cigarette smoking number and not able to complete 16-week clinics follow-up appeared as a risk factor to continue smoking. Successfully smoking cessation at 3 month was a leading factor associated to abstinence.

PHYSICAL SIGN FOR DETECTING COGNITIVE DECLINE IN COMMUNITY-DWELLING OLDER ADULTS

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Previous cohort studies that investigated the association between physical and cognitive function conducted only either physical or cognitive assessment in their follow up survey. Therefore, the relationship between changes in physical and cognitive functions is unclear. The study aimed to investigate whether change in physical functions is associated with change in cognitive function. In this study, the data was obtained from the Kasama study, a cohort study in Japan; and the follow up period was 3 years. Only older adults without cognitive impairment at baseline were included and 131 participants (72.2±4.7 yrs.) were eligible. We used 6 physical performance tests: grip strength, one-leg standing balance, 5 times sit-to-stand, timed up and go, 5-m habitual walk, and peg moving task to measure physical function. To measure cognitive function, five tests were administered including tests of attention, memory, visuospatial function, verbal fluency, and reasoning. The total score was defined as cognitive function. Multiple regression analyses were conducted. We entered change in cognitive function as dependent variable and each of the change in physical function as independent variables, and age, sex, education, body mass index, medical history of hypertension and heart disease, depressive mood, intake medicine, knee pain, and upper-extremity pain as covariates. Changes in 5-m habitual walk ($\beta = -0.207$, $P = 0.026$) and peg moving task ($\beta = 0.178$, $P = 0.042$) showed significant association with change in cognitive function. These results suggest that deterioration of gait speed and hand dexterity is a useful sign for detecting cognitive decline.

AYUSH RASAYANA IMPROVES FITNESS AND QUALITY OF LIFE IN OLDER ADULTS

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Introduction: Ayurvedic formulations have been used in India for thousands of years to promote health, physical fitness and endurance. This on-going clinical trial assesses the efficacy and safety of one such formulation Ayush Rasayana.

Methodology: Healthy volunteers between 60–75 years without any health issue with the exception of controlled hypertension were included. After systemic cleansing with Ayush Rasayana-'A' for initial 6 days, they were administered Ayush Rasayana-'B' twice daily for next 6 months. Detailed clinical and biochemical assessment done before entry and at 30, 90 and 180 days. Six-minute walk distance, quality of life using WHOQOL-BREF questionnaire were used as

parameters of efficacy. Any previous drugs and access to usual healthcare were allowed.

Results: A mid-term analysis was carried out in 27 subjects (17 males and 10 females; mean age 65.41 years) who completed the trial. Mean (±SD) six-minute walk distance at baseline, 3 months and 6 months was 419.41(±76.93), 448.74(±90.51) and 456.33(±88.30). Improvement in walking distance was 29.33 metres at 3 months and 36.93 metres at 6 months ($p<0.01$). WHOQOL-BREF (0–100) score at baseline, 3rd and 6th month in Physical health domain was 55.26(±8.20), 61.07(±6.32) and 59.93(±7.56), [$p=0.13$]; in psychological domain was 52.89(±10.99), 59.33(±10.42) and 61.22(±7.56), [$p<0.01$]; in social domain was 62.30(±13.66), 68.85(±6.97) and 71.07(±7.97), [$p<0.01$]; in environment domain was 70.41(±11.37), 76.48(±8.30) and 76.85(±6.35), [$p<0.01$]. No adverse effects were reported.

Conclusion: There is significant improvement in six-minute walk distance and quality of life. This drug seems to positively affect ageing process and further studies needed to relish its full potential.

EFFECTIVENESS OF COGNITIVE STIMULATION IN MAINTAINING COGNITIVE CAPACITY OF AN ELDERLY COHORT

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The study objective is to analyze the effectiveness of health promotion actions in the prevention of functional losses due to cognitive impairment of the elderly. It is a controlled intervention study, nestled within a cohort population resident in the neighborhood Vila Clementino, in São Paulo city, Brazil. From the application of the CDR (Clinical Dementia Rating), the elderly were classified as cognitively normal (CDR = 0) and with mild cognitive impairment (CDR = 0.5) and were randomly allocated in the intervention and control groups. The elderly had undergone a screening for depression, neuropsychological tests (MoCA, MEEM, list of words and naming animals) and an evaluation of independence in daily life. The intervention groups attended the "Memories Workshops" (MW) twice a week in a total of 34 meetings, 80-minute-long each (physical activity, computer activity and chat about the workshop experience). Preliminary results have shown that a non-pharmacological intervention such as the MW can have a positive impact in the functional capacity of a population sample of elderly with CDR <1, as it promotes the maintenance/improvement of cognitive functionality measured by the MoCA score when compared with controls, especially if the degree of improvement or worsening in the score is controlled in the analysis (among those who had greater improvement the majority was in the intervention group). The study is still including subjects to enlarge the sample and thus enable a more robust statistic of effectiveness of this kind of intervention in the primary health care level, as a protective factor against cognitive losses of this age-group.

REACH LIFESTYLE INTERVENTION: FEASIBILITY OF DELIVERING AN INSTRUCTOR TRAINING COURSE

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Return to Everyday Activities in the Community and Home (REACH) is a lifestyle intervention model for middle-aged and older adults. The goal of REACH is to reduce sedentary behaviour, increase physical activity, and increase adoption of strength and balance exercises. In this feasibility study we completed a formative evaluation to assess the effectiveness, impact and reception of the REACH instructor training course. Our aim was to summarise perceptions of the model and identify gaps in curriculum delivery. The REACH Instructor training course occurred over four sessions, each of two hour duration. The training methods included didactic and participatory elements, plus a comprehensive instructors' manual and handouts. The participants were provided with foundational knowledge, including principles of behaviour change theory. Participants also practiced teaching components of the program to their peers. We conducted semi-structured interviews at the end of the training session, and administered a Patient Education Materials Assessment Tool for Printable Materials (PEMAT-P) and session feedback forms. There were three participants who completed the study; all were community-based exercise physiologists with an average of 17 (8) years of experience. Emerging themes from participants' feedback included: credentials required, how to best prepare instructors for teaching REACH, the ideal learning setting and linking the instructor manual to presentation slides. The PEMAT-P scores for the instructor manual were 98 (0.03) % for understandability, and 100% for actionability. Each session was rated very good or excellent for presentation style and overall rating. We applied participant feedback to the existing instructor curriculum.

ASSOCIATION OF SELF-RATED HEALTH IN COMMUNITY-DWELLING ELDERLY PEOPLE OF JAPAN

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Japan is known for its population longevity, however, people should be aware that longevity with health is better than a longer life in bad health. This study made analysis of socio-economic backgrounds, sleep, depression, chronic disease, long-term care and lifestyle factors related to self-rated health (SRH) in community-dwelling elderly people in Japan.

Cross-sectional research of community-dwelling elderly people was carried out in Mibu-town in Eastern Japan in 2015. 665 residents aged over 60 years old, participated in the study and completed a questionnaire. The results from SRH using a four-step scale were later categorized into two groups "Good and Poor" Health. Binary logistic regression was used to identify the factors associated with "Good" SRH.

The average age of the participants was 71.3 years old (SD 6.5, range 60–98). 50.2% of those were female and 84.5% of them answered that they were healthy. The characteristics of "Good" in SRH were non long-term care, a feeling

of satisfaction with life, nondepression, without cardiovascular or orthopedic disorders, without medication, having a regular exercise regime and keeping an active lifestyle.

People subjectively felt that "Good" for their SRH was closely related to doing regular exercise themselves and by being active. Further, we found no associations between socio-economic backgrounds, living alone and quality of sleep. It was indicated, by the end of this study, that it is important to keep the elderly active as this enables them to gain a feeling of satisfaction in regards to their own personal health.

LIFELONG MAINTENANCE AND INCREASES IN READING ENGAGEMENT IS ASSOCIATED WITH BETTER COGNITIVE HEALTH

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Cognitive reserve theory proposes that early life cognitive experiences can reduce risk of late-life cognitive decline. Yet little information exists in the literature to describe whether increasing mid- and late- life cognitive engagement can have the same effect, bolstering cognitive reserve and potentially delaying the onset of late-life cognitive decline and dementia. In order to address this question, we analyzed self-report of reading engagement at ages 6, 12, 18, 40, and at present time in subjects spanning the cognitive continuum from normal to MCI to dementia in the Alzheimer's Disease Center cohort at the University of Kentucky using adjusted regression modeling (n=489). Reading engagement at ages 6, 12, and 18 was not significantly associated with lower CDR Sum scores. However, reading engagement at age 40 and current reading engagement was significantly associated with lower CDR Sum scores ($p < 0.05$ and $p < 0.001$, respectively). We also found that an increase in reading engagement over the lifetime was associated with lower CDR Sum scores ($p < 0.001$), and that reading engagement increase after age 18 was more strongly associated with lower CDR Sum scores than reading engagement increase before age 18 ($p < 0.01$ vs. $p > 0.05$ respectively). These data suggest that lifelong maintenance and continued increases in reading engagement across the lifespan in mid- and late-life may be beneficial in delaying cognitive decline. Future intervention studies are needed to elucidate the role that reading engagement might play in avoiding or delaying cognitive decline.

THE EFFECT OF ADHERENCE TO DIABETES GUIDELINES ON NURSING HOME ENTRY AND HEALTH AT TIME OF ADMISSION

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Diabetes Mellitus (DM) is a chronic disease that is highly prevalent in the U.S. and is associated with multiple co-morbidities as well as reduced physical and cognitive function. When admitted to nursing homes, beneficiaries with DM are characterized by comparatively high levels of functional disability, the presence of many co-morbid conditions, and could represent a sub-population of residents requiring especially intensive care and representing a dis-proportional social and financial burden. Adherence to diabetes management guidelines such as those provided by the American Diabetes

Association (ADA) have been shown to be protective against many diabetes-related adverse health outcomes, but the role of adherence in reducing the risk of requiring nursing home care and/or improving the overall health status at time of admission has not been fully addressed. The purpose of this paper is to identify how adherence to ADA guidelines in U.S. Medicare beneficiaries age 65+ affects the risk of nursing home entry and functional, cognitive and co-morbidity status at the time of admission. Data from the Health and Retirement Study, linked to Medicare administrative claims was used to identify the presence of a new diagnosis of DM, the presence of co-morbidities and adherence to guidelines. Data on new nursing home admissions as well as detailed, professional in-person new resident assessments were drawn from the HRS-linked Minimum Dataset. The results of this study will aid in public health awareness efforts aimed at combating the diabetes pandemic and reducing the burden of DM to both the patient and society.

RATIONALE FOR MAINTAINING HIGH 25-HYDROXYVITAMIN D CONCENTRATIONS YEAR LONG

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Higher solar UVB exposure and vitamin D status have been found associated with reduced risk of many adverse health outcomes including autoimmune diseases, cancer, cardiovascular disease, cognitive dysfunction, dementia, diabetes mellitus, infectious diseases, etc., as well as lower mortality rates and increased life expectancy. The types of studies on which these findings are made include geographical and temporal ecological, observational, interventional, and laboratory studies. For a number of the outcomes, the roles of UVB and vitamin D are considered causally linked to better health outcomes based on the criteria for causality in a biological system outlined by A. Bradford Hill. Recently, it was also determined that the higher mortality rates in winter are due to lower UVB doses and 25-hydroxyvitamin D [25(OH)D] concentrations resulting in effect on gene expression associated with immunity and physiology. Globally, mean 25(OH)D concentrations are near 54 nmol/L, varying in midlatitudes from about 35–45 nmol/L in winter to 65–75 nmol/L in summer. The optimal 25(OH)D concentration is in the 90–110 nmol/L (36–44 ng/mL) range. To achieve the optimal range using supplements takes 1500–4000 IU/d vitamin D₃ depending on season and individual environment, genetics, and lifestyle. Based on 25(OH)D concentration-health outcome relations from observational studies, it is estimated that population mortality rates could be reduced by 15–20%, leading to increases in mean life expectancy by about two years. Increasing vitamin D supplementation and food fortification at the population level appears to be the most efficient way to increase healthy life expectancy.

SEX DIFFERENCES IN POSTURE AND PHYSICAL FUNCTION IN JAPANESE ELDERLY WITH EXERCISE HABITS

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A cross-sectional study described kyphosis to be related to decrease physical function and quality of life. However, few longitudinal studies have investigated changes due to kyphosis. We aimed to determine sex-related differences in postural changes and decreased physical function in Japanese community-dwelling elderly with exercise. The subjects participated in an interview and physical function measurement at baseline and follow-up 5 years later (19 men, 17 women; mean age, 72.5±4.9 years). We used the Wilcoxon signed-rank test to analyze sex-related variables. After 5 years, we observed significant decreases in the 5 measurement items in the men as follows: kyphosis angle (KA; from 162.4°±4.7° to 160.2°±4.4°, $p=.022$), one-leg standing time (from 42.71±23.4 to 38.1±23.4 s, $p=.012$), grip strength (GS; from 37.7±6.9 to 33.9±6.8 kg, $p<.01$), the range of anteflexion in standing (ROA-ST; from 4.7±6.9 to 1.0±7.3 cm, $p<.01$), Fall Efficacy Scale International score (from 26.7±10.1 to 30.7±12.8, $p=.031$). In the women, 4 measurement items significantly decreased as follows: KA (from 166.1°±5.8° to 160.5°±5.4°, $p<.01$), GS (from 25.2±2.6 to 23.7±2.5 kg, $p<.01$), ROA-ST (from 13.6±6.8 to 11.5±7.7 cm, $p<.01$), weight-bearing index (from 61.2%±15.2% to 53.0%±12.7%, $p<.01$). The age-related changes in physical function differed according to sex. The decreases in the measurement values were related to balance ability in men and to muscle strength in women. Our subjects had higher levels of physical function than those in a previous study. In conclusion, exercise-related balance and muscle strength training from middle age are important for the physical functions of men and women, respectively.

SELF-REPORTED SLEEP, DEMOGRAPHICS, AND HEALTH IN SENIORS IN MIBU, JAPAN

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Sleep disturbance is often reported by the elderly with 15% to 30% complaining of insomnia around the world. Poor sleep in later life represents a significant public health concern because of its association with cognitive decline, impaired social interaction, interfered daytime activities.

To understand sleep quality and its associated factors, a cross-sectional study was carried out in Mibu town in Eastern Japan in 2015. A questionnaire that included the Pittsburgh Sleep Quality Index, sociodemographic, comorbid health conditions and life styles was delivered to non-institutionalized elderly aged over 60, 805 subjects (75.8%) completed the questionnaire, which included an analysis.

The average age of the participants was 71.5 years (SD 6.6, range 60–98). 51.2% female, 30.9% were over 75, and 9.7% were living alone. 34.2% of the participants reported poor sleep quality. Logistic regression analysis revealed that overall sleep quality was strongly associated with stress, depressive symptoms and having more than one chronic medical condition. Having an eye or ear problem or orthopedic conditions were also associated with poor sleep. However, this study suggested that a low BMI, lack of daytime activity and taking naps were not associated with poor sleep quality.

Several factors may explain poor sleep in seniors and the study suggests stress and poor mental health management are considerable interventions for quality of sleep. As primary care providers we should be more concerned with our clients' sleep, and this can be achieved at the same time of managing their disease or conditions.

DEVELOPMENT OF THE HEALTHY AGING MODEL: A GROUNDED THEORY STUDY

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To develop a model of healthy aging from the perspective of Thais, a grounded theory approach, including in-depth interviews and focus groups, was used. A purposive sample of 39 community-dwelling adults aged 40–85 years old was interviewed. The Thai healthy aging model composed of three themes: normality, nature, and dharma. In Thai, they are called *tham-ma-da*, *tham-ma-chat*, and *tham-ma*, or “Thai 3Ts”. The theme of normality encompasses subthemes of staying physically active by being involved in plenty of physical activities, and being mentally active with creative and thoughtful hobbies and work. The theme of nature encompasses subthemes of living simply and being careful with money. The theme of dharma encompasses subthemes of enjoyment through helping family and participating in community activities, staying away from stress and worries by talking openly and honestly with someone, making merit, and helping other people without expecting anything in return. A greater understanding of healthy aging is a benefit for older adults and health care providers in an intervention-design process. Research can contribute valuable information to shape policy for healthy aging as well.

NEW SIMPLIFIED DIAGNOSTIC METHOD TO SCREENING FOR POSTPRANDIAL HYPOTENSION IN OLDER PEOPLE

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Background: Postprandial hypotension (PPH) is a prevalent but not well diagnosed disorder in the older people. The reference PPH diagnostic method is too demanding, because blood pressure (BP) needs to be measured 8 times in 2 hours. Our primary objective was to define a new simplified PPH diagnostic method and to evaluate its performances.

Methods: Cross-sectional study of 104 patients (70 women, 34 men) with high risk of postprandial hypotension admitted to two geriatric rehabilitation units in France. BP was measured twice before the midday meal in seated position at the table, and every 15 minutes for 90 minutes after the end of the meal. Receiver Operating Characteristic curves were plotted for each postprandial BP measure to determine the best postprandial measure in terms of sensitivity and

specificity. The optimal diagnostic threshold was calculated with Youden's index according to BP difference before and after the meal.

Results: A new simplified diagnostic method is proposed: a decrease of at least 10 mmHg systolic BP between BP measures before the meal and 75 minutes after the end of the meal. This new method had a sensitivity of 82% (IC 95% 66 – 92) and a specificity of 91% (IC 95% 81 – 97).

Conclusion: This new diagnostic method is fast, efficient and suitable for everyday use. It could improve PPH diagnosis in older people. Larger studies are needed to validate it.

SESSION 1060 (POSTER)

RESIDENTIAL LIVING OPTIONS

BACCALAUREATE-EDUCATED REGISTERED NURSES IN NURSING HOMES: POSITIONING AND ROLE IMPLEMENTATION

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In Dutch nursing homes, few registered nurses (RNs) work in direct resident care and baccalaureate-educated RNs (BRNs) are an especially scarce resource. It is unknown yet to which extent organizations make use of the BRNs' expertise and how their roles are differentiated from those of other staff members.

The aim of this qualitative study was to obtain insight into different roles that BRNs currently hold in institutional long-term care as well as explore the factors that impede their employment. In total, 26 semi-structured individual interviews (directors, ward managers, BRNs) and three group interviews (RNs, certified nurse assistants) were held in organizations that did or did not employ BRNs in nursing homes.

Directors not employing BRNs reported that low resident health acuity, disinterest of BRNs in the setting and the added costs of hiring BRNs hindered their employment. Directors that employ BRNs have a clear vision of how to utilize their role in the facility. Within and between organizations, there is variation regarding the positioning of BRNs. All BRNs fulfil ward- or location-transcending tasks that exceed direct resident care. For example, they coach direct care teams, supervise interns or have specific expertise areas (e.g., ‘physical restraints’ or ‘emotion-oriented care’).

This study found different possibilities how BRNs are working in nursing homes. Their added value is difficult to quantify, but positive effects for residents (e.g., less pain) and direct care teams (e.g., more confidence) were mentioned. The actual effectiveness of different ways to utilize BRNs should be tested in future studies.

DETERMINANTS OF LIVING ARRANGEMENTS FOR ELDERLY TRANSITIONING FROM A NURSING HOME INTO THE COMMUNITY

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The Money Follows the Person (MFP) Demonstration allows nursing facility residents to transition into community living arrangements. Research has shown racial differences in living arrangements – Blacks are more likely than Whites to live in multigenerational households. Transitioning into the community may also be accompanied by challenges (i.e. lack of housing). This study examines the influence of race, choice, and transition challenges on living arrangements in $N=659$ ($n=495$, 75% White, $n=164$, 25% Black) older (aged 65+) MFP participants in Connecticut. Multinomial and binomial regression models predicted living arrangements in unmarried and married participants. Findings show that among unmarried participants, Blacks are more likely to live alone or with family, and Whites are more likely to live with a live-in caregiver/supervised housing. White participants were also more likely to report having helped choose their home. Women and participants with more functional needs are more likely to live with family as well as with a live-in caregiver/supervised housing compared to those living alone. Having service challenges was a negative predictor of living with family, and having financial challenges was a negative predictor of living with a live-in caregiver/supervised housing compared to living alone. Among married participants, having more functional needs predicts living with a spouse, while those with housing challenges are less likely to live with a spouse. Research should further explore the impact of transition challenges on rebalancing programs. Findings can influence community housing plans and inform the field of gerontology with respect to cultural patterns in housing and service use.

MEDICAID BENEFICIARIES' ACCESS TO RESIDENTIAL CARE SETTINGS

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Residential care settings (RCSs) are community-based housing and supportive services providers. Many RCSs predominantly serve older adults and younger people with physical disabilities. Medicaid beneficiaries' access to these RCSs is of concern to policymakers and other stakeholders because providing community-based—rather than institutional—services is potentially less expensive and preferred by most people. To better understand Medicaid beneficiaries' access to RCSs that focus on older adults and young people with physical disabilities, we examined Medicaid policies in 50 states and the District of Columbia, interviewed subject matter experts ($n=7$), and conducted four state case studies informed by reviews of policies and interviews with stakeholders ($n=27$). Interviewees identified numerous factors influencing Medicaid beneficiaries' access to these RCSs, including the supply of Medicaid-certified RCSs relative to the older adult population, Medicaid reimbursement rates, initiatives that affect room and board costs for Medicaid beneficiaries, and policies that may incentivize RCSs to serve Medicaid beneficiaries. These factors can affect Medicaid beneficiaries' access to RCSs by limiting the number of RCSs

that participate in Medicaid, restricting the number of beds that RCSs allot to Medicaid beneficiaries, and by determining whether room and board rates will be affordable for Medicaid beneficiaries. The implications of these findings vis-à-vis implementation of federal Medicaid home and community-based services rules and continued implementation of managed long-term services and supports programs are discussed.

ANTIPSYCHOTIC AND RESTRAINT USE AMONG LONG-STAY NH RESIDENTS: IMPACT OF CMS REGULATORY CHANGES

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APMs have potential for adverse effects and mortality risk for NH residents with dementia. CMS initiated its “National Partnership” (March 2012) to reduce APM use, implemented public reporting an APM quality measure (July 2012), and revised NH surveyor guidelines and training to identify unnecessary APMs and compliance with new dementia care standards (May 2013). We determine NH response to these initiatives, by examining change in APM and physical restraint utilization among long-stay NH residents and whether these vary with resident cognitive functioning. Using data from 2011–2013 Minimum Data Set, we examined long-stay residents in free-standing facilities that did not have CMS-approved indications for APM ($N=8$ million). Linear probability models controlled for resident and facility characteristics and determined how restraint and APM rates change in response to each CMS initiative. Results were stratified into groups: no dementia/mental illness, dementia without symptoms (i.e., behavioral symptoms, delusions/hallucinations), dementia with symptoms, and severe mental illness consistent with APM utilization (e.g., bipolar, psychosis, and severe depression). Pre-initiative physical restraint use averaged 2.5%, with rates higher among those with dementia and severe mental illness. Among all groups, restraint use declined with each initiative. Pre-initiative APM use averaged 23.2%, though rates varied significantly with cognitive functioning (7.0%-66.2%). All groups saw declines in APM use with each CMS initiative; largest decline was among dementia residents without symptoms (27.8%), smallest among residents with mental illness (9.7%). Regulatory efforts to reduce APM prescribing had a significant impact, without an increase in physical restraint use; effectiveness varies with resident cognitive functioning.

DETERMINING HOME AND COMMUNITY-BASED SERVICE USE AMONG OLDER MONEY FOLLOWS THE PERSON PARTICIPANTS

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The use of home and community-based services (HCBS) has been examined in research on community-dwelling elders. Research has not yet investigated the determinants of HCBS use among elders participating in a nursing facility transition program such as the Money Follows the Person (MFP) Rebalancing Demonstration. Further, race may be a factor in HCBS use – previous findings in community-dwelling populations have been mixed. The current study utilized The Andersen Behavioral Model of Health Service

Use to examine racial differences in determinants of HCBS use among $N = 240$ frail older MFP participants (aged 65+; 76%, $n = 182$ White, 24%, $n = 58$ Black). Binary logistic regression models predicted the use of three services: 24-hour care, per diem home health care, and functional care. Results showed that determinants vary for each outcome. Women and those with more ADL/IADL needs were more likely to have 24-hour care, while married participants and those reporting instrumental support were less likely to use this service. In contrast, being married and receiving instrumental support were determinants of per diem home health care, while those with more ADL/IADL needs were less likely to use home health care. Black race, ADL/IADL need, and financial inadequacy were all negative predictors of functional care. A negative interaction effect between race and gender (Black women) was also present in determining the use of functional care. Results from this study provide policymakers and providers with a better understand of the types of services MFP participants are using.

CAREGIVER STRESS AMONG FAMILY CAREGIVERS OF OLDER PERSONS IN JAPAN

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Family caregivers who provide care on a regular basis for their elderly loved ones at home often feel physically and emotionally overwhelmed. This study was conducted to investigate the physical and emotional stress of family caregivers in Japan.

A total of 123 caregivers were asked to freely describe their experiences, sentiments, emotions and opinions about providing elderly care at home. Of those, 64 caregivers (78.1% female, $\text{Mage} = 65.52 \pm 9.93$, $r = 52\%$) provided responses in as much detail as desired. Their responses were grouped and analyzed according to content.

Results indicated that the caregivers reported emotional distress (37.5%) as well as positive attitude toward caring for their loved one (23.4%), feeling worried about their own or the loved one's health and life in the future (21.9%), their gratitude for those who share the responsibility of providing care for their loved one (17.2%) and/or for care services providers (12.5%), lack of time for self-care and/or social life (15.6%), thinking of placing the loved one in a long-term-care facility (9.4%), suicidal and/or murder-suicide thinking (4.7%).

Despite the wide range of home-care services available through the long-term care insurance system, family members still have to provide some forms of care. This study suggests that it is important to offer a variety of services and supports that help them to ward off or cope with their stress before they burnout.

AN INVESTIGATION ON NURSING SUPERVISORS' DILEMMA IN LONG-TERM CARE FACILITIES

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This research aims for investigating the dilemma of nursing supervisors in long-term care facilities. Amongst researches on supervisor pressure, few focus on trials and tribulations of nursing supervisors in long-term care facilities.

Most of the related researches are quantitative studies aiming at nursing in acute health-care institutions, which makes further understanding of difficulties in working from nursing supervisors in long-term care facilities infeasible. This study adopts phenomenology and in-depth interviews with fifteen nursing supervisors in long-term care facilities to approach the perception and experience of nursing supervisors from long-term care facilities. The main results are as follow:

I. Attention to both administrative management and clinical practice

II. Insufficient human resources for heavy demands

III. Complex interpersonal interactions

IV. The groping for the even point with superiors

V. Mushy moral issues

VI. Exceptionals in disguise with no time to spare

This study finds nursing supervisors in long-term care facilities are multi-tasking. Their dilemma stems from the conflicts in correspondence, overloaded responsibilities in work and risks, and the lack of autonomy.

FAMILY MEMBERS' ROLE IN FACILITATING HEALTH CARE FOR RESIDENTS WITH DEMENTIA IN ASSISTED LIVING

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The purpose of this presentation is to describe the results of an ethnographic study in two assisted living (AL) communities regarding the family members' role of facilitating health care for residents with dementia. AL communities were originally designed as a housing model; but it is now estimated that over 50% of the residents in AL have some form of dementia and may require more services. Registered nurses are not required to be employed in AL communities in California, thus health care is coordinated by unlicensed personnel and family members. The setting for this ethnographic study was two dementia-only AL communities in California. Participant observation was conducted over six months focusing on the interactions between residents, families, and employees. Open-ended interviews were conducted with twelve employees and nine family members. The data were analyzed for themes regarding how family members and employees communicated regarding the health care of the residents with dementia. Two qualitative themes: "Acknowledging Barriers" and "Assertive Advocacy" emerged from the qualitative data regarding how family members perceived the exchange of health care information regarding their loved ones with dementia. Family members and employees described the barriers regarding communication but acknowledged that family members who assertively advocated for their loved ones can overcome the barriers. The frustrations expressed by family members may lead to disruption in the continuity of care. Healthcare providers and gerontologists can provide education to families of older adults about how to advocate for smooth coordination of health care.

PEACEFUL DEATH VALUED AS A GAIN: INSIGHTS FROM FAMILY MEMBERS OF NURSING HOME RESIDENTS WITH CANCER

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Knowing the type of medical care nursing home (NH) residents want at the end of life is important so that appropriate care can be pursued. Results of a qualitative study of 24 family caregivers of NH residents with a cancer diagnosis in the Midwest USA will be presented. Respondents' ages ranged from 25–75, 7 were men, 16 were adult children, all were white, and half had work experience in the medical field.

Interviews with family members were taped, transcribed, and analyzed using content analyses and key sensitizing concepts from Tversky and Kahneman's, "Prospect Theory of Decision-Making Under Risk" (1979, 2011).

Findings indicate that family members were more concerned about avoiding a painful protracted dying process for their loved one, than they were with trying to extend the time the resident remained alive. That perspective appeared to be related to the perception of the reference point (where the resident was in the continuum of death on one hand and perfect health on the other). "He said to me, 'Don't keep me alive just to keep me alive'" and "We were beyond the point of trying to fix things and make things better." And "A few years ago she said she had a goal to make it to 90—she's done that and she has said she is ready to go anytime."

Findings suggest new avenues for research related to perceptions about the resident's reference point, consistency between residents and family about reference points, and how those perceptions can influence medical decision-making.

LONG-TERM CARE IN TURKEY: ARE WE READY TO MEET OLDER PEOPLE'S CARE NEEDS?

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Aging of population affects all aspects of the society ranging from the healthcare to welfare systems, public finances, family life and LTC issues, as well. Turkey's population is younger than that of European countries. However, the ageing population is growing rapidly in Turkey. As a result of the increase in the aging population, health expenditure and long-term care services needs have swiftly increased, and this increase, as well as becoming a noteworthy situation, has posed a serious threat to Turkey, including the ones having an extremely powerful social security system, for the future. In Turkey, currently there is no long-term care insurance system. The elderly are usually taken care of within their own family. Long-term care infrastructure are extremely scarce. At the same time, home care and social care are least developed in Turkey, with the scarce public supplies being rationed by quantity and treated as last resort options by families and private providers. Public and private support for long-term care for older persons still is not visible and at national level it is often a non-issue. However, in recent years, quite important steps are being taken for long-term care to innovative implementations has been witnessed. We will point out some good practices about long-term care for older people in Turkey.

MEASURING CARE OUTCOMES: THE AUSTRALIAN COMMUNITY CARE OUTCOMES MEASURE (ACCOM)

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Measuring outcomes is essential for the success of aged care services delivered to people in their own home, yet to date, there has been no simple to use, practical methodology available for use in the community care field. This paper reports on the development and extensive field trial of the ACCOM, an Australian outcomes measurement tool that is based in part on a UK tool - the Adult Social Care Outcomes Toolkit (ASCOT), and is administered together with data on the demographics and capabilities of consumers. The research has been undertaken in partnership with a number of leading home care providers in NSW on measuring outcomes in case managed home care services. A key question addressed by the paper is whether it is necessary to develop a country specific approach. Can there be a universal measure of care outcomes?

SESSION 1065 (POSTER)

WORKFORCE AND CAREGIVING ISSUES IN LONG TERM CARE

EXPLORING THE IMPACT OF LEADERSHIP IN AGED CARE ON JOB STRAIN AND SOCIAL SUPPORT

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It is well known that aged care staff experience high levels of job strain, and it is evident that aged care staff that experience job strain are exposed to increased risk for adverse health effects. Leadership is a factor that has been associated to job strain in the literature, however, the impact of managerial leadership on job strain and social support has not been clarified within this context. The aim of this study was to explore associations between leadership, job strain and social support among care staff in aged care. This study has a nation-wide, cross-sectional design, including staff in 188 residential aged care facilities throughout Sweden. Participating staff (n=3661) completed surveys which included questions about staff characteristics, valid and reliable measures of leadership behavior, job strain and social support. Statistical analyses of correlations and multiple regression analysis with interaction terms were conducted. The result revealed that leadership behaviors' among managers had a significant association with job strain and social support. Higher levels of leadership behaviour were related to lower level of job strain and higher level of social support. Further, levels of leadership moderated the impact of social support on job strain. The leadership behaviors' from aged care managers seem to contribute to supportive environment in terms of increased social support and thus, alleviate job strain among staff.

THE INFLUENCE OF TEAMWORK ON HEALTHCARE WORKERS' JOB SATISFACTION AND DESIRE TO PROVIDE QUALITY CARE

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Background: Effective teamwork is widely regarded as a means of delivering safe, effective, and patient-centered care and improving patient outcomes, especially when it involves caring for populations with complex health challenges, such as the frail older adults, who often live in long term care institutions.

Objective: This aim of this study was to examine how healthcare workers working with older adults perceived teamwork and how teamwork affected care delivery and job satisfaction.

Method: Focused ethnographic methods were used to collect data in two residential care settings. Interviews were conducted with 22 healthcare providers who worked in a variety of roles.

Results: Characteristics of effective teamwork were: respect, listening, trust, and common goals. Barriers/facilitators of teamwork were: communication, commitment to the work, and familiarity. Perceptions about who was considered a team member varied with narrower views about team membership among healthcare workers providing direct care to older adults. There were expectations that leadership should create an environment that supports teamwork. Moreover, little things like scheduling, role clarification, and working with someone you knew impacted on teamwork experiences.

Conclusions: Healthcare workers identified that effective teamwork increased their job satisfaction and commitment to provide better care to older adults; yet, perceptions about who was on the team varied. More research is required to understand how to expand healthcare workers' perceptions about who they can include as part of the team and how leadership can foster teamwork.

EXPLORING THE ADAPTIVE AND TECHNICAL CHALLENGES NURSING STAFF EXPERIENCE IN USING NEW TECHNOLOGY

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The Pressure ulcer prevention (PrU) care standard for U.S. nursing home (NH) residents is repositioning every 2 hours to minimize pressure exposure; however, on-time repositioning nursing staff compliance is low. This study examined the adaptive and technical challenges nursing staff faced when using new technology to facilitate repositioning of NH residents. A 21-day trial with a convergent mixed methods pre/post-test design compared resident and staff outcomes at a southeastern US NH. The Leaf® Patient Monitoring System, a wireless system with sensor worn mid-sternum tracks (position, repositioning frequency; enabling percentage of on-time compliance calculation) resident movement 24-hours a day, cueing staff when repositioning is required. Web-based surveys completed by staff (RNs, LPNs, CNAs) pre/post intervention were the Nursing Culture Assessment Tool (NCAT), Perceived Organizational Support (POS), and Affective Organizational Commitment (AOC). During post-intervention focus groups (2, n=13), staff perspectives

were gathered. NH staff data and Leaf® monitoring data were quantitatively analyzed. Qualitative analyses using transcribed focus group sessions identified core concepts, applied satisfaction-based apriori codes, and allowed emergence of new themes. Staff on-time repositioning compliance improved from 59.8 to 77.3%. Staff responded positively to repositioning cues and described an enhanced sense of teamwork in order to achieve on-time repositioning, believing that usual care was provided faster. Adaptive and technical challenges will be discussed. Nursing culture's normative ranking percentage increased and communication, satisfaction, and professional commitment item scores positively corresponded with focus groups. Also, POS and AOC scale scores improved. Triangulated findings revealed nursing staff's enhanced experience by using new technology.

MEASUREMENT AND OUTCOMES OF PERSON-CENTERED CARE IN LONG-TERM CARE SETTINGS: A LITERATURE REVIEW

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Person-centred care (PCC) is widely acknowledged among health care professionals as a best practice approach, but there is little available evidence on the impact of PCC in long-term care (LTC) settings. This literature review provides research-based evidence to describe the tools available and the examined outcomes of PCC in LTC settings for the resident, care staff, and family members. The inclusion criteria to select studies included peer-reviewed literature discussing measurement related to PCC in a LTC setting and/or tools that were adapted to measure PCC in a LTC setting. Thirty-one studies published from 2001 up to 2016 met the inclusion criteria and five categories of studies investigating PCC outcomes were established. Staff outcomes were most often investigated, followed by resident outcomes, and family outcomes were the least investigated. The various outcomes of PCC are mixed. Overall, PCC is correlated with positive outcomes, although some studies reported unchanged or negative outcomes after implementing PCC. A limited number of instruments exist designed to measure PCC and there is no consensus in the examined studies on the best instrument to use to measure outcomes of PCC. This investigation was to be completed during a year-long research internship, therefore the search did not require a large number of databases or a longer period of time to be examined. A more thorough investigation, including a larger number of databases searched as well as a longer time period for searching, is recommended to better determine the effectiveness of PCC.

EXAMINING THE IMPACT OF NURSING CULTURE ON TECHNOLOGY USE TO FACILITATE CARE PRACTICES

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A positive cultural environment in nursing is vital to achieving quality outcomes. The Nursing Culture Assessment Tool (NCAT) captures general aspects of nursing's occupational subculture with results that can be used to advance care practices and outcomes. The subculture's influence was explored in this mixed methods study when

using new technology, the Leaf® resident activity monitoring system, in long-term care (LTC) as part of a pressure ulcer (PrU) prevention protocol and quality improvement processes. The LTC contracted with Leaf Healthcare® to train staff in system use. All nursing staff (RNs, LPNs, CNAs) were asked to complete a pre (n=34) and post-test (n=38) web-based electronic 19-item NCAT survey and demographics before and after a 21-day repositioning intervention. Repositioning activities of LTC residents at low, moderate, and high risk for developing a PrU were monitored 24-hours a day with Leaf's sensor worn mid-sternum. All residents (n=44) were monitored for time periods ranging from 2 to 21 days with the staff's on-time repositioning increasing. NCAT Cronbach's alpha was 0.93 (pre) and 0.94 (post). Communication subscale scores significantly (F=4.605, p=.035) improved pre (m=8.79) to post (m=9.55) intervention. Selected items for NCAT communication (F=6.63, p=.012) and satisfaction (F=5.34, p=.024) significantly increased posttest. The subculture's overall normative ranking percentage increased from 30.9 to 58.2%. The technology provided staff with new information which stimulated communication about repositioning and contributed to their satisfaction with the quality of care provided. The dynamic interaction between nursing culture and the use of new technology in the care environment merits further research.

A STAFF PERCEPTION OF RELATIONSHIP BETWEEN FAMILY AND STAFF IN LONG-TERM CARE FACILITIES IN KOREA

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Family and staff cooperative interaction in caring for older adults in long-term care facilities is recommended; however its importance and outcomes are poorly understood in Korea. The purpose of the study was to explore the staff's perception of his/her relationship with family caregivers of institutionalized elders with dementia in Korea. This qualitative study design was used. Data were collected through focused group interviews using an interview guide from May to June, 2016. Four focus group interviews were conducted with a total of 21 staffs in four long-term care facilities in Korea. The collected data were analyzed by qualitative content analysis using the MAXQDA12 program. Mean age of the participants was 50.1 (SD=8.1) years old, and the majorities were female (95.2%). Mean working period of the participants was 5.6 years with a range of 1.8 to 16 years. Four themes were emerged; 1) Disconnected relationships; 2) Monitored relationships; 3) Supportive relationships; and 4) Collaborative relationships. Staff who had developed a collaborative relationship with family caregivers was more likely to provide information about resident's care, to acknowledge the family caregivers' help to their relative, to use open communication, to share responsibility, and to let family caregivers involve in problem-solving. Findings of this study may help healthcare providers to establish collaborative care, to prevent any conflict between family caregivers and staff in long-term care facilities.

DEVELOPMENT OF THE STRAIN IN DEMENTIA CARE SCALE

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Many staff working in residential aged care facilities gain satisfaction from working with people with dementia, however, they also experience significant stress. High levels of stress among the staff can in turn affect the quality of the care provided to residents. There is thus a need for instruments to measure staff strain in the dementia-specific residential care environment. The aim of the study was to develop an instrument investigating strain among staff working in dementia care *i.e.* the "Strain in Dementia Care Scale". The instrument was initially developed through experiences of strenuous aspects of work identified in six focus group discussions with 35 nurses in Australia, Sweden and the United Kingdom. A preliminary 64-item scale was in the next phase reduced to a 29-item scale after being distributed to 927 staff working in dementia care in Australia and Sweden. In the final phase, a confirmatory factor analysis was made after distributing the 29-item scale to a new sample of 346 staff in Sweden. The final 27-item scale resulted in a five-factor solution: Frustrated empathy; difficulties understanding and interpreting; balancing competing needs; balancing emotional involvement; and lack of recognition. The Strain in Dementia Scale can be used (a) as an outcome measure of intervention studies in residential care; (b) to help identify interventions needed, based on high scores on different factors, to improve staff well-being in residential facilities and, in turn, those they care for; and (c) to generally highlight the importance of improving issues related to staff strain.

OLDER ADULT HOME HEALTH AIDES: A VIABLE OPTION

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The need for Home Health Aides (HHAs) continues to grow due to the aging of the population and older adults increasing preference to be cared for in their homes. Contributing to the shortage of qualified HHAs are the repetitive injuries, high job demands, poor benefits and lower pay they often experience. Suggestions have been made that older workers are more prone to workplace injuries and hence, are more costly to employee than younger workers. To address these perceptions, data from the 2007 National Home Health Aide Survey was used to examine the relationship between injuries and outcomes, as well as the frequency of injuries and sick days for HHAs. Post hoc analyses were conducted to identify differences by age groups (n= 3,377). Using OLS and multinomial logistic regression, injured employees were found to have lower job satisfaction ($\beta = -.119$, p-value <.001), higher turnover intentions ($\beta = .069$, p-value <.001), and be less likely to recommend their agency for care ($\beta = -.099$, p-value <.001) than non-injured employees. Older workers (over 55 years and 23.7% of sample) had significantly higher job satisfaction (F=5.35, p<.001), lower turnover intention (F=8.15, p<.001) but no significant

differences in injury rate or sick days taken. Older HHAs in this study had better outcomes and were neither injured nor sick more often than their younger counterparts. With an aging workforce and the need to fill existing vacancies, older workers offer a viable and accessible employee pool to help meet the growing demand for HHAs.

PROFESSIONAL DEVELOPMENT OPPORTUNITIES FOR PERSONAL CARE WORKERS: SEE THEM SHINE

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Under the Encouraging Better Practice Initiative, the Australian Commonwealth Department of Health and Aged Care funded a team from Flinders University to develop and disseminate the Dementia Dynamics Toolkit to all residential aged care homes in the country with the aim of building capacity in person-centred dementia care. In Australia, the largest percentage of the workforce in residential aged care comprises personal care workers, who are lowest paid and largely part-time. As such, opportunities to engage in professional development activities and build capacity in their role as the primary personal care-givers in an organisational setting are limited. To determine the feasibility of defined professional development opportunities for this important group of staff, a national, competitive fellowship program for personal care workers was offered as part of the Dementia Dynamics Toolkit project. The Dementia Dynamics Fellowship comprised fully funded attendance to an international dementia conference being held in Australia, a full day educational workshop and mentor support for 12 months to complete a small project in the aged care home in which they worked. Ten fellowships were awarded to personal carers from across the country. This paper presents a selection of the journeys these personal care workers embarked on during their fellowships, the impact it had on their personal and professional development and the outcomes for the care homes in which they worked. The personal care workers own views are presented through excerpts of short videos talking about their experiences going to a conference for the first time, developing and completing their project and their perspective of the impact of their projects.

THE PREVALENCE AND RISK FACTORS ASSOCIATED WITH ELDER ABUSE IN NURSING HOMES IN CHINA

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Elder abuse is a serious problem in some areas but always to be hidden. However, abuse tendency is an important variable to predict abuse behavior. The purpose of this study is to investigate the prevalence and risk factors of caregiver abuse in nursing homes. A cluster sampling survey was conducted in Zhengzhou of China. 360 nursing staff in nursing homes were recruited. Data were collected with general information, the caregiver Abuse Screen (CASE), Workplace Social Capital (WSC), and Maslach Burnout Inventory General Survey (MBI-GS). The results showed that the rate of abuse tendency to professional caregivers is high in nursing homes. Working over 3 months in nursing homes, WSC, exhaustion, reasons of job-selecting, and ADL scores of the elderly

residents are correlated with abuse tendency. Therefore, abuse tendency of professional caregivers should be evaluated further continuously. It suggested that long-term care facilities should provide more humanistic environment to improve working conditions of the nursing staff, shorten their daily work time, increase the salary, aiming to make them more positive and delivery higher quality of care to the elderly residents with chronic illness.

THE DIFFERENT VIEWS OF RESIDENTS AND CARE STAFFS OF PERSON-CENTERED CLIMATE IN NURSING HOMES, CHINA

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Introduction: In China, the perspective of residents and care staff towards the climate of the nursing homes are unknown due to lack of studies in this area.

Methods: A cross-sectional study was conducted to explore residents' and staff's perspective of Person-Centered Climate in nursing homes, in Hunan Province. A stratified cluster sampling method was used to recruit 260 old people and 350 care staffs from 20 nursing homes using the Person-centered Climate Questionnaire-Patient version (PCQ-P) and Person-centered Climate Questionnaire-Staff version (PCQ-S).

Results: In total, 251 residents and 302 care staffs completed the questionnaires. The range of age was 70–89 years old. The range of age was 46–55 years old. The Cronbach's alpha values of PCQ-P and PCQ-S in Chinese version were the same 0.93. The mean score (SD) of the PCQ-P was 59.69 (11.49), and the mean score (SD) of PCQ-S was 66.3 (9.7). Correlation analysis showed that residents' age, the marital status, health condition were factors affecting their perspective of person-centered climate of nursing homes. Staff's age, education level and the attributes of nursing homes were the factors affecting staff's perspective of person-centered climate in nursing homes.

Conclusion: The residents perceived person-centered climates scores were lower than those of care staff. The findings have implications for staff education and training to improve resident-centred care in nursing homes in China.

SESSION LB1070 (POSTER)

LATE BREAKER POSTER SESSION 3

ACCESS TO HEALTH CARE IN RURAL CHINA: THE INFLUENCE OF TRAVEL DISTANCE ON HEALTHCARE DECISION-MAKING

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In 2009, China established several new schemes to provide social health care coverage for the vast majority of its 1.3 billion citizens. However, continued separated health-care system creates inequalities in access that disadvantage people in rural areas. Because public hospitals and clinics

are insufficient to meet their needs, older adults with serious health problems often must travel great distances to obtain care. This study draws on the Andersen Behavioral Model to examine this trade-off between accessing quality of care and travel distance in health care decision-making. Based on nationally representative data from the Study on Global Aging and Adult Health (SAGE) ($N = 4,445$), multinomial-logistic regression was used to examine the influence of distance traveled on health services utilization. Controlling for the effects of relevant predisposing, enabling and need factors, distance decreased older adults' use of private ($OR = 0.48$, $P < 0.01$) and public ($OR = 0.22$, $P < 0.01$) clinics, but it had the opposite effect on use of public hospitals ($OR = 1.52$, $P < 0.001$). Health status and availability of high quality medical care in their home province moderated this relationship; in cases of poor health, distance played a less significant role in choice of clinics, but a greater role in choosing a high-quality hospital regardless of distance ($OR = 2.09$, $p < 0.01$), while the availability of local medical resources lessened the impact of distance ($OR = 2.221$, $P < 0.01$). In sum, distance reduced the probability of older adults' clinic use, but not their decision to seek sophisticated hospital services, especially in cases of poor health and the absence of high-quality care locally. Feasible schemes must contend with this growing issue of distance to high-quality facilities in health care decision-making of older adults in rural China.

LEISURE CONSTRAINTS OF URBAN CHINESE OLDER ADULTS: A CASE STUDY OF SUZHOU

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As the Chinese population ages, concerns are raised over the wellbeing of its elderly. Leisure has been shown to play a significant role in the physical and psychological wellbeing of older adults (Broughton et al, 2016; Heo et al, 2010), yet not all older adults have access to leisure (Liechty & Genoe, 2013). This study explored the constraints that limit the leisure activities of Chinese older adults and analyzed the differences in perception of these constraints by demographic characteristics. Residents from three communities of Suzhou, China aged 55+ were surveyed ($N = 285$) during July 17–20, 2016. A questionnaire containing 18 constraints to leisure participation were assessed by the respondents using a 5 point Likert-type scale. A factor analysis of responses yielded four constraint factors (Cronbach's $\alpha = 0.80$, accumulated variance = 81.24%): (1) subjective and social factor (6 items, leisure awareness, consumption habit, care giving and interpersonal relations with children and friends), (2) health (4 items, physical health, injury and health accident perception and health care), (3) support service (4 items, management, leisure education, guidance and information access) and (4) facilities (4 items, leisure space, environment, leisure facilities and community-level organizations). A one-way ANOVA revealed significant differences between living state, health, marriage, leisure expenditure, income with the four factors. Suggestions were proposed to address the problems: including the introduction of leisure education, the provision of facilities, the accessibility of affordable products, the

availability of health care, and the encouragement of leisure industry provision for older adults.

CHANGES IN DEPRESSIVE AND ANXIETY SYMPTOMS IN ADULTHOOD: FINDINGS FROM THE VA NORMATIVE AGING STUDY

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Combat exposure influences posttraumatic stress disorder (PTSD) throughout the lifespan, including late life (Kang et al., 2016; Settersten, 2006). While PTSD is often comorbid with depression and anxiety (e.g., Stander et al., 2014), surprisingly few studies examine whether combat exposure influences the age-related trajectories of depressive and anxiety symptoms (Ginzburg et al., 2010). We examined whether these trajectories differed depending on combat exposure (combatant vs. non-combatant) and specifically whether killing someone had stronger effects than general combat exposure. We utilized survey data collected in 1985, 1988, and 1991 from men in the VA Normative Aging Study; response rates were $>80\%$. The sample included 978 men (Age = 59.7 in 1985, $SD = 7.2$, range = 41–86), mainly WWII and Korea-era veterans, of whom 392 (40%) saw combat and 80 (8.2%) indicated that they had killed someone. Unconditional growth curve models showed that veterans had U-shaped trajectories of both depressive and anxiety symptoms, decreasing until ~60 and increasing again in the late 60's. In the conditional growth curve models, the interaction of combat and age² indicated that, for combat veterans compared to non-combat veterans, their levels of both depressive and anxiety symptoms increased sharply in late life. However, the indicator of killing experience did not add significant variance to the model, perhaps because relatively few veterans had this experience. Thus, combat intensified the age-related changes in anxiety and depressive symptoms, suggesting that combat veterans may need more mental health assistance in late life.

FAMILY, FAITH, AND FATALISM: AGENCY IN OLDER APPALACHIAN FAMILIES DEALING WITH GYNECOLOGICAL CANCER

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Patient-centered cancer care promotes individualized care and engages patients in the decision-making process. This decision-making responsibility often involves family input, welcomed or not. Older women in rural Appalachia are reported to have low levels of agency and high levels of fatalism (i.e., viewing health as pre-determined) regarding cancer. In Fall 2016, we explored the consequences of patient-centered care among older Appalachian women with gynecological cancer and their family members. This qualitative study combined Elder's Life Course concepts of trajectories and agency with Johnson's Model of Cancer-Related Information Seeking to examine agentic processes among families and older Appalachian women with gynecological cancer before, during, and post-cancer treatment. Using thematic content analysis, we focused specifically on how

older women enacted agency through information seeking and avoidance. We conducted a total of 53 semi-structured interviews with 20 White women (aged 51–82; $M=67.1$) living in central Appalachia and 1 to 2 members of their family ($n=33$). Findings demonstrated three transitions throughout the cancer experience and resulted in the creation of four trajectories of information-seeking ranging from surrendering control, accepting death, caring for oneself, or advocating for others. Findings also highlighted the role and limits of family members in information-seeking, women's personal transformation in self-efficacy and passion for community empowerment, faith-informed fatalism, and the value of personal ownership during cancer experience. We recommend redefining fatalism and conceptualizing information-seeking as a mechanism of agency. Findings call for continued doctor-patient dialogue regarding desire and use of information, and further examination of rural expressions of agency.

DRIVING CESSATION AND DEPRESSIVE SYMPTOMS: GENDER AND CROSS-NATIONAL DIFFERENCES

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Background: Previous research showed that driving cessation is significantly related to depressive symptoms (Ragland et al., 2005). However, limited studies have considered gender and cross-national differences. This study aims to investigate (1) gender differences in the association between driving cessation and depressive symptoms, and (2) whether there is a cross-national variation between Korean and U.S. older adults.

Methods: Using data from the 2014 National Elderly Survey (KIHASA) in the Korea and the Health and Retirement Study (HRS) in the US, a total of 4,274 older adults (2,062 Korean citizens and 2,212 U.S. residents) aged ≥ 65 years were selected. Geriatric Depression Scale-15 and Center for Epidemiologic Studies Depression Scale-10 were used to measure depressive symptoms in Korean and U.S. sample, respectively. Demographic characteristics, disease burden, and cognitive functioning were included as covariates.

Results: Significant differences were found in the prevalence of driving cessation between nations. Korean elderly was more likely to stop driving than elderly in the U.S. (34% vs. 9.5%). Women were more likely to cease to drive in both countries. In the U.S., driving cessation was significantly related to higher levels of depressive symptoms in both gender. However, in Korean older adults, driving cessation was associated with higher levels of depressive symptoms only in men.

Conclusions: The results indicate that the relationship between driving cessation and depressive symptoms differs across gender and nations, suggesting that driving cessation may increase depressive symptoms, especially for the U.S. residents. Future research is more needed to examine underlying mechanisms.

DO MY PATIENTS NEED ALL THEIR MEDICINES? REGISTERED NURSES' VIEWS ON DEPREScribing

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Registered nurses are key players in caring for older people and are major influencers of prescribing and deprescribing

in residential aged care facilities (RACFs). However, studies investigating their opinions about these processes are limited. This study therefore aims to investigate nurses' views and perceptions on medicines' use and deprescribing in this setting. A cross-sectional survey was mailed to 307 nurse managers of a nationally representative sample of RACFs. A purpose-developed, pre-tested, 48-item structured questionnaire was used that included both open-ended and close-ended questions. Questions were grouped according to each stage of the medicine use process (prescribing, medicine charts, receiving dispensed medications, administration and monitoring). A dedicated section to explore nurses' views on deprescribing was included. We received 91 questionnaires in total; yielding a response rate of 29.6%. A descriptive analysis was conducted to analyse close-ended question responses, and a thematic analysis was carried out to analyse open-ended question responses. Nurses highlighted several challenges including achieving medicine reconciliation for new residents, access to physicians to admit patients in a timely fashion, and issues pertaining to lack of clear transcribing of medical information. Most respondents (67.4%) agreed that deprescribing implemented with the help of a clinical pharmacist, would be beneficial and could improve medication adherence (44%), benefit the resident's quality of life (50.5%) and reduce the length of time spent by nurses on medicines administration (35.2%). This study sheds light on important challenges faced by nurses, regarding medication management. The majority of nurses supported the idea of deprescribing; however a small proportion of them disagreed that it would be beneficial or had no opinion. Increased awareness regarding polypharmacy and potential deprescribing benefits, is necessary to help achieve optimisation of medicine use in older people.

SOCIOECONOMIC POSITION ACROSS THE LIFE-COURSE AND COGNITIVE ABILITY IN MIDLIFE

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Cognitive ability is associated with morbidity and mortality in old age and has been proposed to be a marker of successful ageing. There is growing interest in understanding how socioeconomic position (SEP) across the life-course may influence the development of cognitive ability. However, few studies have been able to include measures of early life ability and separate the effect of life-course factors that adds variance to later ability from variance that has persisted throughout life. This study is based on 2481 men born in 1953 from the Danish Metropolit Cohort who have completed ability tests at age 12, 18 and 57. The data is unique because it in addition to these three tests contains longitudinal prospective register information on childhood SEP, educational attainment and occupational skill levels throughout adulthood. Structural equation models were used to investigate how these indicators of SEP both directly and indirectly are associated with cognitive ability in midlife, when accounting for childhood ability. Estimating standardized coefficients, we found significant direct paths from childhood ability (0.86) and adult occupational skill levels (0.13) to midlife ability.

The association between childhood SEP and midlife ability was fully explained by the other study variables, and thus only the indirect effect was significant (0.35). Educational attainment was found to have a negligible effect on midlife ability. The results suggest that individual differences in midlife cognitive ability are mainly due to differences in early life ability, but that occupational skill levels in adulthood and SEP in early life may additionally have implications for cognitive development over the life-course.

CAREGIVER-CARE RECIPIENT RELATIONSHIPS ARE ASSOCIATED WITH NEUROPSYCHIATRIC SYMPTOMS IN DEMENTIA

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Closer caregiver-care recipient (CG-CR) relationships have been associated with lower informal care costs and better cognitive and functional outcomes in persons with dementia. Considering difficulties in treating neuropsychiatric symptoms (NPS) and their significant detrimental effects on caregivers and care-recipients in dementia, we examined whether closer CG-CR relationships were associated with severity of overall NPS and specific subdomains in dementia. NPS were assessed by the Neuropsychiatric Inventory-12 (NPI-12) in 252 CG-CR dyads in the Dementia Progression Study a longitudinal-population based study in Cache County Utah. Caregivers reported on relationship closeness using the Whitlatch Relationship Scale. Linear mixed models examined the association between NPI-12 total score and symptom subdomains with CG-CR closeness (time-varying) in separate models. When controlling for caregiver burden, kin relationship, and dementia severity, each increasing unit of closeness was associated with an approximate 3-point lower NPI-12 score ($b=-2.73$, $p=.002$), and an approximate 1-point slower increase in NPI total score per year ($b=-0.92$, $p=0.046$). In NPI subdomains, closer relationships were associated with lower affective domain scores ($b=-0.15$, $p<0.001$) and lower agitation/aggression scores ($b=-0.13$, $p<0.001$). These results suggest that closeness in CG-CR relationship, a modifiable factor, may help reduce severity or slow intensification of NPS in dementia patients, which may be clinically significant for challenging symptom management. Extending prior findings that higher CG-CR closeness also predicts better cognitive and functional outcomes and lower informal costs of care, enhancing the CG-CR relationship may improve quality of life in the care dyad and possibly avoid or delay costly outcomes such as institutionalization.

ORAL-HEALTH PROFESSIONALS AS A FIRST POINT OF CONTACT FOR ELDER ABUSE VICTIMS: A SCOPING REVIEW

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Oral-health professionals, which include dentists, orthodontists and dental hygienists, are often the first point of

contact for older adults experiencing various types of elder mistreatment (such as abuse and neglect). The scheduled and routine nature of the visit often provides an opportunity to recognize any indicators of mistreatment over a longer period of time. A 2017 technical report completed on support services for victims of elder mistreatment highlighted that oral-health professionals are an underutilized ally in identifying and intervening with abused or neglected older adults. However, training in the identification of elder mistreatment by oral-health professionals as well as protocols for reporting are not well established. In addition, entities such as the Public Health Agency of Canada have begun changing the scope from “dental professionals” to “oral-health professionals” to capture the important role this range of front-line professionals plays. A scoping review was completed to gain an in-depth understanding of the role of oral-health professionals with respect to elder mistreatment, and as crucial resources in community settings. Ten peer-reviewed and grey literature databases were searched for empirical studies published after 2000. This synthesis review analyzes approaches that oral-health professionals may utilize to identify different types of elder mistreatment and ensure their client’s safety moving forward (i.e., duty to report). Findings suggest that oral-health professionals equipped with appropriate education, training and awareness can be key in early detection of elder mistreatment. This merits further research, policy and practice attention to the role of oral-health professionals intervening in cases of elder mistreatment.

SES TRAJECTORIES, RECESSION HARDSHIPS, AND DAILY WELL-BEING AMONG ADULTS IN THE UNITED STATES

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Objectives. To examine how life-course trajectories of socioeconomic status (SES) and the experience of hardships during recession predict daily well-being across adulthood.

Methods. Data from the baseline survey and the daily diary study of the Midlife in the United States (MIDUS) Refresher study were combined, resulting in 782 participants (55.6% female, M age = 47.91 y.o.) who reported on 5,849 days of information including daily stressors and daily well-being. Participants’ childhood SES was combined with their formal educational attainment and adult SES, resulting in five SES trajectories: stable low, downwardly mobile, upwardly mobile, stable high, and mixed (no clear patterns). In addition, the recession hardships included job, home, and financial impacts of the economic downturn on individuals. The associations among SES trajectories, recession hardships, and daily well-being was analyzed using multilevel modeling.

Results. Participants in the stable low and downwardly mobile groups, but not in the upwardly mobile group, significantly reported a higher level of recession hardships, daily negative affect, and daily physical symptoms compared to participants in the stable high group. Higher levels of recession hardships were also associated with worse daily well-being. The impact of SES trajectories and recession hardships on daily physical symptoms was stronger among women, while their association with daily negative affect was stronger among older participants.

Discussion. Upward mobility, especially through the attainment of a better education, is the key to alleviating the negative impact of childhood socioeconomic disadvantage on later well-being, particularly during and post-recession.

MENTAL HEALTH PROFILES OF DEMENTIA SUBTYPES IN OLDER VETERANS

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Little is known about whether specific mental health issues are more prevalent in certain dementia subtypes. This study examined psychiatric disorders and suicidal behavior among older veterans with different dementia subtypes. The sample included 4,951,919 older veterans (≥ 50 years) who used Veterans Health Administration healthcare services. Data were from the National Patient Care Database and National Suicide Prevention and Application Network for fiscal years 2012–2013. International Classification of Diseases, 9th Edition codes were used to identify psychiatric diagnoses and dementia subtypes, and Pearson's chi-square tests were used to determine prevalence of mental health conditions among dementia subtypes. Among older veterans, 0.03% were diagnosed with frontotemporal, 0.52% with vascular, 0.66% with Alzheimer's, 0.08% with Lewy body, 0.30% with senile, and 3.45% with not otherwise specified dementia. Older veterans with any dementia had higher prevalence of mood and anxiety disorders and suicidal behavior than those without dementia ($p < .001$). Specifically, those with frontotemporal and vascular dementia had the highest rates of major depression (13.04%, 10.94%), post-traumatic stress disorder (15.11%, 13.17%), and suicidal behavior (0.36%, 0.21%), whereas those with Alzheimer's had the lowest rates of these disorders ($< 8\%$, $p < .001$) and suicidal behavior (0.07%, $p < .001$). Furthermore, older veterans with frontotemporal and vascular dementia had the highest prevalence of comorbid (11.05%, 10.10%), and ≥ 3 multiple (10.41%, 6.83%) mental health issues, while those with Alzheimer's had the lowest prevalence of these issues ($< 5\%$, $p < .001$). Specific mental health issues are more prevalent in certain dementia subtypes, and likely increase the complexity of treating patients with these subtypes.

THE ASSOCIATION BETWEEN COGNITIVE IMPAIRMENT AND CHANGES IN PATTERNS OF ACTIVITY ENGAGEMENT

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Previous studies have shown that the overall pattern of engagement in various activities is associated with cognitive health in later life. To date, little evidence exists to what extent change in cognitive function may affect changes in activity engagement patterns over time. This study investigated the longitudinal patterns of social activities among older adults and examined whether, and to what extent, changes in cognitive function influence the transition patterns. Data from the 2008 and 2012 Health and Retirement Study were used. A total of 2,987 participants aged 65 or older were included in analyses. Latent transition analysis and multinomial

logistic regression analysis were used. Cross-sectional profile analysis identified High Active, Active Leisure, Passive Leisure, and Low Active groups in each wave of the study. Longitudinal profile analysis derived four transition patterns: three groups in three Stayer, remain high, remain moderate, and remain low and one Changer group: active to less active group. Multinomial logistic regression analysis showed that people who developed cognitive impairment were more likely to transition as Changer compared to remain high or remain moderate. This study adds to the extremely limited empirical evidence about stability and dynamics of later year social engagement: our findings showed that majority of the sample belonged to Stayers (87.4%) and subgroup (12.6%) belonged to Changer. Importantly, those who developed cognitive impairment were at risk of becoming disengaged in various activities, even in relatively short periods of time. These empirical findings add to the importance of identifying older adults with declining cognitive function.

EVALUATION OF A RELATIONSHIP-CENTRED MEALTIME EDUCATION INTERVENTION FOR CANADIAN LONG-TERM CARE

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Mealtimes are an important aspect of quality of life for residents in long-term care (LTC), yet little attention has been directed to improving the quality of relationships between care staff and residents or the physical dining environment. C.H.O.I.C.E. is a multi-component (i.e., education, training, leadership, communication) intervention to improve relationship-centred care (RCC) and overall mealtime experience for residents. This study used the Mealtime Scan (MTS), a comprehensive and reliable tool, to evaluate the potential of C.H.O.I.C.E. to improve physical, social and RCC mealtime practices over time. C.H.O.I.C.E. was implemented (April–November 2016) within two units of a LTC home in Southern Ontario, Canada. Data were collected by two trained assessors (one per unit) at baseline, 8, 16, and 24 weeks (5 mealtime observations per assessor per time point). Linear regression analysis determined the association of time, unit, and time*unit interaction with 4 MTS summary scales (physical or social environment, RCC, overall atmosphere; 8-point scale). Units differed on number of residents in the dining room at meals (mean = 22 ± 2 vs. 26 ± 2 ; $p < .01$), but not number of staff (mean = 5 ± 1). Each global assessment measure, with the exception of RCC, was found to improve with time: physical environment [$F(3,36) = 3.7$, $p \leq .05$]; social environment [$F(3,36) = 3.6$, $p \leq .05$]; atmosphere [$F(3,36) = 4.8$, $p \leq .01$]. An interaction between time and unit was found for the association with social environment, and with overall atmosphere. C.H.O.I.C.E. improved several aspects of mealtime experience in LTC. Results highlight the potential for change, but also the varying response at unit level likely due to resident-staff mix and team dynamics.

THE RELATIONSHIP OF EMPLOYMENT AND HOUSEHOLD AND NON-HOUSEHOLD CAREGIVING

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This research examines the relationship between caregiving for elders, partitioned by place of residence, and being employed. Recent legislation in Hawaii (SB534 SD1) directed toward supporting working caregivers inspires this research project. Caregiving is an intensive activity that can affect not only physical and mental health but financial health as well. If caregiving activities lead to early retirement from the workforce then the financial effects go beyond immediate fiscal needs and can lead to the caregiver's own retirement funds and Social Security benefits to be reduced. Data ($n=97,327$) come from five years, 2011–2015, of the American Time Use Survey (ATUS), a U.S. national household survey conducted on a subset of the monthly Current Population Survey (CPS). The ATUS is sponsored by the Bureau of Labor Statistics and conducted by the U.S. Census Bureau. Employment is examined using logistic regression. Care time is examined by total time spent caregiving then partitioned into care time given to household members and care time given to non-household members. Care is further examined by count of elderly care receivers also partitioned by whether the care receivers live in the household of the caregiver. Results indicate that caregiving is associated with not being employed but there is a difference between caregiving for household members and non-household members. Caring for household members is more strongly related to unemployment than caring for non-household members.

THE PATTERN OF GENDER ROLE ATTITUDE AND MARITAL QUALITY AMONG MIDDLE-AGED KOREANS

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Although gender role attitude is a multidimensional phenomenon, only a limited number of studies has been directed at understanding its diversity stereoscopically in terms of family studies. Therefore, the aim of this study was to identify patterns of gender role attitude among middle-aged Koreans and to investigate the differences on marital quality between patterns. For the analysis, the Third National Survey of Korean Families was utilized and married individuals aged 40 to 59 were analyzed ($N=3,704$). Using Mplus 7.3, a latent profile analysis (LPA) was adopted to identify latent profiles of gender role attitude. Then, using SPSS 23, the analysis of covariance (ANCOVA) with post-hoc tests was used to analyze the differences on both marital satisfaction and marital conflict between patterns. A latent profile analysis of self-reported gender role attitudes identified three such patterns: the most egalitarian (33%), the modest egalitarian (48%), and the least egalitarian (19%). The classes resulting from the LPA were significantly related to marital satisfaction but not to marital conflict; those individuals with the most egalitarian gender role attitude pattern reported higher levels of marital satisfaction than those individuals with the least egalitarian gender role attitude pattern. The results of this study imply that more egalitarian gender role attitude contributes to increasing marital satisfaction but not decreasing marital conflict and that, its findings may be useful in the

field of marriage and family therapy to develop educational programs that seek to improve marital satisfaction in midlife.

INSIGHTS INTO IMPLEMENTING A RELATIONSHIP-CENTRED MEALTIME INTERVENTION FOR CANADIAN LONG-TERM CARE

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Mealtimes are an important aspect of quality of life for residents in long-term care (LTC). Interventions aimed at improving mealtimes often give little attention to the quality of relationships between care staff and residents, and are designed with a single-strategy approach. C.H.O.I.C.E. is a multi-component (i.e., education, training, leadership, communication) intervention to improve relationship-centred care (RCC) and overall mealtime experience for residents in LTC. The current study evaluates the implementation of a proof-of-concept relationship-centred mealtime intervention through understanding the perspectives of participating LTC management and care staff. C.H.O.I.C.E. was implemented (April–November 2016) within two units of a LTC home in Southern Ontario, Canada. Data were collected post-intervention using staff and management key informant semi-structured interviews ($n=9$), which focused on mealtime changes, intervention components, implementation strategies, and program sustainability. Data was analyzed using thematic analysis. Preliminary findings provide several insights into the program and the implementation process: i) Knowing the context and culture to meet staff and resident needs; ii) Getting everyone on board, including management; iii) Keeping communication lines open throughout the process; iv) Sharing responsibility and accountability for mealtime goals and challenges; v) Empowering and supporting staff's creative mealtime initiatives. Participants identified multiple benefits from the program, most notably an enhanced appreciation for the importance of meals and an increase in meaningful socialization with residents. Our research illustrates the value of C.H.O.I.C.E. and its capacity to improve RCC and residents' mealtime experiences. Findings will inform the next phase of program development.

HOW STEREOTYPE THREAT MIGHT EXPLAIN STABILITY AND DEFICITS IN OLDER ADULTS' PROSPECTIVE MEMORY

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Prospective memory (PM; one's capacity to perform a planned action after a certain delay, e.g. taking one's medication at specific times) is an important proxy for autonomy and well-being in old age. The majority of previous studies observed age-deficits in PM which have so far largely been associated to the decline of cognitive resources in older adults. In the current study we suggest a novel, more social-psychological perspective on this topic. Specifically, sixty younger and sixty older adults performed two PM tasks. Half of the participants received instructions emphasizing the memory component of the tasks (i.e., high stereotype threat

for older adults) whereas the other half was instructed that the tasks evaluated their reading-ability (i.e., low stereotype threat). Results show (1) that older adults' PM performance was worse than younger adults' only in the stereotype condition ($U = 302.00$, $p < .05$, $d = .54$), and (2) that this effect was limited to the PM task that strongly relied on executively guided processes ($U = 225.50$, $p < .05$, $d = .60$).

In sum, the current findings illustrate for the first time that the PM deficits commonly observed in older adults might in fact be the result of age-related stereotypes which can – implicitly and involuntarily – be induced by practitioners. Thus, the present study has significant conceptual as well as practical implications, indicating potential age-stability of this crucial everyday function and highlighting the importance of carefully choosing their wording when practitioners assess older adults' abilities.

DOES COHABITATING FAMILIES' INVOLVEMENT AFFECT DEPRESSION AMONG COMMUNITY-DWELLING OLDER ADULTS?

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We used paired data of older adults and their cohabitating family members to examine whether daily involvement of and mental health of family members would affect emergence of depressive symptoms among community-dwelling older adults 1.5 years later. The initial survey was conducted with 1,229 people aged 70+ without ADL disability and their cohabitating family members. The questions for the older adults included their age, sex, education, depression (CES-D), being alone during the day, social support, ageist attitudes from family members, mobility, and IADL. The questions for families included their age, sex, ADL, relation to the older adult, and mental health. A follow-up survey was conducted 1.5 years later. The authors analyzed 460 pairs who had answered all the questions. Among the older respondents, 205 (59.2%) were female, and their mean age was 77.7 ± 5.8 . Regarding their families, 194 (56.1%) were female, their mean age was 59.6 ± 12.4 , and 244 (70.4%) were children. We defined emergence of depressive symptoms at the follow-up survey as the dependent variable, conducted logistic regression analysis, and found the following significant independent variables: depressive symptoms of the family ($OR=2.48$, 95%CI 1.01–6.28), ageist attitudes from the family ($OR=1.16$, 95%CI 1.00–7.23), emotional support from the family ($OR=0.50$, 95%CI 0.33–0.77), and being alone during the day ($OR=2.87$, 95%CI 1.14–7.23). This study found that cohabitating family members' ageist attitudes in daily living, being alone during the day despite cohabitation with families, and depressive symptoms of families affect emergence of depressive symptoms among older adults.

SPORTS GROUP PARTICIPATION REDUCES THE ONSET OF DEMENTIA AMONG HIGH-RISK OLDER ADULTS

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Social participation is known to protect cognitive function in older adults; however, it remains unclear whether it delays the onset of dementia, especially among those already at a high-risk. This study examined the association between the contents of group participation and onset of dementia among cognitively high-risk and healthy older adults.

Data were obtained from the Aichi Gerontological Evaluation Study project's 9.4 year cohort dataset. Respondents were functionally independent adults aged ≥ 65 years. High-risk and healthy groups were selected based on the 15-point risk score for dementia onset, which Takeda and colleagues (2016) developed and validated; 1018 people with scores ≥ 6 and 2395 people with scores 0 or 1 were selected as the high-risk and healthy groups respectively. Eight types of community groups were assessed and examined in relation to the onset of dementia.

A multivariate Cox regression model revealed that those participating in a sports group were less prone to the onset of dementia (hazard ratio, HR: 0.53; 95% confidence intervals, 95% CI: 0.30, 0.94) in the high-risk group compared to the healthy group (HR: 0.93; 95% CI: 0.60, 1.43). Interaction terms of sports group participation by the risk score of the groups showed a marginal effect modification ($p < .098$), indicating that the effect of sports group participation was stronger in the high-risk group.

These findings suggest the importance of sports group participation on the onset of dementia, particularly in the high-risk group. Further studies should examine causal relationships among these variables.

DEVELOPING SUPPORT SERVICES FOR THE ELDERLY UNDER LONG-TERM CARE INSURANCE IN JAPAN

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This research investigates daily life support and dependency prevention services for elderly people not covered by the Long-term Care Insurance (LTCI). As these services are essential for sustaining community living, many agencies try to develop them in the market.

The Min-kai-kyo agency, which enhances elderly care services, conducted this research starting in November 2016. Questionnaires were faxed to 1,927 service agencies, profit and non-profit, from November 14 to December 22, 2016. A total of 225 agencies (11.7%) replied and data analysis started soon after.

Daily life support services include the following: monitoring the needs of the elderly through home visits, delivering meals, shopping, providing transportation, senior housing, exercise classes, cafe salon, etc.

Major outcomes: (1) 9.2% of agencies provided one of these services before the year 2000 when the LTCI started; 36.9% of them started after 2012. (2) The reasons cited for providing these services include: meeting future service

needs by the LTCI (37.0%); developing services in the market (28.6%); supporting elderly in the community (22.8%). (3) The issues encountered in starting these services include: labor shortage (72.6%, M.A); difficulties in making a profit (67.3%); and challenges in securing adequate investment to expand (36.2%). (4) 29.6 % of agencies are successful businesses, but 32.3 % of them are in the red. However, 41.1 % of them will maintain services and 33.5 % will expand services.

In summary, many agencies try to provide these services to meet the needs of the communities and/or aiming for future business under LTCI.

FINANCIAL FRAUDS AND THE HEALTH OF MIDDLE-AGED AND OLDER ADULTS: THE CASE OF SPAIN

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Background: Globally, financial frauds cause loss of lifetime savings to millions of small savers. Whether financial frauds have harmful effects on health has not yet been explored. Our objective was to examine whether fraudulent behaviors by financial institutions are associated with physical and mental health problems in affected populations, comparing with the health of the general population to which they belong.

Methods: Pilot study (n=188) conducted in 2015 in the central region of Spain by recruiting subjects affected by two major types of frauds (preferred shares and foreign currency mortgages) using venue-based sampling. Information about monetary value of fraud, dates for awareness of fraud, legal claim and financial compensation were collected. Comparisons of means and prevalence of physical and mental health indicators, sleep and quality of life were carried out between groups by type of fraud and the 2011–2012 National Health Survey.

Results: In this conventional sample, victims of financial fraud had worse health, more sleep problems and worse quality of life than comparable populations of similar age. Those who had received financial compensation for lost savings in preferred shares had significantly better health and quality of life than those who had not been compensated and those who contracted foreign currency mortgages.

Conclusion: This pilot research suggests harmful effects of financial frauds on the health of those affected. Further research could examine the mechanisms through which financial frauds impact public health. If these pilot results are confirmed, psychological and medical assistance should be provided, in addition to financial compensation.

MUSIC AND MEMORY: UPDATES FROM AN INNOVATIVE COMMUNITY-LEVEL INTERVENTION FOR PEOPLE WITH ADRD

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This presentation expands upon initial findings (changes in quality of life indicators) from an innovative community-level, music-based intervention that holds policy implications for residents with dementia residing in long-term care communities. Teams of professional symphony musicians and music therapists delivered this interdisciplinary (music, music therapy, nursing, and behavioral science) intervention through 7 music-based events across 6 weeks. Nurse raters evaluated resident affect before and after each event while symphony musicians, facility staff, and family caregivers completed similar self-ratings. Participants also provided saliva samples to investigate the impact on biomarkers of stress (salivary alpha-amylase and cortisol). Results support the intervention in terms of significant changes in participant mood ratings and in behavioral activation, as measured by salivary alpha-amylase. A sub-study measuring salivary cortisol supported the ratings, suggesting that morning music events may have enabled residents to better regulate their stress responses around an afternoon stressor (bathing). Nurses also rated the following environmental factors significantly more positively on evenings when morning music events occurred versus those without music events: levels of verbal/physical disruption at change of shift and dinnertime; resident cooperation during evening care; overall mood of the unit; and, number of critical events including falls, acute illness, deaths, staff shortages. The intervention's acceptability and perceived benefit were also rated very highly. Results provided further evidence for the project's conceptual model that integrated three key parameters (receptive to active; observation to relationship; and planned to improvisation) by bridging science and practice and emphasizing the importance of community-level music-based interventions in long-term care.

COMPARISON OF PHYSICAL FUNCTION IN DAY CARE AND HOME CARE SETTINGS AMONG OLDER ADULTS WITH DEMENTIA

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Despite increasing enrollment in long-term care (LTC) insurance in Korea, it is not known whether it has improved patient outcomes in different settings. The aim of this study was to compare physical function among older individuals with dementia in day care (DC) with those in home care (HC) settings. A retrospective, matched cohort study design was adopted using the LTC insurance data set from the National Health Insurance Service in Korea. A total of 7,822 older adults with dementia who received either DC or HC consistently for 1 year were identified. Higher scores of activities of daily living (ADLs) indicate a lower level of physical function. Paired samples t tests with a propensity-score-matched cohort were conducted to examine the relationship between changes in ADLs and LTC service type. The final matched sample included 416 individuals in each group. There was no significant difference in baseline ADLs between the two groups in the matched cohort ($p = .06$). ADL scores after 1 year were significantly lower for individuals in DC (22.4 ± 5.1) than for those in HC (23.3 ± 2.8) ($p < .05$). The score had increased by 1.61 for DC and 2.84 for

HC, indicating that there was less deterioration in physical function in the DC group than in the HC group ($p < .001$). Physical function of older adults with dementia could vary according to the LTC service type, and DC is more effective than HC for delaying the deterioration of ADLs.

SOCIAL CONNECTIONS MEDIATE THE ASSOCIATION BETWEEN FRAILTY AND MEANING IN LIFE FOR OLDER PEOPLE

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Meaning in life (MIL) is important for psychological well-being, especially among older people. While much evidence showed that frailty has negative impacts on general adjustment and social functioning, little is known about the impact of frailty on MIL in particular. In this study, we examined the effect of frailty on MIL, and the mediating role of social connections in this association. A representative sample of 773 Hong Kong Chinese aged 60 and above was interviewed via a telephone survey. Frailty status and MIL were assessed using the FRAIL scale and the question "Do you feel your life is meaningful?" respectively. Social connections were assessed using frequency of social contact and loneliness. Compared to robust older people, frail and pre-frail older people had lower MIL after controlling for demographics (pre-frail: $\beta = -0.33$, $p < .001$; frail: $\beta = -0.58$, $p < .001$). These two groups also reported less frequent social contact and higher loneliness ($ps < .05$). Multiple mediation model revealed a significant indirect effect of frailty on MIL through social contact (pre-frail: -0.03 , 95% CI $[-0.07, -0.01]$; frail: -0.06 , 95% CI $[-0.12, -0.01]$) and loneliness (pre-frail: -0.11 , 95% CI $[-0.18, -0.07]$; frail: -0.22 , 95% CI $[-0.32, -0.14]$), indicating that frailty decreases MIL through reducing frequency of social contact and increasing loneliness among older people. These findings suggested that social contact and loneliness contribute to older people's MIL and that interventions can target these two aspects of social connections to improve MIL in pre-frail and frail older people.

TRANSITIONS ACROSS COGNITIVE STATES AMONG OLDER ADULTS AND EDUCATION: A MULTI-STATE SURVIVAL MODEL

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This study examines the role of educational attainment on transitions in later life between cognitive states (i.e., normal cognitive functioning, mild cognitive impairment, dementia) and mortality and life-expectancies. Analysis of six international longitudinal studies was performed using a coordinated approach. Multistate survival models were used to estimate the transition patterns via different cognitive states taking conditional life expectancies into account for each transition pattern. Across most studies, a higher level of education was associated with a lower risk of transitioning from intact cognitive functioning to mild cognitive impairment,

but not with any other transition. Those with higher levels of education/socioeconomic status had longer non-cognitively impaired life expectancies. Inconsistent results were found for the role of education/socioeconomic status on overall life expectancies. This study highlights the sustained importance of education in later life and that early life circumstances can delay later compromised cognitive health. This study also demonstrates the feasibility and benefit in conducting coordinated analysis across multiple longitudinal studies to validate findings.

TRIGLYCERIDES AS A MODERATOR OF ACCELERATED COGNITIVE LOSS PRIOR TO DEATH AND DEMENTIA

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Cognitive aging is frequently characterized by accelerated loss with an onset some years before death (terminal decline) or dementia diagnosis (pre-clinical dementia). Recent evidence suggest that an elevated level of serum triglycerides may contribute to accumulation of cerebral amyloids ($A\beta$) and potentially also cognitive decline. We evaluated this issue using data from the H70 study. The sample consisted of 392 individuals, systematically selected from the general population of 70 years-olds living in Gothenburg, Sweden, born in 1901–1902, and repeatedly measured on three cognitive outcomes (i.e., speed, spatial, verbal) at ages 70, 75, 79, 81, 85, 88, 90, 92, 95, 97, 99, and 100, or until death. Triglycerides levels were derived from blood samples taken at age 70 and complete date of death was retrieved from population register. Dementia diagnosis was made according to DSM-III-R. We fitted several random change point, and polynomial, quadratic mixed effects models to the data. Our findings revealed no evidence that triglycerides levels moderate the onset of the acceleration in either the terminal or the pre-clinical dementia models. Elevated levels of triglycerides were however consistently associated with poorer cognitive performance and, against expectation, also with less steep decline. When we compared the effect sizes to results using serum total cholesterol as moderator we found that the cognitive trajectory was more strongly associated with the levels of triglycerides than total cholesterol. These findings support the claim that triglycerides have a role in cognitive aging but not to the degree that it moderates the onset of the acceleration.

LONGITUDINAL RELATIONSHIP BETWEEN WORK-FAMILY EXPERIENCES AND HEALTH AMONG OLDER WORKERS

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Although the workforce is aging rapidly, work-family experiences among older workers are under-studied. Using five waves of data from the Health and Retirement Study, we investigated the impact of work-family experiences – work-family conflict (WFC; a form of inter-role conflict that occurs when demands from the two domains are incompatible) and work-family enhancement (WFE; experiences in one domain are improved due to experiences in another domain) – on older workers' health. Based

on the conservation of resources theory that posits losing resources leads to negative outcomes, whereas obtaining resources yields positive outcomes, we hypothesized that WFC and WFE relate to negative and positive health among older adults, respectively. WFC that occurs when an individual has insufficient resources to deal with work and family demands indicates loss of resources; WFE that occurs when experience in one domain improves another domain signals gain of resources. Data from 4509 workers aged 55 years and older at baseline were analyzed using growth curve modeling. As predicted, greater work-to-family conflict related to poor health, while work-to-family enhancement and family-to-work enhancement were associated with better health over time, even after known predictors of health were controlled for (sex, education, race, living arrangement, marital status, income). In sum, work-family experiences are an important predictor of older workers' health, and continued monitoring of work-family experiences among older workers is warranted. Because health promotes successful aging at work and work-family experiences are potentially modifiable, the current findings are informative for policy makers and organizations that are trying to retain older employees.

"IT'S LIKE A CYBER SECURITY BLANKET": THE UTILITY OF REMOTE MONITORING IN FAMILY DEMENTIA CARE

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The prevalence and considerable challenges of dementia raise concerns as to the sustainability of the United States' reliance on families to provide care to cognitively impaired relatives in the community. Experts have proposed that various technologies could substitute for or supplement family caregiving. The objective of the current study was to examine whether one of these technological approaches, remote activity monitoring (RAM), was perceived as feasible and useful for family caregivers of persons with AD/RD living at home. As part of a larger, 5-year evaluation of the efficacy of RAM, the current study utilized a parallel convergent mixed methods design (QUAL + QUAN). Thirty family caregivers of persons with dementia who have used RAM for at least 6 months were included. Empirical and open-ended data on perceptions of system acceptability and utility were examined at 6, 12, and 18 months following enrollment; correlations, thematic analysis, and a case oriented merged analysis were utilized. Overall empirical ratings of RAM utility and acceptability were moderate at 6 months. Qualitative themes identified included fit, adjustment period, benefits, and drawbacks/recommendations. The case oriented merged analysis suggested considerable patterns of adaptation to RAM over time. The mixed methods findings imply that caregivers perceived RAM as moderately useful, but also that positive adaptation to the technology took place over time. For systems such as RAM to operate effectively in home settings, human guidance and support is necessary for adaptation to take place and allow such technology to successfully support persons with dementia and their family caregivers.

DO DEMOGRAPHICS AND HEALTH STATUS EXPLAIN OLDER ADULT FALL VARIATION BY STATE?

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The percent of older adult falls in 2014 ranged from 21% in Hawaii to 34% in Arkansas and fall injuries from 7% in Hawaii to 13% in Missouri. It is unknown if demographics, health conditions or the urban rural/status of residence explain the variation. This study conducted multivariable analyses to understand variation in fall and fall injury risk by area of residence.

Data from the 2014 Behavioral Risk Factor Surveillance Summary for adults aged 65 and older were analyzed. State-specific crude and adjusted risk ratios were produced for dependent variables (falls, fall injuries), and by urban/rural status controlling for demographics (e.g. age, race/ethnicity) and health conditions (e.g. depression, diabetes). Urban/rural status was determined by dichotomizing the Rural-Urban Continuum Code for the subject's county of residence.

Older adults in rural areas had a significantly higher adjusted risk of falling (RR=1.09; 95%CI=1.05–1.12) compared with those in urban areas with no significant difference for fall injury. Older adults in Alaska, Arkansas, D.C., Michigan and Maryland had a significantly higher adjusted falls risk compared to the national average. In Florida, New Jersey, and West Virginia older adults had a significantly lower adjusted risk. Reporting depression was the strongest adjusted risk for a fall (RR=1.46; 95%CI=1.40–1.52) and a fall injury (RR=1.57; 95%CI=1.45–1.69).

Information on how older adult falls vary by residence can help guide prevention strategies. Rural adults may have less access to falls screening, assessment, and treatment; this study demonstrates the need for falls prevention in rural areas.

COLLABORATIVE CREATION OF CULTURALLY APPROPRIATE DEMENTIA EDUCATION MATERIALS FOR NATIVE PEOPLE

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Little is known about the prevalence of dementia among American Indians and Alaska Natives (Jervis et al., 2006). Given that diabetes is a risk factor for dementia and this condition is highly prevalent among American Indian populations, it is believed that American Indian elders, like the general population, would benefit from education to increase recognition of cognitive loss. The Wind River Reservation, home to the Northern Arapahoe and Eastern Shoshone people, is located in the central-western portion of Wyoming. The Wyoming Center on Aging in collaboration with tribal health entities embarked on a multi-step process to create culturally appropriate education materials to increase the awareness and recognition of cognitive loss among American Indians.

Methodology: The methodology for this process included a review of available dementia education materials for native people, followed by multiple focus groups and interviews with key informants to develop a rich understanding of language used by native elders about cognitive loss and to identify appropriate images.

Results: Focus groups related the need for messages to be portrayed using native imagery (stories told with animals; use of specific shapes and colors), in keeping with oral history traditions, and the importance of brief text and easily understood words, rather than lengthy narratives. Specific images related to cognitive loss were identified.

This presentation will share the results of these focus groups, examples of the education products created, as well as detailed information about the methodology utilized, which has the potential to inform the work of many working with indigenous people.

HOW ELDERLY JAPANESE MAKE A DECISION ON WHAT CARE SERVICE TO CHOOSE

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The long-term care insurance system formally requires clients to sign their care plans in person because they are contracts between a client and a care manager. But when elderly Japanese decide what care services to choose, many of them prefer to make agreements with the involvement of family members. The author therefore questions whether elderly Japanese prefer to make decisions with their family members, and asks how much family caregivers intervened in elderlies' care-service decision-making. Interviews were conducted from December 2016 to January 2017 in cities around Tokyo. Sixteen elderly people who were using long-term care insurance services at home and fifteen family caregivers were interviewed. Half of the interviewees were mothers and daughters. The others were married, half of whom were husbands in care.

Result show that most interviewees in care routinely got agreement with their family caregivers about service plans. When family caregivers intervened in their decision-making, it was because it restricted family members' daily lives. The intervention tended to be stronger if elderlies in care were more depended on caregivers. Care managers took an informal role, by mediating between elderlies in care and family members. Disability since childhood and the care profession were excepted.

The findings suggest that care plan formats should have signature blanks for both a client and family members involved. From the perspective of sociopsychology, such Japanese decision-making is consistent with the concept of the interdependent self (Markus & Kitayama, 1991). The concept may be applicable to east and south-east Asian elderlies in care.

DOES PHYSICAL FUNCTIONING DECLINE AFTER RETIREMENT? A LONGITUDINAL INVESTIGATION FROM 2006 TO 2016

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The impact of retirement on physical health is an important focus of ageing research. However, research findings are inconclusive. To understand for whom and under what conditions retirement presents health benefits, the present study investigated physical functioning pre- and post-retirement. Using 10-year longitudinal data from the New

Zealand Health, Work, & Retirement Study, multiple linear trajectories of physical functioning were estimated. Growth mixture analysis indicated three distinct trajectory profiles. Profile 1 displayed good physical functioning at baseline, which steeply declined until retirement, and continued to decline post-retirement but at a slower rate. Profile 2 was characterized by poor and declining physical functioning pre-retirement. Post-retirement, however, this group reported improvements in physical functioning. Finally, profile 3 displayed good and stable physical functioning pre-retirement and a slow decline post-retirement. Significant differences were identified across profiles in socio-demographic variables. Participants in Profile 1 had the lowest qualification level, medium SES and the highest retirement age. Profile 2 consisted of physical labourers who had a very low SES and numerous chronic illnesses. Members of Profile 3 were highly educated individuals with high SES and a professional occupation prior to retiring. Economic living standards increased post-retirement in all groups. However, the increase in Profile 2 was twice as large compared to the other two groups - an effect that could be attributed to New Zealand's universal superannuation. In sum, findings indicate that retirement is beneficial for those with poor health and limited resources. For the wealthy and healthy, retirement does not necessarily present health advantages.

A LOW PROTEIN, HIGH CARBOHYDRATE DIET ATTENUATES BRAIN AGING AND IMPROVES SPATIAL MEMORY IN MICE

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Major discoveries in the understanding aging biology have been made, particularly by studying calorie restriction (CR) and intermittent fasting (IF), which remain the most robust non-genetic interventions to improve healthspan and lifespan in animal models. Additionally, CR and IF attenuate symptoms of brain aging in animal models. Recent studies have shown that low-protein, high-carbohydrate (LPHC) diets are optimal for lifespan in ad libitum fed animals. Furthermore, there is evidence that branch-chained amino acids (BCAA) mediate the effects between diet, longevity, and healthspan. While a clear link between macronutrient ratios and healthspan has been ascertained, little is known about their role in brain health. Therefore, 9 cohorts of male and female mice were placed on one of 9 diets differing in protein, BCAA, and carbohydrate ratios. Two cohorts of mice were also placed on a 20% CR diet or a 20% CR diet with added BCAA. Barnes maze and novel object recognition (NOR) tests were performed at 13 and 21 months of age on the same mice in order to determine spatial and visual memory performance. Preliminary results revealed that mice consuming a 10 percent protein diet performed significantly better on spatial memory tests than the other AL groups. Initial RNA sequencing data on hippocampus revealed clear genetic expression changes among diet groups. Future work will focus on protein expression levels, immunofluorescence, and biochemical enzyme assays in order to determine the effects of macronutrient ratios on hippocampus plasticity, vasculature, and inflammation.

RESTORING YOUTHFUL CELLULAR IMMUNITY BY REJUVENATION OF AGED HEMATOPOIETIC STEM CELLS

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Aging-associated remodeling of the immune system results in its decreased functionality. Most prominent in man and mice is a significant reduction of naïve CD8 T cells in old individuals, accompanied by a decreased responsiveness to infection or vaccination. Aging of hematopoietic stem cells (HSCs) could be a crucial factor in the age-associated immune remodeling, as old HSC inefficiently produce lymphoid progenitor cells. In vitro inhibition of the Cdc42 Rho-GTPase activity in aged HSCs with the pharmacological compound CASIN led to their sustained morphological rejuvenation.

In this study, we ask if and how old HSCs directly affect the remodeling of the old immune system and whether CASIN-mediated rejuvenation of aged HSCs contributes to restoring the functionality of an aged immune system. To analyze this, young, old and rejuvenated old HSCs (isolated from immune-competent young or old B6.SJL mice) were transplanted into T- and B- cell deficient young RAG1-/- mice. Three months after transplantation, the immune system developed from young and CASIN-treated old HSCs was comparable to a youthful immune system, whereas old HSCs reconstituted an aged-like immune system as is indicated e.g., by appropriate proportions of naïve CD8+ T or regulatory Foxp3+ CD4+ Treg cells. Most interestingly, the immune system developed from CASIN-treated old, but not from old HSCs efficiently respond to vaccination, thus we could restore de novo priming of HBV-core-specific effector CD8+ T cell responses. Rejuvenation of old HSCs is therefore an attractive strategy to manipulate the age-associated remodeling of the immune system and to restore its immune competence.

EXACERBATED AGE-RELATED OBESITY IS TEMPERED BY RENIN ANGIOTENSIN SYSTEM

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Diet-induced obesity is exacerbated in senescent compared with young rats in terms of both high-fat (HF) induced weight gain and increased food consumption resulting in metabolic abnormalities, contributing to multiple age-related diseases (diabetes, cardiovascular dysfunction, hypertension). We previously reported that activation of angiotensin converting enzyme-2 (ACE2), via diminazene aceturate (DIZE) reduces body weight in HF-fed young rats. We hypothesized that DIZE would temper or prevent the exacerbated diet-induced obesity observed in 24-month HF-fed F344xBN male rats. All senescent rats were HF-fed (60%) for 10 days, during which they consumed two-fold greater kcal and gained 48 ± 4 g relative to baseline. Rats were then given 7.5 mg/kg/day DIZE s.c. or vehicle (n=6/group) for 26 days. DIZE reduced cumulative food consumption by 21% and

body weight by 41 ± 13 g compared to senescent controls over the treatment period. Adiposity (TDNMR and tissue weight) was diminished by 22%, whereas brown adipose and tibialis anterior (TA) tissue weights were unchanged. In summary, DIZE treatment resulted in a significant reduction in age-related diet-induced obesity in HF-fed senescent rats with no noticeable adverse effects. Our data suggest that DIZE has potential in the treatment of age-related diet-induced obesity without negatively impacting skeletal muscle mass, an additional important outcome for preserving metabolic function. Future studies may provide insight as to the mechanisms of these effects, potentially targeting ACE2-mediated increases in angiotensin (1-7) acting through the Mas receptor. This is a known pathway for reducing inflammation, oxidative damage, mitochondrial function, all essential elements that contribute to age-related metabolic diseases.

GENDER DIFFERENCES IN PHYTOESTROGEN INTAKE AND SPEED OF PROCESSING PERFORMANCE IN OLDER ADULTS

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Phytoestrogen consumption mimics estrogen in the body, albeit to a much smaller scale, and therefore represent a potential dietary intervention to supplement estrogen loss or hormonal changes. Additionally, studies have reported that phytoestrogens may benefit cognitive health, although this may differ among males and females in older adults due to differences in absorption, hormones, and age-related changes. In the current study, urinary phytoestrogen concentrations (covariate-adjusted standardized for urinary creatinine) and gender were used as predictors to examine differences in relation to speed of processing (SOP) measured by the Digit Symbol Substitution Test (DSS). Participants were drawn from The National Health and Nutrition Examination Survey (NHANES 1999–2002) and consisted of 354 individuals ranging from 65 to 85 years old. A multiple regression analysis included covariates; age, BMI, race, education, smoking, socioeconomic status, and urinary creatinine. Among the individual phytoestrogens, genistein demonstrated significant gender differences relating to SOP. Females scored higher on the DSS with increased amounts of genistein while demonstrating the opposite for males. Interestingly, for the overall lignan predictor, higher lignans were associated with better SOP performance in males but lower SOP performance in females. Overall, females scored higher on the DSS compared to males regardless of the number of phytoestrogens. Results suggest that there are significant gender differences in both the predictors of genistein and lignan consumption. Both yielded different associations demonstrating the potential impact that specific phytoestrogens may have on cognitive aging depending on gender. To become a viable intervention, further research on these gender differences are needed.

A NOVEL FOOD CONSTITUENT POTENTIALLY MITIGATES INFLAMMATION IN PHYSIOLOGICALLY AGED MICE

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Defective immune functions are key triggers of incidence and prevalence of age-related diseases, including infectious diseases and tumors. Previous works have reported that some food materials or constituents, for instance, prebiotics and probiotics, can improve immune defects; however, mechanistic linkages remain poorly understood. In this study, we demonstrate that our novel food constituent X may mitigate the age-related inflammatory phenotypes in various tissues, which is probably associated with the serum levels of pro-inflammatory cytokines. C57BL/6 mice at the ages of 16 (n = 45 mice) or 11 months (n = 20) were used as physiologically aged mice. The serum levels of pro-inflammatory cytokines, including interleukin-1 β and interleukin-6, in aged mice were higher than those in 1-month-old young mice (n = 30). Correspondingly, inflammatory phenotypes were observed in various peripheral tissues of aged mice. Interestingly, serum levels of these cytokines were reduced by oral administration of X into aged mice for 6 months, which was seemingly responsible for suppression of the age-related inflammatory phenotypes in peripheral tissues. These results suggest that some food materials or constituents may potentially mitigate the age-related physiological defects through regulation of pro-inflammatory cytokines.

4-HNE-INDUCED INNATE IMMUNE RESPONSES INFLUENCE ANTI-CARCINOGENESIS IN ROS-OVERPRODUCED MODEL MICE

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Mitochondrial reactive oxygen species (ROS) which are mainly generated as an uncoupled consequence of electron transport cause the cellular and organismal oxidative stress. It has been previously demonstrated that the excessive mitochondrial ROS production caused by mitochondrial complex II SDHC mutation results in premature death in *C. elegans* mev-1 mutant (G71E) and *D. melanogaster* mev-1-mimic transgenic flies (I71E), and excessive apoptosis and tumorigenesis in mouse embryonic fibroblast SDHC E69 cells (V69E) (M. Tsuda, et al. BBRC 2007, T. Ishii, et al. Cancer Res. 2005, N. Ishii, et al. Nature 1998).

In humans, it has been reported that some mutations in SDHB, SDHC or SDHD often result in hereditary and/or sporadic paragangliomas, gastrointestinal stromal tumors and pheochromocytomas (T. Ishii, et al. BBA 2013). Recently, Tet-mev-1 conditional transgenic mice have been established using our uniquely developed Tet-On/Off system, which can induce the mutated SDHC (V69E) coding gene to be equally and competitively expressed compared to the endogenous wild-type SDHC gene. The Tet-mev-1 mice experienced intracellular oxidative stress by mitochondrial respiratory

chain dysfunction developed low birth weight, growth retardation, age-dependent corneal pathophysiological changes, low fertility, recurrent miscarriage and age-dependently disrupted memory consolidation with astrocyte defects (T. Ishii, et al. Mitochondrion 2011; H. Onouchi, et al. IOVS 2012; Y. Uchino, et al. PLoS ONE 2012; T. Ishii, et al. Redox Biology 2014; T. Ishii, et al. Aging Cell 2016)

Here, it has been demonstrated that lymphocyte accumulation which is chronically activated with age influences the anti-carcinogenesis of large-cell lung carcinoma with oxidative stress in Tet-mev-1 mice. In aged Tet-mev-1 mice, large-cell neoplastic cells were developed into the lymphocyte accumulation in lung. The lymphocytes which were associated with γ T cell activation leading to innate immune responses were initiated by ω -6 fatty acid peroxidation-derived 4-hydroxy-2-nonenal (4-HNE). We propose that the 4-HNE-induced innate immune responses which associate with γ T cells involved in intraepithelial lymphocytes (IELs) may initially prohibit the oxidative stress-developed carcinoma.

PHYLOGENETIC GROUPS OF ESCHERICHIA COLI TO DIAGNOSE URINARY TRACT INFECTION IN GERIATRIC POPULATION

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Discrimination between urinary tract infection and urinary colonization is a frequent and difficult problem in geriatric population. *E. coli* is the most frequently isolated pathogen in urine in this population. Of the 8 known phylogenetic groups in the species, groups B2 and D are the most virulent and more frequently responsible for extra-intestinal infections, particularly urinary tract infections. However, there is no data on the distribution of these phylo-groups in the geriatric population. We conducted a study that included clinical data from the host and the phylogenetic group of *E. coli* to find criteria to differentiate infection and colonization. All *E. coli*-positive urine analysis from patients over 75 years of age and hospitalized at the Lariboisière hospital from 15 February to 15 May 2016 were included. The virulent phylogenetic groups (B2 and D) of *E. coli* are significantly more frequent in infection than in colonization in geriatric population (Odds Ratio: 3.05 (1.44–6.86), $P = 0.005$). However, to the bacterial virulence is added factors of fragility of the host allowing the development of an infection, such as the presence of altered autonomy ($P < 0.001$), falls ($p < 0.001$), dementia ($p = 0.005$), malnutrition ($p = 0.001$) and urinary pathology ($p = 0.002$).

TRANSCRIPTIONAL PROFILING OF HUMAN FEMORAL MESENCHYMAL STEM CELLS IN OSTEOPOROSIS AND ADIPOGENESIS

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Genetic alterations are major contributing factors in the development of osteoporosis. Osteoblasts and adipocytes share a common origin, mesenchymal stem cells (MSCs), and their genetic determinants might be important in the relationship between osteoporosis and obesity. In the present study,

we aimed to isolate differentially expressed genes (DEGs) in osteoporosis and normal controls using human MSCs, and elucidate the common pathways and genes related to osteoporosis and adipogenesis. Human MSCs were obtained from the bone marrow of femurs from postmenopausal women during orthopedic surgeries. RNA sequencing (RNA-seq) was carried out using next-generation sequencing (NGS) technology. DEGs were identified using RNA-seq data. Ingenuity pathway analysis (IPA) was used to elucidate the common pathway related to osteoporosis and adipogenesis. Candidate genes for the common pathway were validated with other independent osteoporosis and obese subjects using RT-PCR (reverse transcription-polymerase chain reaction) analysis. Fifty-three DEGs were identified between postmenopausal osteoporosis patients and normal BMD controls. Most of the genetic changes were related to the differentiation of cells. The NR4A family was identified as possible common genes related to osteogenesis and adipogenesis. The expression level of the mRNA of NR4A1 was significantly higher in osteoporosis patients than in controls ($p=0.018$). The expression level of the mRNA of NR4A2 was significantly higher in obese patients than in controls ($p=0.041$). Some genetic changes in MSCs are involved in the pathophysiology of osteoporosis. The NR4A family might comprise common genes related to osteoporosis and obesity.

CHARACTERISTICS OF LATE-LIFE DEPRESSION RELATED WITH THE RISK OF INCIDENT DEMENTIA

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Objectives: The incidence rates and risk factors of dementia and Alzheimer's dementia were examined, with special focus on the relationship between baseline depression and incident dementia.

Methods: The present study assessed elderly individuals who resided in a rural community in Korea. After the baseline assessment (2008), there were two schedules for the follow-up (2009 and 2013). Sociodemographics, lifestyle characteristics, and clinical factors were examined; depression was evaluated using the Geriatric Depression Scale, Short form and cognitive diagnoses were determined by a psychiatrist using the DSM-IV criteria. A Cox proportional hazard model was used to determine the risk factors for dementia and factor analysis was conducted to classify depressive symptoms.

Results: Among 751 subjects at the baseline, those who were not diagnosed with dementia at baseline ($N = 701$) were followed up with for a mean period of 5.5 years. A total of 483 subjects were assessed during this follow-up period and 40 new cases of incident dementia (16.2 per 1000 PY) were identified. Baseline depression was not related with the risk of 5-year incident dementia. However, regarding the characteristics of depression, higher persistence and severity increased the incident dementia. Also, depression accompanied with dysexecutive function and the low energy component which may imply frontal lobe dysfunction increased the incidence of dementia.

Conclusion: Different relationship between depression and dementia according to different quantitative and qualitative characteristics of late-life depression suggest that the

conversion process from depression to dementia may be the various ones, not the same one.

MODULATION OF HSF-1 LEVELS BY HIGH CHOLESTEROL AND ITS OXIDIZED PRODUCT 27-HYDROXYCHOLESTEROL

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Dietary intake may influence both aging and disease-related genes that increase Alzheimer's Disease risk. Some diets may improve cognition and people highly adherent to the Mediterranean diet experience less hippocampal atrophy over time than those less adherent. Conversely, diets rich in saturated free fatty acids (sFFA) may increase AD risk. The mechanism of fat induced neurodegeneration includes neuroinflammation blood-brain barrier (BBB) disruption, phosphorylated Tau, and proteotoxicity. Thus, diets may either promote or delay aging and AD.

We examined the expression of the longevity and stress factor, Heat shock transcription factor 1 (HSF1), in a cholesterol – fed rabbit model of AD. In this model, we found that both the mRNA levels and the protein distribution of HSF1 are significantly decreased in rabbit hippocampi relative to age matched controls. Because 27-OHC levels are elevated by hypercholesterolemia, aging and oxidative stress, we examined in vitro effects of 27-OHC on astrocytes and found dramatic reductions in HSF1 protein levels in the absence of cell death.

Collectively, our results suggest that high cholesterol diets and its oxidized metabolites such as 27-OHC negatively impact a key longevity and cell protection factor, HSF1. Dysregulation of HSF1 by cholesterol and/or its oxidative by-products appears to be at the mRNA or transcriptional level, suggesting a heretofore unknown mechanism of HSF1 regulation. Because disturbances in cholesterol metabolism, oxidative stress, and aging are all risk factors for AD, our results provide new information that disruption of HSF1 may be a key link by which these factors lead to AD progression.

ABUNDANT NON-PLEIOTROPIC AND PLEIOTROPIC ASSOCIATIONS WITH AGE-RELATED TRAITS IN A MODEST SAMPLE

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Genome-wide association studies (GWAS) are traditionally based on principles of medical genetics. This strategy is well adapted for Mendelian disorders. Genetics of phenotypes that leave human organisms vulnerable to diseases in late life (called age-related phenotypes) is, however, more complex. The fundamental complicating factor is the elusive role of evolution in fixing molecular mechanism of these phenotypes. This complexity implies a special type of an inherent genetic heterogeneity reflecting sensitivity of genetic associations with age-related phenotypes to the life course of individuals in different environments. Here we follow a two-stage genome-wide approach that leverages this heterogeneity. This approach is demonstrated by examining non-pleiotropic and pleiotropic genetic predisposition to 24 age-related phenotypes (16 biomarkers, 7 diseases, and death) in a modest sample ($N=26,371$) from five studies (ARIC, FHS, MESA, CHS, and CARDIA) from the Candidate Gene Association

Resource. In Stage 1, we performed the traditional univariate GWAS for each of 24 phenotypes improved by leveraging information from longitudinal follow up in each study separately. In Stage 2, we used Fisher's and two omnibus tests to combine statistics from Stage 1 leveraging different types of heterogeneity. Our analyses replicated 212 SNPs in 49 loci at genome-wide level and identified 53 novel or firstly attained genome-wide significance non-pleiotropic SNPs in 49 loci and 202 pleiotropic SNPs in 154 loci in a modest sample (all loci exclude the Major Histocompatibility Complex). Our findings demonstrate benefits of more comprehensive approaches than the currently prevailing ones to gain insights into the genetics of healthspan and lifespan.

APATHY, NEUROCOGNITION AND FUNCTIONAL BRAIN CONNECTIVITY IN AMNESTIC MILD COGNITIVE IMPAIRMENT

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Amnesic mild cognitive impairment (aMCI) precedes Alzheimer's Disease (AD) and is associated with brain changes such as reduced gray matter of medial-temporal lobe areas and hypoperfusion in frontal and occipital areas. Apathy in MCI is a risk factor for more rapid conversion to AD. The cognitive and neural basis of apathy in MCI remain to be elucidated, however. Here, we investigated neurocognitive correlates using standard neuropsychological tests and functional brain connectivity using resting state BOLD fMRI.

Thirty-one patients with aMCI and 20 healthy controls (HC) were assessed with resting state fMRI. Apathy was assessed with the AES and neuropsychological assessment included memory, processing speed and executive functioning.

There were significant associations between AES and two neuropsychological measures: time to complete Stroop A ($r = .55$, $p = .002$) and performance on Digit symbol substitution ($r = -.40$, $p = .039$). There were no associations with the other cognitive measures. Moreover, apathy was related to decreased connectivity between the salience network (SN) and default mode (DMN) networks and increased connectivity between two SN components (one including mostly dorsal anterior cingulate cortex [dACC] and the other mostly the insula).

In conclusion, higher levels of apathy were associated with slower processing speed, but not with memory or executive functioning. Thus, reduced processing speed may specifically affect the ability to select, initiate and execute goal-directed behavior. The association of apathy with aberrant SN connectivity can be understood from the role of salience evaluation as an important component for goal-directed behavior.

LATE-LIFE ENALAPRIL ADMINISTRATION AFFECTS MITOCHONDRIAL BIOGENESIS IN THE HEART OF OLD RATS

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Inhibition of the renin-angiotensin system has been shown to ameliorate age-related mitochondrial alterations in several rat tissues and to increase rodent lifespan. Here, we investigated the effect of late-life enalapril administration on mitochondria biogenesis, antioxidant enzymes content and mtDNA levels in rat hearts and sought to discern the effects of enalapril mediated by nitric oxide (NO) from those independent from NO signaling. Fischer 344xBrown Norway rats were randomly assigned to receive enalapril ($n=4$), the NO synthase (NOS) inhibitor NG-nitro-L-arginine methylester (L-NAME; $n=4$), enalapril + L-NAME ($n=4$), or placebo ($n=4$) from 24 to 27 months of age. Enalapril in combination or not with L-NAME induced a marked increase in mitochondrial DNA content. Accordingly, a higher content of mitochondrial biogenesis proteins [i.e., peroxisome proliferator-activated receptor gamma coactivator 1-alpha (PGC-1 α), and mitochondrial transcription factor A (TFAM)] and mitochondrial antioxidant enzyme superoxide dismutase 2 (SOD2) protein have been observed in the same two groups. Our data indicate that enalapril enhances mitochondrial biogenesis in the heart of aged rats as a result of a concerted modulation of NO and angiotensin II signaling. As both mtDNA content and mitochondrial biogenesis are crucial for preserving cellular respiratory capacity, and PGC-1 α is protective against ROS production and oxidative damage, our results support the hypothesis that the beneficial effect of enalapril on the heart is mediated at least partly by mitigation of oxidative stress.

INCREASED TRABECULAR AND CORTICAL BONE LOSS IN CURRENT OLDER ADULT SMOKERS: THE AGES-REYKJAVIK STUDY

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Previous studies have reported that smoking is associated with reduced bone mass in older adults, but no longitudinal studies have addressed the relationship of smoking behavior and compartmental measures of volumetric bone mineral density (vBMD).

This study aimed to explore the cross-sectional and longitudinal relationships of several indicators of cigarette smoking (smoking status, pack-years, age of onset and smoking cessation) with QCT-derived proximal femur bone measures (trabecular vBMD, integral vBMD and the ratio of cortical to total tissue volume (cvol/ivol)) and with subsequent change in these measures over the next five years, in a population-based cohort of 2633 older adults (55.9% women), aged 66–92 years.

In multiple linear regression adjusting for several potential confounders, current smoking was only associated with lower cvol/ivol at baseline, whereas former smoking was associated with lower trabecular vBMD, integral vBMD and cvol/ivol. Analyses of change in bone measures revealed that compared to never-smokers, current smokers had significantly greater loss of trabecular vBMD, integral vBMD and

cvol/ivol. Full-adjusted models included sex, age, education, BMI, Creatinine, high-sensitive C-Reactive Protein, coronary artery calcium score, % weight change from age 50, 25OHD, physical activity, diabetes, arthritis, and respiratory diseases. Among former smokers, longer duration since cessation was related to better bone health at baseline, especially for integral vBMD and cvol/ivol. Pack-years was associated with lower cvol/ivol.

In conclusion, smoking has a differential association with bone health assessed with QCT. Results suggest that, current smoking, but not former smoking, at older age may aggravate the rate of bone loss.

PATHWAYS ENRICHMENT AND AGE-RELATED PHENOTYPES: NON-PLEIOTROPIC SNPS VERSUS PLEIOTROPIC SNPS

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Genetics of age-related diseases is complicated by the elusive role of evolution in fixing molecular mechanism of these phenotypes. This complexity implies an inherent genetic heterogeneity reflecting sensitivity of genetic associations to the life course. We used the results of a comprehensive analysis of genetic predisposition to 24 age-related phenotypes (16 biomarkers, 7 diseases, and death) in a modest sample (N=26,371) from five studies (ARIC, FHS, MESA, CHS, and CARDIA) from the Candidate Gene Association Resource, which leveraged this genetic heterogeneity. For bioinformatics analysis (IPA®) we selected 50 non-pleiotropic SNPs (mapped to 50 genes), which attained genome-wide significance with albumin in urine, and 122 pleiotropic SNPs (mapped to 99 genes), which attained genome-wide significance by combining statistics for 16 biomarkers. Five canonical pathways were genes enriched for non-pleiotropic SNPs at $pBH < 10^{-3}$ after Benjamini-Hochberg correction: Epithelial adherens junction signaling, Hepatic fibrosis, Colorectal cancer metastasis signaling, Molecular mechanisms of cancer, and STAT3 pathway. Top high-level disease categories for these genes ($pBH < 10^{-8}$) included cancer, organismal injury/abnormality, reproductive system disease, cardiovascular disease (CVD), and respiratory disease. All these categories except CVD included cancers at multiple sites. For the set of pleiotropic genes, we identified enrichment in two pathways at $pBH < 10^{-3}$: Leukocyte extravasation signaling and IL-8 signaling. Accordingly, the strongest gene enrichment ($pBH < 10^{-12}$) for the disease category was for inflammatory response. Our findings suggest that genes for highly pleiotropic SNPs are likely involved in fundamental pathways associated with regulation of inflammation as a risk factor for various chronic illnesses. Non-pleiotropic variants likely indicate disease-specific pathways.

UNDERSTANDING AGE-RELATED EFFECTS IN INTESTINAL EPITHELIUM

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Ageing leads to a progressive deterioration of structure and function of all organs over the time. The progressive accumulation of senescent cells and impairment of Stem

Cells i.e. decline in their ability to maintain homeostasis is well known in aging. Intestinal homeostasis is regulated by proliferation and differentiation of cycling intestinal stem cells (ISCs). The ISCs are nested within a niche consisting of a wide variety of cell types including immune cells, mesenchymal fibroblasts & myofibroblasts, and endothelial cells. Niche-generated signals work in concert with intrinsic stem cell properties to regulate the stem cell behavior. Senescence of endothelial cells leading to impairment in vascular functionality and neo-angiogenic capability is well documented. In this study we investigated the biological changes to endothelial cells transformed to senescence by irradiation. HUVEC Cells were exposed to various doses of irradiation i.e. 2Gy to 10Gy. The induction of senescence was noted by BrdU incorporation and senescence-associated β galactosidase (SA- β gal) staining. Induction of senescence led to upregulation of ROS level which was investigated by MitoSOX Red, peroxidized lipid sensor BODIPY and superoxide anion radicals (DHE MFI). Interestingly these senescent cells also displayed components of DNA damage response (DDR) which was revealed by γ H2AX detection assay. Our long-term goal is to investigate whether these senescent endothelial cells can affect the growth of ISCs using the Ex-Vivo 3D organoid culture and 2D co-culture methods.

INNOVATION IN PARKINSON'S DISEASE—ASSOCIATED DYSPHAGIA IN OLDER ADULTS: AN INTEGRATIVE REVIEW

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Parkinson's Disease (PD) is the second most common neurodegenerative disorder in the United States with aspiration pneumonia being a leading cause of hospital admission and death. Dysphagia is present in most individuals with PD and significantly increases risk of negative health outcomes, including death. The purpose of this review was to establish the state of the science regarding Parkinson's Disease-associated dysphagia (PD-D). PUBMED, MEDLINE, and CINAHL were searched through 2016 using MeSH terms "Parkinson(s)," "dysphagia," "swallowing," "deglutition," "elderly" "aged" "geriatric," "cancer," and "surgery." All primary articles written in English, involving individuals diagnosed with PD-D, and containing pathophysiology, frequency, diagnosis / assessment, treatments, or consequences were included. Articles pertaining to surgical-, medication-, intubation-, radiation-, or oncology-induced dysphagia were excluded, leaving 114 articles. Content were analyzed and divided into the following categories: dysphagia descriptive factors and pathophysiology, diagnosis and assessment, treatments, and consequences of PD-D. Within each category, findings were analyzed based on current knowledge and implications for future research. Pathophysiology of PD-D is not well understood and this limits targets for potential interventions. While the gold standard assessment of dysphagia is videofluoroscopy, no consensus regarding what the best practice assessment is available. Although there are many treatments available, skill retention and further innovation of treatments are warranted. It is generally accepted that PD-D has effects on one's physical and mental health, yet

lived experiences of those with PD-D and their caregivers are not fully understood.

GAINING INSIGHT TO THE UNDERLYING NEURAL MECHANISMS BY WHICH EXERCISE IMPROVES MOBILITY

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Impaired mobility is a major concern for older adults and has significant consequences. While the widely accepted belief is that improved physical function underlies the effectiveness of targeted exercise training in improving mobility and reducing falls, recent evidence suggests cognitive and neural benefits gained through exercise may also play an important role in promoting mobility. However, the underlying neural mechanisms of this relationship are currently unclear. Thus, our main objective was to investigate whether six months of progressive aerobic exercise training alters frontoparietal network (FPN) connectivity during a motor task among older adults at risk for mobility disability – individuals with mild subcortical ischemic vascular cognitive impairment (SIVCI)—and whether exercise-induced changes in FPN connectivity correlate with concurrent changes in mobility. We focused on the FPN as it is involved in top-down attentional control as well as motor planning and motor execution. Participants were randomized either to usual-care (CON) or thrice-weekly aerobic training (AT). Functional magnetic resonance imaging was acquired at baseline and trial completion. At trial completion, compared with AT, CON showed significantly increased FPN connectivity strength during right finger tapping ($p < 0.05$). Across the participants, reduced FPN connectivity was associated with greater cardiovascular capacity ($p = 0.05$). In the AT group, reduced FPN connectivity was significantly associated with improved mobility performance, as measured by the Timed-Up-and-Go test ($r = 0.67$, $p = 0.02$). These results suggest progressive aerobic training may improve mobility in older adults with SIVCI via maintaining intra-network connectivity of the FPN.

PROFESSIONAL AND FAMILY CAREGIVERS' VIEWS ON INVOLUNTARY TREATMENT USE IN PEOPLE WITH DEMENTIA

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The number of people with dementia (PwD) living at home is increasing rapidly and puts great emphasis on family caregivers, social support and professional home care. This can lead to situations in which caregivers provide care against the will of PwD, for example locking a door or forcing people to eat. Knowledge about attitudes towards involuntary treatment is scarce. This was the first study to investigate professional and family caregivers' attitudes towards involuntary treatment use in PwD. A cross-sectional study was conducted, in which 230 professional (physicians, nurses, case managers) and 77 family caregivers of PwD living at home completed

the Maastricht Attitude Questionnaire - Home Care. This questionnaire measures attitudes towards involuntary treatment (60 items) as well as perceptions of restrictiveness and discomfort (25 items). Involuntary treatment was divided in non-consensual care, psychotropic medication and physical restraints. Findings indicate that involuntary treatment is more accepted by family caregivers, as they held more positive attitudes towards involuntary treatment in general ($P < 0.001$), physical restraints ($P < 0.001$), psychotropic medication ($P = 0.005$) and non-consensual care ($P < 0.001$) compared with professional caregivers. Furthermore, family caregivers evaluated physical restraints and non-consensual care as less restrictive ($P < 0.001$ and $P < 0.001$ respectively) and experience less discomfort ($P < 0.001$ and $P = 0.002$ respectively) in applying these measures. Both professional and family caregivers considered physical restraints the most restrictive and experience most discomfort in applying physical restraints. Further research is needed to understand the discordant attitudes. Professional and family caregivers need to find common ground in order to reduce involuntary treatment use in home care.

GENDER DIFFERENCES IN AN IDEAL EXERCISE PARTNER FOR THE MENTAL HEALTH OF OLDER JAPANESE ADULTS

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Recent studies suggest an association between good mental health and exercise with others, as opposed to by oneself. However, it is unclear as to whether this association differs according to the type of exercise partner (e.g., spouse, friends, or experts).

This study aimed to investigate the relationship between the type of exercise partner and mental health in older adults.

This cross-sectional study was conducted through a mail survey on older adults living in Kasama City, Japan. Subjects were 1914 older adults (mean age: 74.2 ± 6.6 years; men: 48.4%). Depressive symptoms were assessed through the Kihon Checklist. Subjects were asked about their exercise habits (at least once a week) and the presence of an exercise partner, with the following options (multiple answers allowed) provided: by oneself, with a spouse, with same-gender friends, with opposite-gender friends, and with exercise experts. A logistic regression analysis adjusted for age, economic status, and household composition was conducted for each gender.

Exercise with opposite-gender friends ($OR = 0.29$) and a spouse ($OR = 0.50$) was significantly associated with a lower prevalence of depression among men ($P < 0.05$). For women, exercise with same-gender friends ($OR = 0.55$) and exercise experts ($OR = 0.19$) was significantly associated with a lower prevalence of depression ($P < 0.05$). Exercise by oneself was not associated with depression, regardless of gender.

These results suggest that exercise with others is related to good mental health among older adults. Moreover, there might be gender differences in terms of a preferred exercise partner.

EXAMINING PHYSICAL FUNCTIONING IN OLDER ADULTS: A COMPARISON OF TWO STRETCHING PRACTICE METHODS

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While the benefits of stretching are known, there remains controversy regarding the best methods of stretching practice for improving physical function in older adults. The aim of this study is to compare two stretching practices (instructed stretching practice vs. self-stretching practice using a guide at home) in terms of their effectiveness in improving physical function in older adults. Participants comprised 82 Japanese community-dwelling older adults (instructed group: $n=46$, 71.2 ± 4.5 yrs; non-instructed group: $n=36$, 71.1 ± 4.9 yrs). We provided a guide illustrating stretching exercises for both groups, and encouraged all participants to stretch at home. In the instructed group, we also provided a weekly 60-minute stretching class each week for nine weeks. We evaluated the following physical functions: upper and lower extremity muscle strength, static and dynamic balance, and normal and maximum walking speed and flexibility.

In our results, stretching was practiced significantly more frequently in daily life in the instructed group (6.1 days a week) than in the non-instructed group (1.1 days a week) ($P<0.05$). There was a significant group-by-time interaction for flexibility ($P<0.05$), with post-hoc analysis showing significant improvements only in the instructed group ($P<0.05$). We found a significant group-by-time interaction for maximum walking speed ($P<0.05$), with post-hoc analysis showing significant improvements in the instructed group only ($P<0.05$). These results suggest that it is necessary to stretch almost daily to achieve improvements in physical function over nine weeks. Additionally, we conclude that a visual demonstration with an instructor is an important addition to the stretching guide.

INPATIENT REFERRALS TO GERIATRIC CENTER: INDICATION AND OUTCOMES

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This study aims to recognize the pattern of referrals to the Geriatric Medicine specialists. This is a descriptive cross-sectional study consisted of all admitted patients who were referred to Geriatric Medicine Specialists/geriatricians from other departments for a period of June 2013 to March 2015. The referrals were classified into geriatric co-management and geriatric evaluation. Details like socio-demographic profile, sources of referral, indication for referral and outcomes were recorded. The data was analyzed by using descriptive statistical methods. This is a descriptive cross-sectional study consisted of all admitted patients who were referred to Geriatric Medicine Specialists/geriatricians from other departments for a period of June 2013 to March 2015. The referrals were classified into geriatric co-management and geriatric evaluation. Details like socio-demographic profile, sources of referral, indication for referral and outcomes were recorded. The data was analyzed by using descriptive statistical methods. A total of 67 patients were referred to Geriatric

Medicine specialists in the Geriatric Center. The youngest referred was 67 years old while the oldest was 101 years old. 20% of the referrals were on the age of 81–85. Majority of the referrals were from the Pulmonary Department (21%) followed closely by the Cardiology Department (19.4%). The most common reason for referral was for geriatric co-management followed by geriatric evaluation using the comprehensive geriatric assessment. Majority of the conditions being managed were pneumonia followed by dementia. For the geriatric evaluation, most of the patients are being referred due to memory lapses. Almost all of the patients (94%) were discharged improved.

A NEW NON-INVASIVE AND BRIEF CVD RISK SCORE SYSTEM TO PREDICT COGNITIVE DECLINE

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The main goal of our study was to assess the impact of a modified CAIDE risk score on cognitive performance in community-dwelling older adults. The study evaluated a multicultural population consisting of 314 participants enrolled in a cross-sectional aging study with valid measures on cognitive, physical, functional, and emotional health. The CAIDE risk score system was modified to: 1) reflect age and education levels specific to an older adult sample; 2) incorporate self-reported high cholesterol instead of total cholesterol level from blood test; and 3) use the Mini Physical Performance Test (mPPT) as a proxy measure of physical activity (mPPT: <12 inactive; ≥ 12 active). Using hierarchical linear regression models, 'risk' of cognitive impairment (MoCA <26) was assessed based on levels of CAIDE risk score (low, intermediate, high) using the equations reported by the authors of the CAIDE risk score. Higher modified CAIDE risk scores were significantly associated with lower MoCA score ($\beta=-0.447$, $p<0.001$) and with higher Framingham vascular risk scores ($r=0.673$, $p<0.001$). The association was robust remaining significant after controlling for significant risk factors ($\beta=-0.424$, $p=0.015$) and followed a dose-response pattern. Likelihood of cognitive impairment increased from 12.1% in the low risk group, to 35.8% in the intermediate, to 65.5% in the high-risk group. Findings suggest the utility of using the modified CAIDE risk score as an indicator of increased risk of cognitive impairment and highlight the need for brief, easy to administer, non-invasive cardiovascular risk batteries to estimate risk of future cognitive decline and dementia in later life.

IMPLEMENTATION OF MEDICAL ASSISTANCE IN DYING (MAID): SCOPING HEALTH CARE PROVIDERS' PERSPECTIVES

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In tandem with increased life expectancy is a growing number of older adults living longer in discomfort and pain, with life-debilitating chronic or terminal illness and poor quality-of-life. With a focus on quality-of-dying and a 'dignified death' for older adults, medical assistance in dying (MAID) has gained widespread public and professional popularity as an end-of-life alternative, leading to legalization in several countries. However, continued debate about the necessity and limits of various healthcare professions' involvement persists. Drawing on evidence from regions where MAID has been legalized, a scoping review was conducted to synthesize the literature on roles of diverse healthcare professionals in decision-making and implementation of MAID services for older adults. An exhaustive database search yielded 1,000+ articles. Abstracts were manually curated, with 35 studies fulfilling inclusion criteria and integrated in the final review. Synthesis and analysis of the literature led to five thematic conclusions being highlighted as relevant to older patients seeking MAID: Nurses are increasingly involved in MAID but lack role clarity in decision-making processes; mental health professionals should always be required to assess capacity and consent for MAID decision-making; physician involvement alone is insufficient to manage patient requests; conscientious objection by physicians leads to a de-medicalized framework for MAID; and guidelines/frameworks to clarify healthcare professionals' roles in interprofessional collaboration. Findings from this review inform policy, practice and research and demonstrate urgency for a multidisciplinary approach to MAID for older adults that clearly defines scope of practice for diverse healthcare professionals to prevent legal, ethical and administrative hurdles.

COGNITIVE MEASURE MAY IDENTIFY ATROPHY IN BRAIN REGIONS ASSOCIATED WITH POSTERIOR CORTICAL ATROPHY

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Posterior cortical atrophy (PCA) affects a small percentage of individuals with Alzheimer's disease (AD) pathology and is characterized by significant visual-perceptual impairment. There are no consensus diagnostic criteria for PCA and misdiagnosis is common. This study tested whether a simple ratio score of visual-perceptual performance to memory performance was associated with MRI measures of visual association cortices in a subgroup of patients with suspected PCA. Analyses included 141 patients with AD dementia (M age = 74.4) from the Alzheimer's Disease Neuroimaging Initiative. Ratio scores, reflecting constructional praxis performance (a measure of visual spatial ability) relative to immediate recall memory performance, were calculated for each patient using subscales of the ADAS-Cog. Atrophy was estimated using structural MRI measures (volume, thickness) of cortical regions involved in visual processing. Using ADAS-Cog ratio scores, 12 patients were classified as possible PCA subjects (M age = 69.9). Relative to the 'typical' AD group, the 'PCA' group had smaller volumes and lower thicknesses in several posterior cortical regions and a composite score of these brain regions ($p < .05$). Several MRI measures were significantly related to higher scores on the ADAS-cog

based ratio in the 'PCA' subgroup but not in the 'typical' AD group ($p < .05$). Additionally, logistic regressions showed that the degree of atrophy in several regions predicted 'PCA' group status ($p < .05$). The results suggest that the ADAS-Cog based ratio of constructional praxis to memory recall is associated with significant atrophy in posterior cortical regions. This measure may be useful for identifying individuals with suspected PCA.

FRAILTY PHENOTYPES, FALL, HIP FRACTURE, AND MORTALITY

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Background: We compared the simplified Women's Health Initiative (WHI) and the standard Cardiovascular Health Study (CHS) frailty phenotypes in predicting falls, hip fracture, and death in older women.

Methods: Participants are from the WHI Clinical Trial. CHS frailty criteria included weight loss, exhaustion, weakness, slowness, and low physical activity. The WHI frailty score used two items from the RAND-36 physical function and vitality subscales, one item from the WHI physical activity scale plus the CHS weight loss criteria. Specifically, level of physical function was the capacity to walk one block and scored as severe (2-points), moderate (1-point), or no limitation (0). Vitality was based on feeling tired most or all of the time (1-point) versus less often (0). Low physical activity was walking outside less than twice a week (1-point) versus more often (0). A total score of 3 resulted in frailty classification, score of 1 or 2 defined pre-frailty, and 0 indicated non-frailty. Outcomes were modeled using Cox regression and Harrell C-statistics were used for comparisons.

Results: Approximately 5% of participants were frail based on the CHS or WHI phenotype. The WHI frailty phenotype was associated with higher rates of mortality (hazard ratio (HR)=2.36, $p < 0.001$) and falls (HR=1.36, $p = .03$). Comparable HRs in CHS-phenotype were 1.97 ($p < 0.001$) and 1.12 ($p = 0.44$), respectively. Neither phenotype predicted hip fracture. Harrell C-statistics revealed non-significant differences in HRs between the CHS and WHI frailty phenotypes.

Conclusion: The simplified WHI phenotype, which is self-reported and brief, might offer a practical advantage for epidemiological and clinical applications.

ADEQUACY OF MICRONUTRIENT INTAKE IN LONG-TERM CARE RESIDENTS: MAKING THE MOST OF MEALTIMES (M3)

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Food intake of residents living in long term care (LTC) is known to be poor. Yet, our understanding of which micronutrients are inadequately consumed is limited. The M3 prevalence study included an assessment of food intake from 639 residents (mean 86.8 ± 7.8 yrs old) in 32 nursing homes from four provinces (AB, ON, NB, MB) in Canada. Researchers rigorously collected weighed (main plate items) and estimated (snacks, beverages, side dishes) food and beverage intake from three non-consecutive days. Dietary records were analyzed for energy and micronutrient intakes using the Food Processor Nutrition Analysis Software (ESHA, version 10.14.1) and usual intakes were estimated by adjustment for intra-individual variation on all participants. Micronutrient intakes were compared with their estimated average requirement (EAR), when available, using the EAR cut-point method or with their Adequate Intake (AI) when an EAR was not available. Energy intake was 1715 ± 291 kcal and 1481 ± 261 (mean $\pm$ SD) for males ($n=197$) and females ($n=435$), respectively. Nutrients where the prevalence of inadequacy was greater than 50% for males and females were: vitamin B6, D, E, folate, calcium, magnesium and zinc. More than 50% of participants were below the AI for vitamin K and Potassium. These results document a high prevalence (10 of 20 micronutrients assessed) of inadequate micronutrient intakes in residents living in LTC in Canada. Interventions to promote more nutrient dense foods in LTC menus are required. (Funded by Canadian Institutes of Health Research)

INDICATIONS OF GAMMA-GLUTAMYLTRANSFERASE (GGT) AS A MARKER OF COGNITIVE HEALTH IN LATE LIFE

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A recently published study suggests an association between Gamma-Glutamyltransferase (GGT) in midlife and later risk of dementia. In the present study we explore the effects of serum GGT on cognitive decline and dementia also in more advanced ages. We tested the role of GGT in a sample of 452 non-demented individuals, aged 80 years and older at baseline, drawn from the OCTO-twin study. A battery of eight cognitive tests was administered at five occasions with measurements intervals of two years. We fitted hierarchical linear models by contrasting two models of overall cognitive change as a function of a) time in the study and b) time to death while controlling for baseline age, sex, education, stroke, cardiovascular disease, hypertension, diabetes, and incident dementia. In separate analyses, the potential association between GGT and dementia was tested. Our main finding was that higher levels of GGT were associated with an increased risk for cognitive decline and dementia in later life. Our study is the first longitudinal study to report on this association across a broad battery covering several cognitive domains and diagnoses of dementia. Further research is, however, needed to validate our findings and to evaluate the underlying mechanisms of the effects of GGT on age-related cognitive decline

DICHOTIC LISTENING IN THE ELDERLY: INTERFERENCE IN THE ADAPTATION OF BINAURAL PROSTHESIS

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Introduction: Elderly individuals with bilateral hearing loss often do not use hearing aids in both ears. Because of this, dichotic tests to assess hearing in this group may help identify peculiar degenerative processes of aging and hearing aid selection. **Objective:** To evaluate dichotic hearing for a group of elderly hearing aid users who did not adapt to using binaural devices and to verify the correlation between ear dominance and the side chosen to use the device. **Methods:** A cross-sectional descriptive study involving 30 subjects from 60 to 81 years old, of both genders, with an indication for bilateral hearing aids for over 6 months, but using only a single device. Medical history, pure tone audiometry, and dichotic listening tests were all completed. **Results:** All subjects (100%) of the sample failed the dichotic digit test; 94% of the sample preferred to use the device in one ear because bilateral use bothered them and affected speech understanding. In 6%, the concern was aesthetics. In the dichotic digit test, there was significant predominance of the right ear over the left, and there was a significant correlation between the dominant side with the ear chosen by the participant for use of the hearing aid. **Conclusion:** In elderly subjects with bilateral hearing loss who have chosen to use only one hearing aid, there is dominance of the right ear over the left in dichotic listening tasks. There is a correlation between the dominant ear and the ear chosen for hearing aid fitting.

CAN DEPRESCRIBING GIVE WHAT POLYPHARMACY HAS TAKEN AWAY? FEASIBILITY TRIAL IN RESIDENTIAL AGED CARE

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Polypharmacy, with its resulting negative health outcomes, is increasing worldwide alongside our ageing population. In specific, anticholinergic and sedative medicines contribute to the decline in cognitive and physical functioning of older people. The Drug Burden Index (DBI) measures the cumulative daily sedative and anticholinergic load. Our aim was to examine the feasibility of reducing the DBI of older people living in residential aged care facilities (RACFs). Residents aged ≥ 65 years prescribed one or more anticholinergic or sedative medicine, were recruited from three RACFs in New Zealand. A patient-centred approach was implemented; where a clinically trained pharmacist conducted a resident interview and a comprehensive medicine review for each participant. Deprescribing recommendations were put forward to the residents' general practitioner (GP). We recruited 37 participants with a mean age of 82.8 ± 8.2 . Residents were followed up three months after their GP deprescribed one or more of their medicine(s). A Wilcoxon Signed-Rank test indicated that post DBI test ranks, were statistically significantly less than pre DBI test ranks ($p=0.00016$) and post-Cognition Performance Score (CPS) test ranks were statistically significantly less than pre-CPS test ranks ($p=0.02$). In addition, a

one-sided paired t-test showed that potential adverse drug reactions (ADRs) decreased by a mean of 2.92 ($p=0.0001$). Therefore, the pharmacist's deprescribing intervention resulted in a statistically significant reduction in both residents' DBI and potential ADRs; as well as an improvement in residents' cognition. This supports existing research that deprescribing can reverse negative polypharmacy effects and result in several potential health benefits.

A CROSS-SECTIONAL STUDY—THE RELATIONSHIP OF MUSCLE MASS AND MUSCLE FUNCTION WITH AGE

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Sarcopenia is characterized by an age-related decline of skeletal muscle plus low muscle strength and/or physical performance, it is a strong predictor of falls, physical disability, morbidity and mortality. The aim of study is to investigate the relationship of muscle mass and muscle function with age in Chinese population. Methods: The study including 414 participants (212 men and 202 women, mean age 72.4 ± 8.0 years) in Shanghai. Upper (UMM) and lower (LMM) limbs muscle mass and whole body fat free mass (FFM) were measured by bioelectrical impedance analysis. The appendicular skeletal muscle mass (ASM) index ($ASM/height^2$) was calculated. Muscle function was assessed by measuring hand grip strength (HGS) and gait speed. Results: Low muscle mass using ASM index cutoff values was higher in women than men (33.5% vs. 23.6%, $p=0.025$). In the upper limb, HGS ($\beta=-0.809$) declined more rapidly with age than did UMM ($\beta=-0.592$) in men, but not in women ($\beta=-0.389$ and $\beta=-0.486$ respectively). In the lower limb, gait speed declined more rapidly than LMM in men ($\beta=-0.683$ vs. $\beta=-0.442$) and women ($\beta=-1.001$ vs. $\beta=-0.461$). The variance of UMM explained 28–29% of the variance of HGS, and LMM explained 7–8% of the variance of gait speed, in women and men respectively. In addition to the common predictors (BMI and age), the specific predictors were smoking, exercise and education for FFM and ASM, and smoking, drinking and exercise for HGS ($p<0.05$). Conclusions: Loss of muscle function was greater than the decline of muscle mass particularly in the upper limbs in men. However, women were more prone to have low muscle mass than the men. Exercise programs need to be designed gender specifically.

EARLY LIFE RISK FACTORS FOR DEMENTIA DEATH: THE HARVARD ALUMNI HEALTH STUDY

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Dementia is a growing public health crisis but its aetiology remains incompletely understood. Several risk factors measured in mid-life, including obesity and hypertension, have been linked with dementia risk, though the evidence is not uniform: overweight in mid-life might be protective against dementia. Neurodegenerative diseases develop over a long, initially asymptomatic, period. Thus, the possibility of

preclinical dementia affecting risk factors of interest (reverse causality) is important. The only solution is a cohort study recruited before the earliest stages of neurodegeneration are present.

33,319 male participants in the Harvard Alumni Health Study underwent an interview and physical examination at matriculation (<30 years) measuring/recording age, BMI (derived from height and weight), pulse rate, blood pressure, physical activity, smoking status, and alcohol consumption. Causes of death were extracted from death certificates (mean $\pm$ SD follow up 53.1 ± 14.3 years). Dementia-related deaths were identified using ICD-7 codes 304–6 and 794. We constructed Cox proportional hazards models for the association between each baseline variable and dementia-related death (age included in every model).

We found no association between the risk factors measured in early life and subsequent dementia-related death, though the hazard ratio was raised for obesity (1.33, 95% CI 0.90–1.97) and reduced for alcohol consumption (0.60, 0.31–1.16). Expected risk factor-CVD death (ICD-7 330–334 and 400–446) associations were identified.

In a population free of the earliest stages of dementia, we found no association between early life cardiovascular risk factors and dementia-related death. The relationship between CVD and dementia is potentially more complex than hitherto considered and requires careful study.

SEX DIFFERENCES IN RESPONSE TO A TARGETED KYPHOSIS SPECIFIC EXERCISE PROGRAM

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Hyperkyphosis, an excessive anterior curvature in the thoracic spine, is associated with reduced health status in older adults. Hyperkyphosis is highly prevalent, more common in older women than men. There is no standard intervention to reduce age-related hyperkyphosis. Sex differences in response to a targeted intervention are not known.

We conducted a waitlist design randomized controlled trial to determine if a targeted kyphosis specific exercise program improved Cobb angle of kyphosis, and whether the magnitude of change differed between men and women.

112 participants aged ≥ 60 years with kyphosis $\geq 40^\circ$ were randomized to exercise or waitlist control. Group intervention was delivered by a physical therapist, 1-hour, twice a week for 3-months. Controls received the intervention after 3-months. Primary outcome was change in Cobb angle measured from standing lateral spine radiographs. Secondary outcomes included change in kyphometer-measured kyphosis, physical function and quality of life. Groups were combined and ANOVA was used to test sex by time interaction to evaluate treatment effects in men and women.

Participants (67 women, 45 men) were 70.0 ± 6.2 years with baseline Cobb 55.6 ± 12.1 degrees. There were no between group differences at baseline, however men had higher kyphometer-measured kyphosis. There was no significant between group difference in change in Cobb after

intervention, $p=0.09$, but kyphometer-measured kyphosis differed by 4.8 degrees, $p<0.001$. There was no significant interaction between sex and change in Cobb after intervention, $p=0.67$.

A 3-month targeted exercise program reduced kyphometer, but not radiographic-measured kyphosis. Despite sex differences in baseline kyphosis, sex did not affect treatment response.

EFFECT OF FAMILY CAREGIVER SKILLS TRAINING ON PERCEIVED QUALITY OF CARE AND DEPRESSIVE SYMPTOMS

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One national strategy to better support family caregivers in the U.S. is to increase effective training programs. We conducted a two-arm randomized controlled trial to evaluate the effectiveness of HI-FIVES, a skills training program for caregivers of community-dwelling Veterans recently referred to receive home and community-based services. Caregivers in the HI-FIVES group received five individually-tailored training phone calls and four weekly group training sessions delivered by a RN. Caregivers in usual care received information about VA Caregiver Support Program services. The perceived quality measure was: 0 is the worst, and 10 the best, possible VA healthcare received in the past 3 months. The CESD-10 assessed depressive symptoms (0–30). Linear models with an unstructured covariance matrix were estimated to test intervention effects on outcomes at 3, 6, and 12 months. Among the 242 dyads, caregivers' (patients') mean age was 61 (73) years, 54% (53%) were Black, and 89% (4%) were female. Model-estimated mean baseline caregiver perceived quality of VAHCS care was 8.34 (95% CI: 8.10, 8.57); the modeled mean difference between HI-FIVES and controls at 3 months was 0.28 ($p=.18$); 0.53 ($p<.001$) at 6 months; and 0.46 ($p=0.054$) at 12 months. Model-estimated mean baseline patient perceived quality of VAHCS care was 8.43 (95% CI 8.16, 8.70); the modeled mean difference between HI-FIVES and controls at 3 months was 0.29 ($p=.27$); 0.31 ($p=0.26$) at 6 months; and 0.48 ($p=0.03$) at 12 months. Model-estimated mean baseline caregiver CESD-10 was 8.96 (95% CI: 8.21, 9.72). No significant differences were observed in CESD-10 scores.

ASSOCIATION BETWEEN PROTEIN INTAKE AND CHANGE IN RENAL FUNCTION AMONG JAPANESE GENERAL OLD SUBJECTS

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Objective: The aim of this study is to clarify the association between dietary protein intake and decline in estimated glomerular filtration rate (eGFR) among Japanese general old persons.

Method: We analyzed longitudinal data from 1246 participants (70 ± 1 years: 593, 80 ± 1 : 587, 90 ± 1 : 66, male: 48.5%, female: 51.5%) in the SONIC study, population based cohort study for old persons. Exclusion criteria were CKD stage G5 (eGFR<15) and dialysis reception in progress. The outcome variable, change in eGFR was estimated from serum creatinine measured at baseline and 3-year follow-up, and exposure variable, protein intake adjusted for total energy intake, sex and age, was calculated using brief-type self-administered diet history questionnaire (BDHQ) at baseline. Associations between eGFR change and protein intake were determined by multiple linear regression analysis. And we also carried out subgroup analyses for subjects with eGFR ≥ 60 and <60 , <45 , <30 .

Result: Mean eGFR change per year was -2.12 (eGFR at Baseline: 69.7, Follow-up: 64.7) mL/min/1.73m². Mean protein intake was 1.52g/kg/day. As results of multivariable analyses including almost all subgroup analyses, eGFR change was not associated with protein intake. However, only in the subgroup with eGFR<60, high protein intake was statistically associated with moderate eGFR change (β coefficient: 1.00, 95%CI: 0.11 – 1.89).

Conclusion: In general, old persons with eGFR<60, protein intake was positively associated with change in eGFR, and with eGFR<30 who are recommended restricting protein intake for chronic kidney disease in recent guidelines. Thus, dietary protein restriction might be reconsidered for old persons having reduced renal function as eGFR<30.

THE CORRELATION OF SERUM CATHEPSIN B WITH AGE-RELATED KIDNEY AND CARDIAC DIASTOLIC FUNCTION DECLINE

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Background: The purpose of this study was to longitudinally evaluate the association of serum Cathepsin B (CTSB) with age-related kidney and cardiac diastolic function decline in a healthy Chinese community-based population.

Methods: One hundred and ninety five healthy participants were evaluated at baseline and 3 years later. Serum CTSB was measured by enzyme-linked immunosorbent assay (ELISA). Rapid kidney function decline was defined as annual loss of estimated glomerular filtration rate (eGFR) > 3 mL/min/1.73m². Cardiac diastolic function was assessed by echocardiography based on mitral inflow patterns.

Results: Baseline serum CTSB concentration were significantly different among the four groups based on cardiac diastolic function. For the total participants, CTSB was significantly correlated with cardiac diastolic function. Compared to the individuals with high CTSB concentration, the individuals with low CTSB concentration had lower risk of cardiac diastolic dysfunction with the odds of 2.542 [(1.086–5.952), $P<0.05$]. However, this effect didn't exist after age adjustment. The incidence of diastolic function improvement of the

moderate CTSB concentration group was lower than that in the high concentration group. After adjusting for age and all other possible confounders, the association remained with the odds of 0.209 [(0.060–0.725), $P < 0.05$]. However, the association between serum CTSB and kidney function was not found.

Conclusions: Serum CTSB was correlated with age-related cardiac diastolic function decline in healthy people. Measurement of serum CTSB may provide valuable information for predicting the decline in age-related cardiac diastolic function in healthy people.

A ROLE OF MNA-SF AS A PREDICTOR FOR 30-MONTH MORTALITY IN A NURSING HOME IN JAPAN

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Background: Japan is a super-aged society. Along with the aging, the number of dependent elderly has increased. The Mini Nutritional Assessment-Short Form (MNA-SF) has been reported to be one of the useful questionnaires to assess nutritional status in older people. However, studies reporting with MNA-SF for the dependent elderly are lacking. Therefore, we observed residents in nursing homes in Japan for 30 months to examine whether MNA-SF is useful for assessment of nutritional status. **Methods:** A total of 423 residents (333 women; 84.2 ± 8.6 years) in nursing homes in Japan participated in this investigation. We investigated the following characteristics of the participants: age, sex, height, weight, medical history, Barthel index, clinical dementia rating, and MNA-SF. MNA-SF consists of 6 items: food intake decline, weight loss, mobility, suffering from psychological stress or acute disease, Neuropsychological problems, and BMI. We performed Cox proportional regression analysis to examine the association of MNA-SF score with 30-month mortality. **Results:** Mean MNA-SF score was 8.9 ± 2.2 . Among the participants, 104 (24.6%) were malnourished, 250 (59.1%) were at a risk of malnutrition, and 49 (11.6%) were in a normal nutritional status. After 30-month follow-up, 166 (39.2%) of the participants died. After adjustment for confounders, MNA-SF score was significantly associated with 30-month mortality (HR: 0.843, 95% CI: 0.770–0.922). **Conclusion:** MNA-SF score was significantly associated with 30-month mortality in Japanese nursing homes, even after adjustment for mortality-associated confounders. Therefore, the approach based on MNA-SF can be effective for nutritional assessment of dependent elderly.

YOUNG EFFORTS FOR OLDER INPATIENTS: DEVELOPMENT AND ASSESSMENT OF A CLINICAL POLYPHARMACY PATHWAY

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Background: Pharmacist-led medication reviews performed during hospital stay in very old adults have been shown to decrease emergency department visits and drug-related readmissions as well as downstream health care

utilization. Hence, a clinical pathway was developed and subsequently installed at the acute geriatric wards of a large referral University Hospital, Leuven, Belgium

Aims: To develop a structured and non-labor intensive data capture approach within the current framework, which allows for the following:

To establish the different tasks (i.e. the workload) of the assigned clinical pharmacists.

To identify the content of the provided recommendations.

To assess the acceptance rate of said recommendation.

Methods: A structured form was developed which was compatible with the hospital's software system and allowed for inclusive data registration: e.g. type of intervention, involved drug class and acceptance of the pharmaceutical recommendation by the treating physician. Structured data registration was done between April and December 2016.

Results: Medication reconciliation revealed a mean of 3.3 discrepancies per patient. Pharmacists provided at least 1 intervention for 785 (60%) of 1118 admissions. Medication review was performed in 50% of all patients resulting in 2159 recommendations. Drug discontinuation was mostly recommended (46%). Cardiovascular drugs (29%), followed by psychotropic drugs (17%) and gastro-intestinal drugs (12%) were the main subjects of the pharmaceutical recommendations; A majority of the recommendations (i.e. 76%), was accepted by the physicians.

Conclusion: Clinical pharmacists working in multidisciplinary geriatric teams provide a clear added value towards the pharmaceutical care and should be maximally integrated in geriatric care programs.

EARLY LIFE STRESS AND GENETIC RISK FOR NEUROTICISM PREDICTING HEALTH OUTCOMES IN OLDER SWEDISH TWINS

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Better understanding of early risk factors for poor late-life health and low well-being is crucial for developing more efficient prevention strategies. This study explored how early life stress exposure (twins separated and adopted; mean age = 3) as well as novel polygenic risk scores for neuroticism (PRSn) influence psychosocial and health outcomes late in life. Data were collected over 7 waves of the Swedish Adoption/Twin Study of Aging (SATSA; 1984–2010). In total, 2174 individuals (older than 50 at baseline) were included in the analyses. Of those, 637 had genotype data available. Outcomes included psychosocial factors (socioeconomic status, life stress, family environment) as well as emotional health (neuroticism, depressiveness, anxiety symptoms, life satisfaction) and physical health (self-rated health, disease burden, functionality level). Early stress exposure predicted higher levels of neuroticism, disease burden and life stress, and lower life satisfaction and self-rated health in late-life. Out of seven PRSn created at various p-value thresholds, PRSn consisting of approximately 10 000 SNPs under p-value threshold of .01 was the most powerful predictor of measured neuroticism late in life. PRSn also predicted high depressiveness and

poor family environment. Interestingly, genetic effects were more evident in twins not exposed to early life stress, indicating underlying gene-environment interplays. Results suggest the importance of early life stress and genetic predisposition to emotional instability in shaping health and well-being in old age.

DIETARY PATTERNS AND SELF-REPORTED INCIDENT DISABILITY IN ELDERLY

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Disability in older adults is associated with low quality of life and higher mortality. Diet may be a potentially important public health strategy for disability prevention. We examined the relations of the Mediterranean, DASH and MIND diets to functional disability in the Rush Memory and Aging Project. A total of 874 participants without functional disability at baseline were assessed annually over 12 years of follow-up using standardized measures for self-reported activities of daily living, instrumental activities of daily living and the Rosow-Breslau measure of mobility disability. The diet scores were computed based on a validated food frequency questionnaire administered at baseline. We examined relations between diet and disability using proportional hazard models adjusted for age, sex, education and total calories. Higher scores of the MIND (HR=0.88, 95% CI 0.83–0.94), Mediterranean (HR=0.96, 95% CI 0.94–0.98), and DASH (HR=0.88, 95% CI 0.82–0.95) diets were associated with decreased hazard of incident disability in activities of daily living. Only the MIND (HR=0.91, 95% CI 0.86–0.97) and Mediterranean (HR=0.97, 95% CI 0.94–0.99) diets were associated with reduced hazard of disability in instrumental activities of daily living. All three dietary patterns were associated with decreased hazard of mobility disability (MIND, HR=0.88 95% CI 0.83–0.94; Mediterranean, HR=0.88, 95% CI 0.83–0.94; DASH, HR=0.88, 95% CI 0.83–0.94). The findings did not change after further adjustment for BMI, depression, physical activity and vascular diseases, except for mobility disability, which became non-significant. These findings are encouraging that diet may be an effective strategy for the prevention of functional disability.

ONCE-DAILY MOUTH CARE REDUCES PLAQUE AND CHANGES ORAL MICROBIOME COMPOSITION IN NURSING HOME ELDERS

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Background: Persons with dementia usually receive mouth care from nursing assistants. Inadequate mouth care causes poor oral health, a risk for systemic diseases like pneumonia. Nursing assistants struggle with balancing optimal mouth care against triggering care-resistant behaviors.

Purpose: To evaluate the feasibility of a once-daily mouth care protocol on the outcomes of dental plaque and oral microbiome composition.

Sample: Six nursing home residents with documented mouth care-resistant behavior: mean age was 66.3 years, 50% were African-American, and 50% were female. They all had moderate dementia and significant dental plaque (mean surface covered=50.7%, sd=20.8%)

Methods: All subjects received 6 days of once-daily mouth care. Supragingival plaque and the anterior dorsum of the tongue were accessed for the microbiome samples, which were obtained before and after Day 1 and Day 6 mouth care activities. An intraoral camera (Soprocure™) was used to obtain video recorded images of all new plaque on all dentition before Day 1 mouth care and after Day 6 mouth care.

Data Analysis: Plaque scores were analyzed using an adaptation of the Planimetric plaque index for 5 participants (one person's decayed dentition precluded plaque measurements). Microbiome samples were descriptively analyzed at the genus level.

Results: Mean plaque scores fell from 50.7% to 24%. Changes in tongue and plaque of at least 6% of the microbiome at the genus level were observed for *Streptococcus*, *Veillonella*, *Prevotella*, *Haemophilus*, and *Rothia*.

Conclusion: Once-daily mouth care may be effective in reducing plaque and changing the oral microbiome composition.

ATROPHY OF THE ENTORHINAL CORTEX IS RELATED TO INCREASED DUAL-TASK GAIT COST AMONG MCI OLDER ADULTS

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Background: Lower dual-task gait performance (the slowing of gait speed while performing a cognitive demanding task) is associated with lower cognitive performance, particularly in MCI older adults. However, the neural mechanism of increased dual-task cost is still unclear. This study aimed to examine the relationship between dual-task cost and regional brain volume, focusing on prefrontal cortex, hippocampus, and entorhinal cortex, and whether these variables were associated with future onset of dementia among MCI older adults.

Methods: Forty-one older adults (mean age 74±6 years, 44% women) with MCI from the "Gait and Brain Study" were followed up for up to five years with biannual visits including cognitive, gait, and medical assessment. Gait velocity and stride time variability were recorded under simple and three separate dual-task gait conditions using an electronic walkway. Regional brain volumes were derived from automated segmentation using 3T-MRI scanning.

Results: Adjusted regression analyses showed that higher dual-task costs were associated with smaller volume in the entorhinal cortex but not with the prefrontal and hippocampal volumes. During the follow-up period (mean, 30 months), six participants converted to dementia. A logistic regression analysis showed that future onset of dementia was associated with smaller volume in the entorhinal cortex alone (OR = 1.005, $p = 0.034$).

Conclusions: Our results suggest that lower dual-task gait performance is a motor manifestation of entorhinal cortical atrophy which leads to progression to dementia. Our result provides an anatomical substrate to the concept that dual-task gait can be an early motor marker of progression to dementia.

ASSOCIATION BETWEEN INDIVIDUAL CHRONIC DISEASES AND POLYPHARMACY AMONG ELDERLY PATIENTS IN JAPAN

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The Japanese government is seeking to establish a community health program for the management of polypharmacy in elderly patients. To explore a community-based screening strategy for polypharmacy, this study examined the extent to which certain chronic diseases are strongly associated with polypharmacy among community-dwelling elderly adults in Japan. We used anonymized health insurance claims data from all beneficiaries aged 75 years and older in Tokyo, who received outpatient care between May 2014 and August 2014. We obtained the data from the Tokyo Metropolitan Association of Medical Care Services for Older Senior Citizens. The insurance program universally covers all citizens aged 75 years or older. The data included 134 categories of prescribed drugs and seven chronic diseases: hypertension, dyslipidemia, insomnia, osteoarthritis, diabetes, dementia, and depression. Polypharmacy was defined as the prescription of at least five drugs during a 4-month period. We estimated age- and sex-adjusted odds ratio (OR) for each chronic disease, using multivariate logistic regression analysis. The prevalence of polypharmacy among the beneficiaries ($n = 1,308,412$) was 34.4%. The prevalence was the highest among octogenarians (37.8%), followed by that among those aged 75–79 years (32.0%), nonagenarians (27.9%), and centenarians (10.9%). We found that the highest OR of having polypharmacy was 4.98 for diabetes ($p < 0.001$), followed by 4.75 for depression ($p < 0.001$); the lowest OR was 1.65 for dementia ($p < 0.001$). These findings emphasize the importance of identifying individual diseases to screen for polypharmacy among community-dwelling elderly patients.

THE CONTENT AND FOCUS OF THE SWEDISH NATIONAL INVENTORY OF HEALTH AND CARE (SWENIS)

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Sweden, like most countries worldwide, faces major challenges due to a rapidly aging population with increasing need to develop and ensure a high quality aged care for older people. The SWENIS study has a longitudinal design and contributes with nationally representative, valid and standardized prevalence measurements of models of care, organisation and person-centredness, staff working situation, and resident health such as cognitive impairment, neuropsychiatric symptoms, pain and P-ADL capacity in nursing homes. The SWENIS research group has developed a valid, reliable and internationally comparable Swedish nursing home survey, and baseline data were collected in 2014 from a randomised Swedish national sample of nursing homes; residents ($n = 4831$) staff ($n=3605$), and managers ($n = 191$) in 188 nursing homes from 35 municipalities. The prevalence of cognitive impairment among residents was 67%, 56% of residents were P-ADL-dependent, 48% exhibited pain and 92% exhibited neuropsychiatric symptoms. Baseline measurements showed person-centred care mean 50.0 (SD 7.4), of a possible total score of 13–65, psychosocial climate mean 57.6 (SD 9.1), of a total score of 0–70, job strain mean 0.71 (SD 0.17), of a total score of 0.21–3.31, and also leadership mean 108.4 (SD 23.8) of a total score of 24–144. The SWENIS study is novel in several aspects, firstly; it provides nationally generalizable data that enables analyses of resident health well-being in relation to different care practices and organizational structures, and secondly; it enables international comparison and collaboration on the content and health outcomes of residents, in nursing home care.

PROSPECTIVE ANALYSES OF PAIN AND PHYSICAL FUNCTIONING IN THE ENGLISH LONGITUDINAL STUDY OF AGEING

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Pain is often viewed as part of the ageing process and for many older persons, moderate or severe pain over a long period can result in lower levels of energy, higher levels of physical discomfort, and limited mobility. This study investigates the longitudinal impact of persistent overall and site-specific pain on physical performance and activities of daily living among older adults.

Data were analysed from the English Longitudinal Study of Ageing (ELSA), a representative sample of the population aged 50 years and older. Face-to-face interview and nurse records were used from Waves 2 to Waves 6 (2004–2012) for analyses. Overall pain and site-specific pain (back, hip, and knee) were measured biennially from 2004 to 2008 ($n=5010$). Activities of daily living and physical measures (chair rise and grip strength) were used as outcomes and were aggregated across assessments between 2008 and 2012. Multivariable multinomial logistic regressions were used for the former and linear regression for the latter, adjusting for potential covariates.

Overall pain (moderate to severe) was prevalent with close to a quarter of participants reporting pain on at least two occasions between 2004 and 2008. Multi-site pain was a strong predictor of subsequent limited activities of daily living, with more impairment in people who reported pain at least twice (Adjusted Odds Ratios range from 1.86 to 3.97 for back and hip 2.04 to 4.19 for back and knee, and 2.08 to 5.19 for hip and knee). Persistent pain was also strongly associated with worse physical performance outcomes.

By using longitudinal data, we are able to confirm the impacts of both overall and site-specific pain on physical functioning in older adults, with more pronounced effects for those reporting persistent pain over the years. These findings could be helpful for practitioners in the monitoring and management of pain in older adults.

OBESITY AND LONGITUDINAL CHANGES OF HANDGRIP STRENGTH IN OLDER ADULTS FROM DIFFERENT CONTEXTS

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It has been suggested that the amount of fat tissue may contribute to accelerated loss strength with aging. However, little is known about longitudinal associations between obesity and low muscle strength. To examine the predictive value of abdominal obesity on longitudinal changes of handgrip strength (HGS) in older men and women. Data on 803 community-dwelling older adults, between 65–74 years, were collected in 2012, 2014, 2016 in Natal (Brazil) and Saint-Hyacinthe (Canada). Sociodemographic characteristics, height, weight, waist circumference (WC) and HGS were assessed. Sex-specific linear mixed models were fitted to examine the trajectory of HGS according to quartiles of baseline WC. Among men, mean four year HGS was 2.62kg (p-value < 0.01). There was a gradient between decline of HGS and WC, with increasing decline among those with greatest waist circumference values (6.15 kg, p-value <0.001) after adjustment for age, research site, height and weight. In women, four year decline in HGS was smaller 1.0 kg (p-value < 0.01) and no association between baseline WC and decline in HGS was observed. Findings agree with previous cross-sectional research and emphasize the need for sex-specific analyses.

LONG-TERM CARE HOME, STAFF, AND DINING ROOM CHARACTERISTICS ASSOCIATED WITH RESIDENTS' FOOD INTAKE

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The Making the Most of Mealtimes (M3) prevalence study recruited 639 residents from 32 homes in four

Canadian provinces (AB, ON, NB, MB) to determine factors associated with food intake (based on three days of weighed and estimated food records). Mealtime interactions with staff assessed with the Mealtime Relational Care Checklist (3 meals/resident), and the length of meals and assistance received (9 meals/resident) were recorded. Dining environments were assessed for physical features using the Dining Environment Audit Protocol, and the Mealtime Scan was used to record mealtime experience and ambiance. Staff (minimum of 10) in each home completed the Person-Directed Care questionnaire and home managers completed a survey describing home features and food services. Residents' mean energy and protein intakes were 1572 ± 412 kcal/day and 58.4 ± 18.0g/day, respectively. Average mealtime length was 40.2 ± 13.0 minutes, and residents received more positive than negative staff interactions at mealtimes (ratio: 2.2 ± 1.3). Bivariate analysis showed a negative association (p < 0.01) for energy intake with number of residents to staff ratio during mealtimes and time since last menu revision (13–18 months). Protein intake was positively associated (p < 0.01) with dietitian time but negatively associated with the evening meal (supper) being the main meal of the day, having two food preparation systems (rethermalization and traditional) and a longer time (>18 months) since last menu revision. This is the first study to consider home, staff and dining room characteristics and resident food intake, providing new opportunities for interventions. (Funded by Canadian Institutes of Health Research)

HOW DOES SEX AFFECT THE CARE DEPENDENCY RISK ONE YEAR AFTER STROKE?

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The study explores the association between sex and care dependency risk one year after stroke. The study uses claims data from a German statutory health insurance fund. Patients were included if they received a diagnosis of ischemic or hemorrhagic stroke between 1 January and 31 December 2007 and if they survived for one year after stroke and were not dependent on care before the event (n=1,851). Data were collected over a one-year period. Care dependency was defined as needing substantial assistance in activities of daily living for a period of at least six months. Geriatric conditions covered ICD-10 symptom complexes that characterize geriatric patients (e.g. urinary incontinence, cognitive deficits, depression). Multivariate regression analyses were performed. One year after the stroke event, women required nursing care significantly more often than men (31.2% vs. 21.3%; odds ratio for need of assistance: 1.67; 95% CI: 1.36–2.07). Adjusted for age, the odds ratio decreased by 65.7% to 1.23 (n.s.). Adjusted for geriatric conditions, the odds ratio decreased further and did not remain significant (adjusted OR: 1.18 (CI: 0.90–1.53)). It may be assumed that women have a higher risk of becoming care-dependent after stroke than men because they are older and suffer more often from geriatric conditions such as urinary incontinence at onset of stroke. Preventive strategies should therefore focus

on geriatric conditions in order to reduce the post-stroke care dependency risk for women.

COGNITIVE STATUS IS ASSOCIATED WITH CCL11 IN OLDER RURAL DWELLERS: FINDINGS FROM THE FRAILOMIC STUDY

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CCL11 (eotaxin-1) is a chemokine classically known to be involved in allergic responses. More recently, this mediator has been implicated in age-related cognitive decline. However, data available on the relationship between CCL11 and cognitive status in older adults living in the community is scarce. The aim of this study was to explore associations between CCL11 and cognitive status in two cohorts of community-based older adults recognised for their contrasting socio-demographic environments, which participated in the FRAILOMIC Initiative (www.frailomic.org/): The 3C-Bordeaux cohort, comprising city dwellers (n= 517), and the AMI cohort, comprising rural dwellers (n=320), both from South-Western France. Plasma CCL11 was measured at baseline by enzyme-linked immunoassay. Baseline Mini Mental Status Examination (MMSE) scores were used as a measure of global cognitive status. CCL11 concentration was significantly higher in AMI than in 3C [median (interquartile range): 146 (115–203) pg/ml vs 103 (85–129) pg/ml]. In AMI, individuals with cognitive impairment (MMSE≤23) had on average higher levels of CCL11 than the others (MMSE>23) [162 (128–219) pg/ml vs 142 (112–196) pg/ml, respectively; p=0.02]. In AMI, multivariate weighted logistic analyses confirmed that higher CCL11 concentrations (tertile 3) were significantly associated with a higher prevalence of cognitive impairment, independently of age, gender, education and frailty [OR=2.80, 95% Confidence Interval 1.65–4.75; p=0.0004]. In contrast, no differences were found in 3C. These results indicated that CCL11 could be a significant independent predictor of cognitive function in older adults residing in a rural environment. The factors that may account for this association will be discussed.

ENHANCING COMMUNICATION AND SHARED DECISION MAKING VIA ELECTRONIC HEALTH RECORDS

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Background: Shared decision-making (SDM), is a patient-provider collaborative process for making health decisions, accounting for both clinical evidence and patients' preferences. Women can benefit from improved SDM regarding menopause and associated conditions, which affect aging women.

Purpose: To assess impact of weekly materials related to women's health sent via secure messaging from an Electronic Health Record (EHR) on knowledge and SDM regarding menopause.

Methods: We implemented an educational intervention for women using the EHR, MyHealtheVet. We enrolled 140 women, ages 45–60, from the Miami Veteran Affairs Healthcare System. After 6-months, participants were surveyed using a study-specific questionnaire and the validated SDM-Q-9.

Results: Post intervention survey respondents included 80 women, mean age 53 ± 4; 76% Non-Hispanic, 24% Hispanic; 44% White, 44% Black; 92% with a college education; and 8% who attended graduate school.

Post-intervention 88% of the women felt more knowledgeable regarding menopause treatment options; 87% recognized that a treatment decision was necessary, 89% felt more confident discussing menopause treatment with their provider, and 77% agreed their ability for SDM improved; 48% stated their doctor asked about their preferred decision-making involvement, 47% felt their doctors asked about their preferences, 51% weighed the options together, 48% agreed on treatment options; 27% planned to make an appointment with provider to discuss hormone therapy.

Conclusions: EHRs represent a novel and practical way to enhance women's knowledge of menopause and other age-related conditions, and promote SDM. EHRs promise to enhance SDM merits further exploration, as it may improve patient-centered care, adherence, and patient outcomes.

USABILITY TESTING OF A KINECT-BASED SENSOR SYSTEM TO AUTOMATE THE TIMED UP-AND-GO TEST

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Understanding older adults' preferences for technology is important for acceptance and adoption of future technologies. This study tested the operation of a Microsoft Kinect sensor system programmed to record the Timed Up-and-Go (TUG) test in sample of seven senior center attendees and three staff, and solicited their response to using the system and interpreting fall-risk graphics. Participants viewed PowerPoint slides containing information on falls and TUG instructions, then performed the TUG test under observation but without additional prompting. Participants were asked to Think Aloud to illuminate difficulties encountered during task performance and were video-recorded with Morae software. Following two TUG trials, we provided participants paper-based prototypes of the feedback interface with their age-normed TUG time and estimated fall risk, conducted interviews focused on user experience, and administered the System Usability Scale (SUS). Nine of 10 participants performed the test correctly although six had questions about the instructions. Eight individuals expressed interest in monthly testing. Eight participants comprehended the TUG results graphics, but offered suggestions to enhance clarity. Satisfaction, rated with the SUS was high at 83.4%. Because deviations from specified sitting and walking positions resulted in missing data, clear environmental landmarks will be required for older adults to perform the TUG independently. Findings from this user

experience study suggest that older adults may wish to self-monitor fall risk in a community setting and can interpret graphical fall-risk feedback. In addition, automating the system for senior center use will require precise configuration of the constituent equipment to each center's space.

AMYLOID AND TAU PET IN DIABETES-RELATED DEMENTIA

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Type 2 diabetes mellitus (DM) has been shown to increase the risk for cognitive decline and dementia, such as Alzheimer's disease (AD) and vascular dementia (VaD). In addition, there may be a dementia subgroup associated with specific DM-related metabolic abnormalities rather than with AD pathology or cerebrovascular diseases. This type of dementia, not showing hypoperfusion in the parietotemporal lobe on SPECT or cerebrovascular lesions on MRI, was characterized by old age, high hemoglobin A1c level, long duration of diabetes, high frequency of insulin therapy, low frequency of apolipoprotein E 4 carrier, less severe medial temporal lobe atrophy, impaired attention and executive function, less impaired word recall, and slow progression of cognitive impairment, and might be referred to as "diabetes-related dementia". We studied PiB (amyloid) and PBB3 (tau) PET imaging in 20 subjects with diabetes-related dementia to assess amyloid and tau accumulations in the brain. We found that only 40% of subjects showed positive PiB, whereas 91% showed positive PBB3. Some patients showed PBB3 accumulation restricted to the medial temporal lobe, while some showed PBB3 accumulation in the widespread cerebral cortices beyond the medial temporal lobe in the negative PiB, indicating tauopathy. We concluded that diabetes-related dementia may be more associated with tau pathology rather than amyloid pathology, and with non-specific neuronal injury due to DM-related metabolic abnormalities.

LONGITUDINAL CHANGES IN NUTRITIONAL STATUS; SARCOPENIA PROGRESSION IN COMMUNITY-DWELLING OLDER ADULTS

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While cross-sectional studies have demonstrated the importance of nutritional status on sarcopenia, its impact on longitudinal progression of sarcopenia status remains unclear. This prospective cohort study sought to examine how longitudinal changes in nutritional status impact sarcopenia progression.

We studied 144 community-dwelling older adults who completed 2-year follow-up with repeat DEXA imaging using Asian cut-offs, participants were categorized as (i) no sarcopenia, (ii) pre-sarcopenia and (iii) sarcopenia. Sarcopenia

progressors were defined as participants who progressed from non-to pre-sarcopenia, non-or pre-sarcopenia to sarcopenia, or remained sarcopenic at year-2. We collected longitudinal data for cognitive, functional and physical performance; mood (Geriatric Depression Scale, GDS); physical activity level; and nutritional status (Mini Nutritional Assessment, MNA). We compared participants whose nutritional status improved or remained normal at 2 years, versus their counterparts whose nutritional status declined. Logistic regression was performed to examine the independent effect of change in nutritional status on sarcopenia progression.

Nutritional status declined in 15 (10.5%) participants. They were significantly older (72.30 ± 8.50 vs 67.50 ± 7.90 , $p=0.028$), more likely female (93.3% vs 63.6%, $p=0.021$), and exhibited an increase in GDS score over 2 years (0.016 ± 1.68 vs 1.80 ± 3.30 , $p=0.057$). Sarcopenia progressors were more likely to decline rather than improve/remain stable in nutritional status (93.3% vs 51.9%, $p=0.002$). In logistic regression adjusting for age, ethnicity and GDS scores, decline in nutritional status was an independent risk factor for sarcopenia progression in women (OR=12.2, 95% C.I 1.38–108.60, $p=0.025$).

Tracking changes in nutritional status is clinically relevant in identifying older adults at risk of sarcopenia progression, especially in women. Clinicians should pay attention to mood in patients with decline in nutritional status.

PROTECTIVE EFFECTS OF GLUCAGON-LIKE PEPTIDE-2 ON INTESTINAL MUCOSAL BARRIER FUNCTION IN AGED RATS

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Age-associated derangement of intestinal permeability could permit increased systemic absorption of lumen antigens and contribute to concomitant inflammatory status, closely associated with many age-related diseases. GLP-2 can improve the function of the intestinal barrier in patients with gastroenterological diseases and critical illnesses. However, the mechanism, by which GLP-2 influences intestinal barrier function during ageing, still remains unclear. In this study, twelve 26-month-old male Sprague-Dawley rats were randomized to old group and old+GLP-2 group. 3-month-old male SD rats were used as control group. Compared with young rats, the old rats had a significantly thinner intestinal mucosa and shorter, rare villi. The ileum villi of old rats were significantly thicker after GLP-2 treatment. By using fluorescein isothiocyanate (FITC)-labeled dextran, the intestinal permeability in GLP-2 treated old rats were decreased. The plasma GLP-2 levels were negatively correlated with the FITC levels ($r=-0.610$, $P<0.01$). The tight junction of intestinal epithelial cells, as detected by transmission electron microscopy, was clearer in the old+GLP-2 group than that in old rats. Moreover, GLP-2 treated rats showed the increased mRNA and protein expression of Zonula Occludens-1 (ZO-1) and Occludin. These results indicated GLP-2 improve the small intestinal epithelial barrier function in aged rats by alleviating an increasing permeability and morphological changes through up-regulation of the tight junction protein ZO-1 and Occludin.

DEPRESSION, SEX, AND GENDER ROLES IN AN OLDER BRAZILIAN POPULATION

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Methods: Cross-sectional survey of a population of adults 65 years and older (n=256) in Natal (northeast of Brazil). Depression was defined in the Center for Epidemiologic Symptoms Depression Scale (CES-D ≥ 16). We used a 12 items validated version of the Bem Sex Role Inventory (BSRI) to classify participants in four gender roles (Masculine, Feminine, Androgynous and Undifferentiated). Poisson regressions were fitted to estimate the prevalence ratios (PR) of depression for each gender role compared with the masculine role, and adjusting for sex, age, sufficiency of income, self-rated health and chronic conditions. **Results:** Almost all participants (n=237, 93%) were able to answer the questions in spite of low literacy. Gender roles were not associated with sex. 50% were classified as masculine, 19% as feminine, 32% as androgynous and 27% as undifferentiated. Depression prevalence was high (39.7%). Gender roles remained associated with depression prevalence after adjustment for covariates. Those endorsing the feminine role had a depression prevalence ratio (PR) of 2.2 (95% CI: 1.2–4.1) times higher relative to those endorsing the masculine role. Corresponding figures for those undifferentiated were 1.9 (95% CI: 1.0–3.5). Those endorsing androgyny were not different from masculinity PR=1.4 (95% CI: 0.75–2.7). **Conclusions:** Gender roles were associated with depression, independently from being a man or a woman, suggesting that certain aspects of gender as reinforced by society may contribute to the social production of depression.

THE USE OF WORKFLOW ANALYSIS TO CHARACTERIZE PATTERNS OF OLDER ADULTS' DAILY ACTIVITIES

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Aging is often associated with disruptions in the performance of daily activities. Despite considerable efforts to accurately assess older adults' functional abilities, there is a lack of methods to characterize the ordered tasks performed by individuals to achieve a particular goal within a home environment. Workflow analysis has the potential to examine procedural aspects of daily activities and detect early changes in activities that may indicate functional deterioration among older adults. We aimed to apply the workflow analysis to older adults' daily activity data to examine the patterns of and variability in their activities. Six community-dwelling older adults filled out an activity diary for 14 consecutive days on which they recorded the location and type of activities performed inside and outside the home every 30 minutes. The EventFlow, a novel visualization tool, was used to analyze daily routine based on 1453 events. The analysis revealed great variability in activity types, levels, and timing of performing certain activities across individuals. Normal day-to-day variation in the same individual was also detected, including sleep time, time to go to bed, and time to get up from bed. When applied to the spatial information

of activity, the analysis suggested variability related to individuals' mobility in different level of life spaces from home to community. Findings suggest that the workflow approach can allow researchers to observe lifestyle alterations and to detect changes indicating deteriorating health before these changes significantly affect older adults' quality of life.

APPLICATION OF ECHO TELEMEDICINE TO NURSING HOMES TO HELP STAFF ADDRESS PROBLEMATIC BEHAVIORS

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ECHO (Extension for Community Healthcare Outcomes) is a collaborative model of medical education and care management that uses telemedicine to empower clinicians. Interdisciplinary specialists mentor and share their expertise across a virtual network via case-based learning, enabling primary care clinicians to treat patients with complex conditions in their own communities. University of Rochester has developed and implemented an innovated an ECHO program for nursing homes. The mission of ECHO is to educate nursing home staff by presenting challenging patient cases along with educational sessions. Clinics occur two times a week and participants are given a baseline survey of their knowledge followed by a 6 month follow-up survey. 55 patient cases and 4 follow up cases have been presented. The ECHO project covers 13 rural and urban counties and enrolled 52 nursing homes. Over the past year 1,888 staff participated and 614 CME credits awarded within the past year. Since this is a new program, evaluation data is critical to fine-tuning the curriculum to ensure it meets the needs of the nursing homes. Preliminary evaluations indicate high staff satisfaction with ECHO. Post surveys found gaps in knowledge and use of non-pharmacological approaches (e.g., sensory rooms, music therapy, doll therapy) to treat difficult behaviors and lack of appropriate staff training on how to handle behavior problems. The initial evaluation data provide strong evidence for the feasibility of applying the ECHO model to nursing homes. Next steps include the development and dissemination of a novel curriculum on behavioral problems tailored to nursing homes.

PREDICTORS OF AND BARRIERS ASSOCIATED WITH HIV TESTING AMONG OLDER ADULTS IN THE UNITED STATES

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Older adults are the fastest growing segment of people living with HIV and unfortunately many are unaware of their HIV status. Many providers are reluctant to ask older adults about their sexual histories, evaluate their risk factors, and test for HIV, and older adults have low perception of HIV risk. Using data from the 2013–2014 National Health and Nutrition Examination Survey, this study assessed the prevalence of recent HIV testing among older adults in the United States (n=1,056) and identified predictors and barriers to recent HIV testing. To achieve these objectives, the analysis was guided by the Systems Model of Clinical Preventive Care (SMCPC). A binominal logistic regression model was used to determine the odds of HIV testing uptake adjusting for

predisposing factors, enabling resources, reinforcing factors, and situational factors. The prevalence of recent HIV testing was 28%. Recent HIV testing was associated positively with male gender, education level, having public insurance, having same sex sexual behavior, African and Hispanic ethnicity; whereas, age, income-to-poverty ratio, and Asian ethnicity were associated negatively with recent HIV testing. Public health social workers are advised that targeted HIV testing for Asian, economically disadvantaged, female older adults is needed to increase HIV awareness and detection and to decrease late diagnosis of HIV. Provided public insurance was identified as a predictor of recent HIV testing, facilitating economically disadvantaged older adults' eligibility for public insurance will likely improve access to HIV testing services and increase HIV testing rates.

COMPARISON OF FOUR RISK SCORING SYSTEMS FOR OLD PATIENTS: A PROSPECTIVE MULTICENTER STUDY IN CHINA

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Objective: There are a few scoring systems in emergency departments (ED) to establish critically ill patients quickly and properly and to predict in-hospital death. We aim to compare the efficacy of National Early Warning Score (NEWS), Modified Early Warning Score (MEWS), Rapid Emergency Medicine Score (REMS) and quickSOFA (qSOFA) on in-hospital mortality in general older ED patients in different areas of China.

Methods: This is a prospective, multicenter and observational study. The study included general patients admitted to the EDs of nine teaching hospitals between 1st October, 2013 and 31 May, 2014. The primary outcome of the study is in-hospital mortality. Accuracy in predicting outcome measures was assessed by calculating the area under receiver operating characteristic curve (AUC).

Results: Total patients were 1528 (51.6% male, 48.4% female). The mean age was 75.86 ± 8.46 . Fifty-eight patients were dead in-hospital; the NEWS AUC for predicting in-hospital death was 0.834(0.778~0.890), the MEWS AUC was 0.753(0.679~0.827), the REMS AUC was 0.718(0.638~0.799) and the qSOFA AUC was 0.780(0.714~0.846). NEWS was found to have a better predictive strength than MEWS ($p < 0.001$), REMS ($p = 0.002$), qSOFA ($p = 0.020$) in terms of predicting in-hospital mortality of patients presenting to ED, while the differences between MEWS, REMS and qSOFA were not significant.

Conclusions: The efficiency of NEWS was found to be superior to MEWS, REMS and qSOFA as a predictor of in-hospital mortality in older ED patients. The qSOFA, a score developed for predicting sepsis patients' in-hospital mortality, can also be used as a predictor of in-hospital mortality in older ED patients.

ASSOCIATION OF LIFELONG EXPOSURE TO COGNITIVE RESERVE-ENHANCING FACTORS WITH DEMENTIA RISK

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Background and aims: We examined the association of cognitive reserve-related factors over the lifespan with the risk of dementia in a community-based cohort of older adults.

Methods: Information on early-life education, socioeconomic status, work complexity at age 20; mid-life occupation attainment; and late-life leisure activities was collected in a cohort of non-demented community dwellers ($n=602$) aged 75+ residing in Stockholm, Sweden in 1987–1989. The cohort was followed up to 9 years (until 1996) to detect incident dementia cases. Participants who developed dementia three years after the baseline were excluded. Structural Equation Modelling was used to generate latent factors of cognitive reserve from early-, mid-, and late-life.

Results: A reduced risk of dementia was associated with early (RR: 0.6; 95% CI: 0.4–0.9), adult (RR: 0.6; 95% CI: 0.4–0.9), and late life (RR: 0.5; 95% CI: 0.4–0.7) reserve-enhancing latent factors in separate multivariable Cox models. Late life (RR: 0.7; 95% CI: 0.5–0.9) and partially, midlife factors (RR: 0.7; 95% CI: 0.5–1.06) preserved their association, but the effect of early life factor was attenuated (RR: 0.8; 95% CI: 0.5–1.2) in mutually adjusted model. The risk declined progressively with cumulative exposure to reserve-enhancing latent factors, and having high reserve scores in all three periods was associated with the lowest risk of dementia (RR: 0.40; 95% CI: 0.20–0.81). Similar associations were detected among APOE $\epsilon 4$ allele carriers and noncarriers.

Conclusions: Cumulative exposure to reserve-enhancing factors over the lifespan is associated with reduced risk of dementia in late life, even among individuals with genetic predisposition.

HEART DISEASE, DIABETES AND DEMENTIA'S ASSOCIATION WITH FUNCTIONAL TRAJECTORIES OVER 5 YEARS

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Prevalence of functional disability related to chronic diseases are expected to increase as the population ages. Given that multimorbidity is common in older adults, we focus on heart disease, diabetes, both require complicated self-care, and dementia, which may make self-care more difficult, associations with functional disability over five years. Participants were a nationally representative sample of Medicare beneficiaries ages ≥ 65 years from 2011–2015 ($N=7,609$) from the National Health and Aging Trends Study. Annual in-person interviews included sociodemographic information, self-reported, physician-diagnosed chronic conditions, activities of daily living (ADL) and cognitive status. Trajectories of functional decline and attrition over 5 years were jointly estimated using group-based trajectory modeling and generalized to national estimates. Associations between ADL trajectory membership and diabetes, heart disease and dementia were examined using multinomial logistic regression, while

generalizing to national estimates and adjusting for patient characteristics. Three distinctive functional disability trajectories were identified in the overall sample and applied to national sample weights; 75.6% had no disability, while 14.7% had mild and increasing disability and 9.7% had severe and increasing disability. Persons with probable dementia had the highest odds ratios of functional disability. We found that approximately 25% of the US community-dwelling population ≥ 65 is likely to have functional disability over 5-years. Persons with dementia only had the highest odds of functional disability over a 5-years. Interventions targeting the dementia population are needed to prolong functional independence.

SARCOPENIA: PREVALENCE AND PROGNOSIS IN OLDER PATIENTS WITH CARDIOVASCULAR DISEASE

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To date, no study has systematically investigated the prevalence of sarcopenia in cardiovascular disease (CVD) according to the international consensus definition. The aim of this study was to investigate the prevalence and prognostic value of sarcopenia in older patients with CVD. The study population consisted of 1929 admitted patients aged 60 years and older (72.3 ± 7.3 years, 633 females) with CVD. Sarcopenia was defined according to the recommended diagnostic algorithm of the Asia Working Group for Sarcopenia (AWGS). Handgrip strength was measured with a handheld dynamometer, and gait speed was measured by a 10-m walking test. Using the cut-off points from the AWGS consensus, low hand grip strength was defined as <26 kg for men and <18 kg for women, and slow gait speed was defined as <0.8 m/sec. The muscle mass was estimated according to a previously validated anthropometric equation in Asian population. The endpoint was all-cause mortality. The prevalence of sarcopenia was 26.8% (male:17.6%, female:45.7%) and increased with age (<75 years: 16.5%, 75–84 years: 40.3%, ≥ 85 years: 62.6%, P for trend <0.001). During follow-up (2.3 ± 2.2 years), 203 deaths occurred. Patients with sarcopenia had a higher risk of all-cause death compared with non-sarcopenic patients (age-sex adjusted hazard ratio: 2.00, 95% confidence interval: 1.46 - 2.73, $P < 0.001$). The present study suggests that sarcopenia is highly prevalent among older patients with CVD and it is associated with increased mortality.

HIGH-DENSITY LIPOPROTEIN CHOLESTEROL LEVEL AND COGNITION IN OLD AGE: THE ROLE OF COGNITIVE RESERVE

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It remains unclear so far whether the negative relation of critically low high-density lipoprotein cholesterol (HDL-C) level to cognitive functioning in old age may be reduced in individuals with higher cognitive reserve accumulated during the life course. Therefore, the present study set out to investigate the relation of HDL-C level to cognitive performance and its interplay with key markers of cognitive reserve (education, cognitive level of job, and cognitive leisure activity) in a large sample of older adults. We assessed tests of working, short-term, and long-term memory in 701 older adults (mean age = 70.4 years) from Fonte Boa, Apuí, and Manaus, Brazil. HDL-C level was derived from fasting blood samples. In addition, we interviewed individuals on their education, past occupation, and cognitive leisure activity. Results showed that critically low HDL-C level (< 40 mg/dl) was significantly related to lower performance in working memory ($r = -.28$, $p < .001$), short-term memory ($r = -.24$, $p < .001$), and long-term memory ($r = -.24$, $p < .001$). These relations were significantly moderated by education, cognitive level of job, and cognitive leisure activity (β s $\geq .08$, p s $< .05$). Subsequent analyses revealed that the relation of HDL-C level to cognitive performance was negligible in individuals with longer education, higher cognitive level of job, and greater engaging in cognitive leisure activity (β s $< .07$, p s $> .05$). In conclusion, cognitive reserve accumulated during the life course may reduce the detrimental influences of a low HDL-C level on cognitive functioning in old age.

ALTERNATIVES TO ACUTE HOSPITAL CARE FOR THE OVER 65s AT RISK OF UNPLANNED ADMISSION

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Some older patients are deemed to be 'at the decision margin' at the time of potential hospital admission. We conducted a systematic review to understand:

- what are the defining characteristics of those individuals for whom the decision to admit to acute hospital may be unclear?
- what alternatives to admission exist?
- how acceptable, safe, effective and cost-effective are each of these options?

Any controlled studies and systematic reviews of people >65 years who were at risk of an unplanned admission and offered an alternative care pathway which were published between April 2005 and December 2016 were included in our systematic review. Our outcomes of interest were reduction in secondary care use, safety, patient preferences and costs. All eligible studies were assessed using the Cochrane risk of bias tool whilst relevant reviews were assessed using the AMSTAR checklist. The results were presented narratively and discussed.

A total of 19 studies and 7 reviews were identified. These recruited patients with both specific and mixed chronic or acute conditions. Alternatives to acute admission fell into four distinct categories: paramedic/emergency care practitioners ($n=3$), emergency department-based interventions ($n=3$), community hospitals ($n=2$), and hospital-at-home

services (n=11). The factors underpinning uncertainty around the decision to admit were age >75 years, co- and multi-morbidities, dementia, home situation, availability of social support and individual coping abilities.

Data suggest that alternatives to acute hospital admission appear safe and effective, with potential to reduce secondary care use, length of time that care is needed and reliance on community resources. However, there is a lack of available information about the patient-related outcomes and costs of such interventions.

FOSTERING NURSES WHO CAN TAKE ON THE CHALLENGE OF A SUPER-AGING SOCIETY IN URBAN AREAS

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We established an instructional lab (IELABO) in Tokyo, and then creating an environment in which nurses, nursing students and caregivers can actually put themselves in the shoes of a (fictional) elderly resident, and always being aware that the recipients of nursing care are individuals with their own lives. In this educational program, nurses and caregivers learned together. As they progressed through the program, they learned each other's strengths, thereby building the framework for collaboration. We shared the IELABO learning outcomes with residents in Tokyo. We place great stock in the motivational value of such civic pride in work.

Major points of outcome are summarized as follows:

1. By learning in a home setting, learners could place themselves next to the elderly persons in their care and their family members, and devise and implement a realistic care plan centered on the daily lives of said persons.
2. By enabling communication in a daily-life setting (i.e., the home), care providers could discuss daily life-oriented care with care providers working in other care provision settings, leading to mutual understanding.

The IELABO became the hub of this program. In the presentation, the outline of the IELABO project as well as its details is presented with special emphasis on the collaboration framework among the nurses, caregivers, and local communities. This will provide a new perspective to the practical and conceptual studies of comprehensive care for elderly citizens.

USING MAINTENANCE OF CERTIFICATION TO PROMOTE ADVANCE DIRECTIVE DISCUSSIONS IN PRIMARY CARE

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Background: Physicians and patients agree that primary care visits are the appropriate place to discuss advance directives (AD) with geriatric patients as it normalizes the discussion. Yet barriers are known to keep AD completion rates low.

Methods: An interprofessional team designed and implemented a three-health care system approved AD focused Maintenance of Certification (MOC) Part IV activity for primary care physicians (PCPs) to meet American Board of Medical Specialists (ABMS) requirements. The activity focuses on PCPs initiation of brief (2–3 min) AD conversations

with geriatric patients. The activity was launched at a state-wide PCP meeting using a workshop that employed interactive educational strategies (quiz, video analysis, role play). Retrospective “post-post” evaluation focused on workshop processes and outcomes.

Results: Eight PCPs completed the session reporting that at baseline the modal number of conversations PCPs initiated each week about ADs was < 1/week (range 0 to > 10). All participants targeted a minimum 25% increase in AD conversations as the improvement goal. Post workshop evaluation analysis found: 1) improvement among four literature-based barriers to AD discussions in the aggregate of responses; 2) all participants were more likely to initiate conversations with patients about ADs; and 3) 88% (7/8) were “very likely” to recommend the session to a colleague.

Conclusion: Experienced PCPs perceive AD discussions as fraught with barriers. This brief (90min) interactive AD discussion focused MOC activity minimized perceived barriers and increased primary care physician commitment to increase AD discussions with geriatric patients.

COGNITIVE RESERVE AND COGNITION IN OLD AGE: THE MEDIATING ROLE OF CHRONIC DISEASES

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The present study is the first so far in empirically testing the recent conceptual view that the number of chronic diseases may mediate between the build-up of cognitive reserve (e.g., by educational attainment and cognitive level of job) on the one hand and cognitive performance on the other. We assessed Psychometric tests on processing speed and verbal ability in 2812 older adults (mean age = 77.9 years) from Switzerland. Individuals were interviewed regarding their education, occupation, and chronic diseases. Results showed that higher educational attainment and higher cognitive level of job were significantly related to better performance in processing speed ($r_s \geq .15$, $p_s < .001$) and verbal ability ($r_s \geq .27$, $p_s < .001$). These relations were significantly mediated via the number of chronic diseases. Mediation effects of the relation of educational attainment to cognitive performance were 5.3% exerted indirectly ($\beta = .01$, $p = .007$) for processing speed and 1.5% exerted indirectly ($\beta = .01$, $p = .014$) for verbal ability. Mediation effects of the relation of cognitive level of job to cognitive performance were 7.3% exerted indirectly ($\beta = .01$, $p = .004$) for processing speed and 1.8% exerted indirectly ($\beta = .01$, $p = .015$) for verbal ability. In conclusion, individuals with higher educational attainment and higher cognitive level of job in early and midlife may suffer from fewer chronic diseases later in life. This may finally preserve their performance in verbal ability and processing speed in old age.

ASSOCIATION BETWEEN FRAILTY AND POSTOPERATIVE COMPLICATIONS IN PATIENTS UNDERGOING ABDOMINAL SURGERY

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Background: Although several studies relate frailty with poor postoperative outcomes, trials with specific intraabdominal surgery cohorts are scarce.

Objectives: To evaluate the association between frailty and 1 month postoperative complications, and 3 months mortality

Materials and Methods: Observational, descriptive and analytical study of a prospective cohort. Patients older than 70 years who underwent elective surgery were evaluated in the preoperative area of Italian Hospital from Buenos Aires, with the Edmonton Frail Scale. Data were collected between June 4, 2014 and February 1, 2017. We estimated mortality risk and complication risk with a logistic regression. We reported OR and 95% confidence intervals. A multivariate logistic regression analysis was performed to control confounding

Results: We included 85 patients, 18% (15) were frail, mean age 80.3 years old (SD 7.1). The non frail group was younger 76.4 (SD 5.5). Overall 3 months mortality was 20% (3) for frail and 1.4% (1) for non frail patients, OR 17.2 (IC95% 1.65–179.9, p 0.02). After adjusting for sex, age, comorbidity and oncologic surgery this association persisted statistically significant, OR 36.8 (IC95% 2.4–543.9, p 0.01). 53.3% (8) of frail patients and 17.1% (12) of non frail patients had complications within 1 month postoperatively, OR 5.5 (IC95 % 1.6–18, p 0.01) and after adjusting for confounders this association persisted statistically significant OR 5.71 (1.43–22.7, p 0.01).

Conclusion: In this population, the presence of frailty was associated with a significant increase in overall postoperative complications and death.

COMPARISON SURVEY ON FAMILY CAREGIVERS OF ELDERLY PEOPLE IN THAILAND AND JAPAN

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Purpose: The purpose of this study was to clarify the situations of and differences between family caregivers of elderly people in Thailand and Japan, and obtain basic data that can be used for constructing family support systems in both countries through collaboration and the applying of each country's strengths.

Methods: A cross-sectional exploratory descriptive research design was employed. Participants were family members taking care of elderly people at home. Data were collected in the Kanto, Kinki, and Tokai areas of Japan, and three districts in Chiang Mai in Thailand. This research was approved by the first presenter's Institutional Review Board.

Results: Of a total of 114 family caregivers in Japan, 82 (71.9%) were female and mean age was 64.8 ± 11.1 years. In Thailand, 76 (73.8%) of 103 family caregivers were female and mean age was 49.1 ± 13.3 years. Family caregivers in Thailand felt more healthy both mentally and physically ($p = .000$, $p = .000$). Specifically, they felt a lighter care burden and less loneliness ($p = .000$, $p = .000$) compared to those in Japan, which relate to family caregivers in Thailand having more social connections and informal support than those in Japan ($p = .000$, $p = .000$).

Conclusion: Despite there being a long-term care insurance system in Japan and not Thailand, the condition of family caregivers was better in Thailand than in Japan. We conclude that social connection and informal support are important factors of well-being for family caregivers.

CONTRIBUTING FACTORS FOR AVOIDABLE HOSPITALIZATION IN SWISS NURSING HOMES

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The reduction of avoidable hospitalizations from nursing homes (NHs) is a high priority because of the high human and financial costs. Common hindering factors range from the lacking diagnostic services and trained personnel in the NH to patient and family wishes and the lack of individual advanced care plans or do-not-hospitalize orders. This study reports the systematic assessment of barriers and facilitators of avoidable hospitalizations in a group of 20 private NHs in Switzerland. The results are embedded in the ProQuaS study, an implementation science project guided by the Consolidated Framework for Implementation Research (CFIR).

In a cross-sectional questionnaire survey in summer 2016, 20 NH directors, 34 ward supervisors and 61 registered nurses (RNs) assessed the current situation. Over 70.6% (95%-confidence intervals (CI): 0.52- 0.84) of the ward supervisors considered it important to implement changes to reduce hospitalizations, and 29.4% (CI: 0.16- 0.48) reported to never or seldom have do-not-hospitalize orders discussed with admitted residents. Moreover, 70.6% (CI: 0.52- 0.84) agreed that emergency physicians' lack of familiarity with the resident at night or weekends is a central factor for hospitalizations. Similarly, only 67.8% (CI: 0.54- 0.79) of RNs state that the assigned physician can be reached in time in emergency situations. Overall, critical factors related to avoidable hospitalizations include the clarification of residents' wishes, do-not-hospitalize orders and the availability of physicians. Insights from this survey will guide the development of a locally adapted intervention to reduce hospitalizations.

CURRENT STATUS OF DENTAL INTERVENTION AND SAFETY MANAGEMENT IN THE DEMENTIA WARD

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Safety management in psychiatric medical care includes issues of suicide, self-injurious behavior, accidents, medication errors, escape from the hospital, and unauthorized overnight stays. Additionally, preventing asphyxia is a challenge in the dementia ward of our hospital. Dentists have conducted intraoral examinations and evaluation of ingestion/swallowing function in patients, and have performed dental interventions. As a result of the safety management by the team medical care, the ward maintains 0 asphyxia. Therefore, the oral function and dental intervention of recent patients for higher safety management will be present. The subjects were 229 hospitalized patients in the dementia ward between April 2014 and December 2016. Using the medical records, age, sex, primary disease, oral function, and details

of dental intervention were extracted. The subjects were aged 59–99 years, and the ratio of men to women was 10:13. Alzheimer type dementia was the most common disease, accounting for 60% of the total. There were 66% of the all patient who needed oral hygiene control and were able to intervene. The patients who did not have occlusal support in molars accounted for 47% of the total. Seventeen of the 80 patients who needed dental treatment were difficult to be treated. The types of dental treatment were denture adjustment / repair, denture construction, conservative treatment, and teeth extraction under intravenous sedation. Extraction was performed for prevention of accidental biting, ingestion, and aspiration. The examining the background of patients who experienced difficulties with dental intervention may lead to improved safety management in future.

FACET JOINT OSTEOARTHRITIS INCIDENCE IS ASSOCIATED WITH BACK PAIN IN OLDER ADULTS: FRAMINGHAM STUDY

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Back pain in older adults is a major public health problem, and facet joint osteoarthritis (FJOA) is commonly treated as the source of this pain. Despite the clinical importance, little is known about the relation between longitudinal changes in FJOA and pain symptoms. The purpose of this study was to determine the association between incidence of FJOA over 6yr, evaluated by CT, and self-reported back pain in a community-based cohort. Participants included 885 cohort members of the Framingham Study: 491 women, 394 men, 40–85 yr (mean=63 yr, SD=+8 yr). FJOA was graded by a musculoskeletal radiologist (MJ) bilaterally from T4/T5 to L4/L5 on baseline and follow-up CT images as: grade 0=normal, 1=mild, 2=moderate, or 3=severe. Incidence of moderate/severe FJOA was defined as an increase at any spinal level from grade 0 or 1 at baseline to grades 2 or 3 at follow-up. During the follow-up period, participants reported frequency of back pain (no, some, most, or all days/month in the past year). 6-year incidence was 33% for moderate/severe FJOA. 23% of participants reported having back pain on some days/month, 7% on most days/month, and 13% on all days/month. Incidence of moderate/severe FJOA increased with frequency of back pain: OR=1.00 (no back pain), OR=1.06, 0.74–1.51 (some days/month), OR=1.24, CI=0.72–2.14 (most days/month), OR=1.64, CI=1.07–2.50 (all days/month); trend, $p=0.03$. Our results suggest that CT based findings of incident moderate/severe FJOA may have clinical importance for prevention and treatment of back pain in older adults.

A NEW APPROACH TO BENCHMARK CARE PRACTICE BASED ON COSTS AND QUALITY OF CARE: THE IBENC METHOD

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To achieve sustainability of our health care system, care should be delivered more efficiently in the future to serve the rapidly ageing population. Evidence-based restructuring of systems should build on reliable benchmarks of the combination of quality and costs of care. These currently lack. A novel benchmark method on organizational efficiency in home care was developed.

Longitudinal data were collected in the European IBenC project among 2884 home care clients from 38 home care organizations (six countries). Data-collection capitalized on the comprehensive geriatric assessment instrument interRAI-HC. Quality was expressed by the 11-point Independence Quality scale (IQS) and Clinical Balance Quality scale (CBQS), respectively reflecting quality of care aimed at functional independence and engagement, and on functional improvement. Higher scores indicating better quality. Cost of care over six months were estimated by valuing resource utilization with Dutch standard costs. Case-mix adjustments were applied.

Quality varied between poor to good: IQS scores varied between 2 and 7, CBQS between 4 and 8. Mean adjusted costs were €21,004 (range €14,300–€24,209). Per organization outcomes were combined in the IQS-index and CBQS-index. Index values of 1 indicate average quality against average costs, higher values reflect better organizational efficiency. IQS-index ranged between 0.49 to 1.74 and CBQS-index between 1.00 and 1.66. The indexes had high face-validity compared to the plotted costs and quality, and discriminated between organizational efficiency.

The indexes permit for a new way of benchmarking, opening up possibilities for unexplored areas of research and knowledge in organizational performance and restructuring care systems.

QUALITY INDICATORS RELATED TO MEAL SATISFACTION AND ADEQUATE NUTRITIONAL STATUS IN ELDERLY CARE

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Studies of organizational prerequisites for nutritional care practice and their effect on meal satisfaction and nutritional status of older adults in residential care homes are scarce. Guided by Donabedian's model of quality of care, the aim was to explore structure and process quality indicators of nutritional care practice that predict residents' meal satisfaction and adequate nutritional status according to MNA-SF, in Swedish elderly care. Data at municipal level from i) a national questionnaire, ii) records from a quality registry and iii) a benchmarking survey, were merged. Logistic and multiple regression analyses included 117 municipalities (of 290 in Sweden). Residence in rural and urban municipalities predicted meal satisfaction over city municipalities. Independent structure indicators of meal satisfaction were local food policy, cooking on-site and private meal providers, and independent process indicators were choice of meals

and residents' possibility to influence the menu. Adequate nutritional status was positively predicted by the structure indicator availability of clinical/community dietitian and the process indicator calculation of nutritional content of meals. To conclude, a locally adapted organization adjusted to residents' choices, and availability of dietitians, benefit meal satisfaction and nutritional status among older adults in residential care homes. The results from this study can benefit future interventions aiming to improve nutritional care practice and serve as guidance for leaders in elderly care organizations.

NEIGHBORHOOD FACTORS RELATED TO FUNCTIONAL LIMITATIONS AMONG OLDER ADULTS IN MEDICARE ADVANTAGE

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Over 90% of older adults in the US report that they wish to age in place. Preventing and mitigating functional limitations is important for maintaining independence, but identifying those who needs services and supports to remain independent is challenging for health plans. The Area Deprivation Index (ADI) is a validated neighborhood-level measure of socioeconomic disadvantage that has been associated with mortality and hospital readmissions. The ADI could potentially be harnessed to target those at risk for functional limitations, yet the relationship between the ADI and functional limitations has not previously been examined. This study includes 182,796 Medicare Advantage beneficiaries aged 65 or older who participated in the Medicare Health Outcome Survey in 2013. We used a multivariate linear probability model accounting for the complex survey design to examine the association of high neighborhood-level disadvantage (defined as ADI ≥ 85th percentile) and any functional limitations (1 or more difficulty with an activity of daily living (ADL) or an instrumental ADL). We also examined whether health, measured by number of chronic conditions, mediated this relationship. In 2013, 1.3 million Medicare Advantage beneficiaries were living in a high-disadvantaged neighborhood, and these individuals were significantly more likely to report any functional limitation compared to individuals living in a less-disadvantaged neighborhood. Among individuals in high-disadvantaged neighborhoods, the probability of reporting a functional limitation was significantly greater in individuals with multiple chronic conditions, but the neighborhood-level affect attenuated somewhat as the number of reported chronic conditions increased. Health plans should consider using a neighborhood-level measure of disadvantage to target independent living interventions.

SPATIAL POLYGAMY IN LATER LIFE: THE MANY GEOGRAPHIES OF AGING

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Older adults' lives are increasingly negotiated in, transformed by, and informed through a broad range of physical,

social, and emotional settings. Seated and mobile interviews with community-dwelling older adults (n=125, mean age 71 years) explored everyday contexts of aging in three distinct case studies of the Minneapolis (USA) metropolitan area. Qualitative thematic analysis revealed that participants inhabited overlapping past and present contexts. They exhibited 'spatial polygamy' by being attached and exposed to multiple contexts across space and time. Nested contexts operated at the scale of the body, dwelling, surveillance zone (watchful spaces visible and/or audible from the home), neighborhood, and beyond spaces (meaningful distal locations such as past employment sites and travel destinations). These dynamic, multi-scalar spaces provided both change and stability over time. Temporal context importantly shaped participant experiences of aging, such as diurnal, seasonal, and longitudinal factors. For instance, participants demonstrated differing perceptions of neighborhood safety in the day versus night; climactic variation posed seasonal challenges and vulnerabilities; and objects around the home evoked rich imaginative connections to the past. Participants' everyday lives were bimodal in time and space, with clusters of activity spent in distinct locales at specific times. The findings enrich environmental gerontology by attending to overlapping socio-physical contexts that range from the intimate scale of the body to broader community settings. Analyses integrate often-overlooked temporal elements that frame and calibrate spatial experiences of aging. The observations illustrate aging as a complex geographic process that evolves dynamically through time and space.

PROVIDING CARE TO PARENTS IN KOREA: FILIAL PIETY, RECIPROCITY, AND PARENT-CHILD RELATIONSHIP QUALITY

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Adult children's attitudes towards caring for aging parents are important to predict their caregiving behavior. Using 2006 EASS (East Asian Social Survey), this study examined how caregiving activities in South Korea can be explained by three major factors: filial piety, reciprocity, and parent-child relationship quality. The result of multiple logistic regression showed that adult children who were given more support from parents and who had better relationship quality with parents were more likely to provide caregiving. However, filial piety representing traditional value of supporting parents was not significantly related to adult children's caregiving behaviors. These results have great implications for contemporary South Koreans. First, emphasizing the importance of filial piety may not be ineffective for adult children to care for their parents. This can imply that the traditional norm of piety has weakened as South Korea has experienced rapid social changes under the influences of economic growth and globalization. Second, reciprocity, a concept rooted in social exchange theory, may be more popular rationale of exchanging intergenerational support between parents and adult children, which can be regarded as westernization. Third, parents should be encouraged to develop and maintain good relationships with their adult children, which can increase the possibility to get supported too.

CHARACTERISTICS OF OPINION LEADERS AND BOUNDARY SPANNERS IN LONG-TERM CARE

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The Advice Seeking Networks in Long Term Care Study used social network analysis to understand the informal advice networks of senior leaders in Canadian long term care (LTC), with the goal of using this knowledge to inform future efforts to more effectively disseminate quality improvement innovations. In this abstract we describe one main component of the study, a qualitative analysis of interviews conducted with 39 opinion leaders, boundary spanners, and advice seekers identified in interpersonal advice networks in the sector. At each of the 958 LTC facilities spanning 11 of Canada's 13 provinces and territories, we asked one senior leader to complete a survey identifying individuals who were informal sources of advice about quality improvement. The survey data from 482 respondents was then used to identify and interview network advice seekers by their out-degree scores, opinion leaders by their in-degree scores, and boundary spanners by their betweenness centrality scores. Results from thematic analysis of the interviews indicated that advice seekers tend to seek advice from those with whom they deem trustworthy and knowledgeable and with whom they share similar professional backgrounds and care philosophies. Opinion leaders possess an appetite for change and a strong sense of responsibility for improving care throughout the LTC system. They often have career trajectories that move them from clinical to administrative or oversight roles. Advice seeking relationships often endure over many years, transcending roles and even care sectors, and can evolve into reciprocal relationships.

BARRIERS OF CREATING AGE FRIENDLY ENVIRONMENTS

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The purpose of this study was to understand barriers and supporters of creating age friendly environments. WHO's Age Friendly Cities (AFC) initiative has highlighted the importance of eight aspects including three built environmental features (i.e., housing, outdoor spaces and buildings, and transportation); five social environmental features (i.e., social participation, respect and social inclusion, and civic participation and employment, communication and health services, and community support and health services).

To understand how these AFC aspects affect seniors' wellbeing in Jeju, South Korea, we used a mixed method approach and collected both quantitative data on seniors' perception on AFC (n = 500) and qualitative data asking barriers creating AFC. In our quantitative data analysis, seniors perceived that "respect and social inclusion," "social participation," and "outdoor space and buildings" as the most

important aspects. After quantitative data collection, we conducted six focus group interviews (n=43) in four urban and two rural communities in Jeju to collect qualitative data. The qualitative data showed that the most frequently stated barriers of creating AFC were related to the built environmental aspects both in urban and rural communities. The emergent themes based on qualitative data analysis were involved with sidewalk design, pedestrian safety, traffic lights, bus driver's attitude and bathroom design. Our findings are integrated to explain supporters and barriers in creating AFC.

THINKING GLOBALLY, ACTING LOCALLY FOR AGE-FRIENDLINESS: THE AGE-FRIENDLY DC INITIATIVE

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Ageing and urbanization are among the most transformative demographic dynamics of the 21st century. In order to ensure that urban environments are responsive to the needs of residents across their life course, the World Health Organization (WHO) promotes the creation of Age-Friendly Cities and Communities. During 2012–2015, WHO conducted research to develop a set of core indicators of age-friendliness which measure the physical and social environment, quality of life, and equity. As part of this project, a study was conducted to measure these indicators in 15 communities worldwide. Washington, DC was one of the test sites. Some of the key findings from the indicator assessment, which was led by Age-Friendly DC staff with the cooperation of the Mayor-appointed Task Force and several government agencies, were that when inequities could be analysed there were profound differences across race and income. Importantly, this focus on equity revealed the need for more disaggregated data by age and geography at the local level. Subsequently, the WHO core indicators informed the development of the Age-Friendly DC Livability Survey, which was conducted in 2016 to track progress in implementing the Age-Friendly DC Strategic Plan. The survey found that progress was being made in home internet access while improvement is still necessary in the wheelchair accessibility of homes. The Age-Friendly DC initiative is exemplary of how the outcomes of the global project to develop metrics for age-friendliness were translated into local strategic plans and actions to create an age-friendly urban environment in the nation's capital.

WORK OR WALK? A NATIONAL MIXED-METHOD STUDY OF MATURE AGE WORKERS AND RETIREES

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The economic challenges of an aging population have led to many countries introducing policies intended to reduce older people's dependency upon the state and the age pension, through accumulation of superannuation (and other assets) and encouragement to remain in the labor force longer. The Work, Care, Health and Retirement project is a three year government and industry funded mixed-method study that explores the implications of these policies, while identifying how men and women can be supported to remain in paid

work while enjoying high levels of health and wellbeing. Selected findings from the national cross-sectional survey (n=2,100) and qualitative interviews (n=100) with Australian men and women age 45 years and over will be presented. This poster will describe the main 'triggers' to initiating voluntary retirement, factors associated with retirement age (such as gender, health, assets, industry and occupation) and what conditions may have delayed the decision to withdraw permanently from paid employment. This poster will also discuss dominant characteristics of older workers (65 years and over) including the type of work they undertake, how they work, and why they continue to participate in paid work past the traditional retirement age.

CONTRIBUTION OF WISDOM TO CHINESE ELDERS' WELL-BEING

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Wisdom is an important asset of elders and has been shown to be related to wellbeing, but it is not clear whether wisdom affects wellbeing or wellbeing affects wisdom. The relationship between wisdom and wellbeing has not been largely researched in an Asian cultural context and this study is the first of its kind. To clarify the relationships, this study utilized baseline data from a questionnaire of 142 Chinese community dwelling older adults aged 60 and above, invited in all the 18 districts in Hong Kong. The analysis controlled for the elder's mastery, social support received, and a number of background characteristics. Results show that wisdom derived from inspirational engagement – social relations can contribute to older adults' self-esteem; whilst wisdom derived from emotional management – dealing with life situations can contribute to life satisfaction. Social support continued to play an important role in Chinese older adults' wellbeing, the primary caregiver's support contributed to the elder's life satisfaction unconditionally, whilst non-caregivers' support indicated a contribution to life satisfaction contingent on the elder's instrumental dysfunction. The results thus imply that helping older adults to make social contributions and manage life situations can improve wellbeing in later life.

THE AGE-FRIENDLY NEIGHBORHOOD STRATEGY APPLIED IN MOOCA (São PAULO, BRAZIL)

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In São Paulo, Mooca is a traditional Italian immigration neighborhood where 19% of the inhabitants are 60+ years, a high percentage compared to the Brazilian population. This qualitative research was intended to mobilize workers and elderly inhabitants from Mooca, and to analyze their perceptions about the neighborhood through Age-friendly cities program method proposed by the World Health Organization (2007). A committee composed by researchers, representatives of the public administration, and civil society followed the implementation of the project, and assisted in the organization of 8 focal groups: 2 groups of elderly aged 60–75 years, 2 groups of elderly aged 76+ years, 2 groups with professionals, and 2 groups of elderly people of varying ages, totaling 44 participants (29 women and 15 men). About living in Mooca being an older person, the participants highlighted as positive aspects the identity and tradition

of the neighborhood, where people still know each other. As negative points, they mention: irregular sidewalks, flooding areas, the presence of homeless people, lack of green areas and non-adaptation of residential buildings for the needs of the elderly. Difficulties in obtaining participants aged 76+ years suggest that older adults have more difficulty participating in activities outside their homes. Many of them revealed they were caring for other elderly or grandchildren. Elderly participants demonstrated satisfaction in collaborating with the research, proposing that meetings should be permanent, revealing a demand for greater social interaction.

FINDING RABBIT HOLES WITHOUT FALLING IN: NAVIGATING PALLIATIVE CARE POLICY IN CANADIAN LONG-TERM CARE

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Canada has one of the most regulated policy-laden long-term care (LTC) systems in the world. While there is noble intent, the high volume of policies creates ambiguity for knowledge users on how to provide quality end of life care for residents. More importantly, the desires of residents and/or their families for quality of life often get lost in the jungle of rules and regulations. Our research team titled SALTY (Seniors: Adding Life to Years) is assessing the complex interplay of LTC policies that influence palliative care. To date, we have collected 275 LTC related policies and influencing documents in four Canadian provinces and by using a policy analysis framework from NCCHPP (National Collaborating Centre for Healthy Public Policy), we plot each in a logic model (NCCHPP) according to policy function, sphere of influence (e.g., health authority, provincial, federal) and geography. Using a hermeneutics content analysis approach, each policy is examined using Kane's (2006) 11 domains for measuring quality of life. This iterative process reveals both the extent to which policies have resident's quality of life at the forefront and its intended and unintended effects on other factors in the logic model. In this poster, we describe the dual framework used to structure the policy analysis aimed at adding 'life to years' within a palliative approach. We present our preliminary results of palliative care exemplary policies, gaps, and tensions between what should be done (system) and what is preferred (resident choice) depending on the circumstances and geography.

OLDER PERSONS AND MEDICAL CANNABIS USE

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While researchers have begun to illuminate critical public health issues concerning the increasing availability of cannabis, there have been few glimpses into the use of medical cannabis among older persons. The extent to which persons over 65 take medical cannabis has not been documented, nor have any of the associated outcomes. Do older adults who take medical cannabis for managing pain substitute cannabis for prescription opioids? Do older adults who take medical cannabis experience any negative side effects? This

research sought to close the gap in what is known about the use of medical cannabis among older persons and learn more about how cannabis impacts quality of life. In analyzing information provided by 80 purposively selected focus group participants across 4 Midwestern states, we found that approximately 3.7% reported taking recreational cannabis, 12.5% reported taking medical cannabis, and 18.7% reported taking cannabis for both medical and recreational purposes. While the majority of respondents, 65%, reported no cannabis use in the past year, most indicated they would consider taking cannabis for medical purposes, especially if other means of controlling pain or other medical conditions were not effective. Additional information provided by the focus group participants highlighted the critical role that health care professionals play in providing information about the use of medical cannabis.

INTEGRATIVE GROUP MOVEMENT FOR PEOPLE WITH DEMENTIA AND CARE PARTNERS: INITIAL QUALITATIVE FEEDBACK

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Paired PLIE (Preventing Loss of Independence through Exercise) is a behavioral intervention that integrates physical, mental and social activities into a multi-modal, group movement program for pairs of people with dementia and care partners. This process evaluation aimed to examine care partners' observations and reactions to the Paired PLIE Program as part of a larger RCT. Three pairs completed up to 24 in-person classes and home practice (weekly handouts with themes for reflection and practice). Data included care partners' daily written logs, weekly responses to home practice handouts, and emails received after program completion. Themes were categorized as physical, cognitive, and social/emotional based on prior work, and sub-themes were identified through an iterative, collaborative process. Physical functioning: care partners observed functional improvement and less symptomatic discomfort in both partners (e.g., dyad 3, week 9: "He could get up even without optimal chair and cushion.") Cognitive functioning: care partners observed heightened engagement and focus in affected individuals (e.g., dyad 2, week 4: "He finished two crosswords completely (this was never done prior).") Social/emotional functioning: care partners observed greater connection to the affected individual and lower stress in both partners (e.g., dyad 1, week 2: "...helped me relax and feel less stress.") Two care partners noted that the PLIE program, especially the home practice component, added burden (e.g., dyad 3, week 9: "Neither of us was into doing more than [a] short time.") For future groups, the home program will be revised and de-emphasized to maximize benefits and minimize burdens.

LONELINESS AND THE HEALTH AND WELL-BEING OF LGBT SENIORS

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Recent research has identified higher rates of loneliness among older lesbian, gay, bisexual, and transgender (LGBT) people than one would usually expect to find in the general population. In an Australian survey of the health and

wellbeing of 312 LGBT people aged 50 and over, loneliness was associated with living alone, not being in a relationship, higher psychological distress, and lower mental health. Those who experienced the greatest degree of loneliness were much more likely than those who were less lonely to want to participate in social and health promoting activities with other LGBT people. This poster presents the most recent detailed analysis of a subset of 18 people in this study who reported the highest degree of loneliness, and explores their qualitative responses to questions on their connections with friends and family, participation in community groups, and interest in participating in future social and health promoting activities. While facing many challenges, most of these participants reported that they have a friend they can rely on in a crisis and that they are engaged in some social activities, as well as activities to promote their health and wellbeing. Nonetheless, many wanted to socialise more, have more companionship, experience an intimate relationship, develop their spirituality and exercise more. Barriers to engaging in these activities included anxiety, depression, not knowing how to connect with LGBT people, adjustment to recent 'coming out', and physical health issues.

IMPACT OF INFORMAL CARE, TRAVEL DISTANCE, AND STRESS ON RETIREMENT DECISION MAKING

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Established literature informs us that caring for the elderly living over a distance can be a stressful for the caregivers. We add to this literature by showing the impact of distance on reported physical, emotional and financial stress levels, and further show that this distance can have a negative impact on the retirement decision-making of care providers. Using data from the Caregiving in the United States, 2015 survey conducted by the National Alliance for Caregiving and AARP Public Policy Institute, we find that increased distance between the care-giver and the recipient living outside the household significantly increased the burden of care-giving stress on the provider. This is especially significant for those over fifty years of age and providing care. However, those who are caring for elderly inside their household also report high stress levels.

Our findings indicate that among women, those with parents residing within 20 minutes of travel are least likely to be stressed out emotionally and financially, and are less likely to report care-giving as a reason for retirement than those with parents living further away. The likelihood of early retirement among women seems to increase substantially with an increase in their travel-time to elderly care recipients and is negatively related to income levels, possibly due to improved access to transport and paid-care services.

INTERGENERATIONAL FORUM TO ENHANCE STUDENTS' ENGAGEMENT AND ELDERS' LEARNING OUTCOMES

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The Intergenerational Forum (IF) was an innovative intervention that engages college students in conducting community-based participatory research (CBPR). This set of guided learning opportunities was designed to improve college students' understanding of aging and health issues in their communities. In this study, a total of 252 mentoring hours were provided in kind by 78 students. The majority of these youth volunteers were aspiring health professionals who had received intensive academic and field training to strengthen their interpersonal skills and ability to build meaningful one-on-one relationships. Fifty five low-income older adults (with mean age of 73) participated in the six-session IF tutorials.

Findings revealed that as a result of IF, students were able to improve their knowledge and attitudes toward working with older people measured by Facts on Aging Quiz. ($t=8.28$, $p<.001$). Students were able to combined ideas from courses when completing this IF assignment. Particularly, levels of active and collaborative learning were enriched by engagement with people representing different economic backgrounds ($t=4.46$, $p<.001$ and religious beliefs ($t=3.91$, $p<.001$). Major themes emerged in students' narrative data revealed their learning outcomes in the areas of self-awareness, empathy, empowerment, and new perspectives about ageism.

Older adults presented significant improvement between pretest and posttest in various outcomes such as ehealth literacy ($t=-4.61$, $p<.001$), anxiety about technology ($t=2.37$, $p<.01$), self-efficacy ($t=-7.52$, $p<.001$), self-confidence ($t=-3.11$, $p<.001$), and social connections ($t=7.53$, $p<.01$). Hence, the IF produced synergistic effect by improving older adults' utilization of health information and strengthening cultural competency among youths.

AGING IN THE ERA OF AIR TRAVEL: IMPROVING THE ACCESSIBILITY OF AIRPORTS FOR TRAVELERS WITH DEMENTIA

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Many older people enjoy travelling for leisure, air travel included. To increase the self-determination and independence of people living with dementia we need to reduce the barriers to participation in all areas of life, including leisure. We used an exploratory, mixed method research design to learn about the experiences of people with dementia when they travel. This included online surveys with 82 people (7 people with dementia, 41 travel companions, 21 flight crew and 13 security staff). Ten of the companions who completed the survey volunteered to participate in a qualitative telephone interview. This was followed by an assessment of the physical environment of an airport in a major Australian city using the Dementia Friendly Communities Environmental Assessment Tool (DFC-EAT) (Fleming & Bennett, 2015).

The survey results showed that people with dementia and their travelling companions found navigating airport processes and designs the most challenging part of air travel, in particular security and immigration procedures. Using the DFC-EAT we identified problematic design features such

as poor signage and blurred boundaries between retail and travel spaces that contributed to confusion at the airport.

Efforts have been made to modify built environments to promote accessibility for people with physical disability, yet there has been comparatively little done for those with cognitive impairments. People with dementia need to have access to physical spaces that allow them to participate in a wide range of social activities. Improving the accessibility of transport hubs, such as airports, is an important way to facilitate social inclusion.

WHO AGE-FRIENDLY CITIES AND COMMUNITIES: THE KOREAN EXPERIENCE

J. Woo, M. Choi, *Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea (the Republic of)*

In 2010, the World Health Organization (WHO) created the WHO Global Network of Age-Friendly Cities and Communities, a global network of cities that are committed to using the WHO guidelines to make their community more age-friendly. For the last seven years, the Network has grown to include 380 cities in 37 countries; however, little has been known about how the guidelines have been adopted and implemented in Asian countries given that the majority of cities and communities in the Network are in the Western world. This study aims to explore the social, political, and cultural forces that have led the cities in South Korea, the fastest aging country and also one of few developed countries in Asia, to join the Network. A series of interviews with stakeholders such as the public administrators of the four cities in the Network—Seoul, Jeongeup, Suwon, and Busan—have been conducted and subjected to a content analysis in January/February 2017. The primary findings are threefold: (1) Among the three factors analyzed, political motivation held the greatest sway; (2) the driving force behind the political motivations took several forms, from election year platforms to a new local government department needing to find work projects for itself; (3) Finally, implementation patterns showed great variability between the metropolitan cities and the self-governing cities. This study contributes to closing the knowledge gap in age-friendly initiatives in Asia, and future research needs to compare factors affecting the participation in the Network between countries within and across continents.

AGING IN CUBA AND PUBLIC POLICY RESPONSES: ANALYZING NEWLY RELEASED SURVEY MATERIALS

B. Destremau, *CNRS/ Iris / EHESS, Paris, France*

Quantitative data recently released on various facets of Cuba's aging process allows to draw new analyses on several demographic and socioeconomic dimensions of the phenomenon, as well as policy responses and their effects. This new data will be put in relation with results of sociological / ethnographic qualitative surveys conducted in Cuba (mainly, but not exclusively Habana) since 2009 and until 2016.

With a view on gender gaps, the poster will thus articulate new quantitative and qualitative data concerning:

- The extent and facets of Cuba's aging process, namely life expectancy, fertility, epidemiology/morbidity, demographic growth and population structure.

- The sociodemographic profile of the care issue, especially aging persons' household composition, migration, caregivers'

aging, elders' isolation, public care supply, and the socioeconomic biases of the incipient care market.

-The components of the elderly's socioeconomic condition public problem, contrasting a high level of access to public health and social services and informal community and family support, on the one hand, and a widespread monetary and material destitution, and its public policy responses, on the other.

These innovative results will demonstrate the specificity of the challenges posed to public policies by Cuba's aging process, and assess the responses brought by institutions and social / community organisations. The poster will finally discuss research results in terms of public policy options and models.

SESSION 1075 (SYMPOSIUM)

PREDICTORS OF HEALTH EXPECTANCY ACROSS MULTIPLE COHORTS FROM THE U.S. AND EUROPE

Chair: S. Stenholm, *University of Turku, Turku, Finland*

Discussant: J. Robine, *Inserm*

Health expectancy is a useful summary measure that captures both the "quantity" and "quality" of life. This concept takes into account both morbidity and mortality and is therefore useful in comparing the health of different populations and population sub-groups. The objective of this symposium is to discuss the predictors of health expectancy using data from large cohort studies from Europe and the US. The cohorts included are the English Longitudinal Study of Ageing, Finnish Public Sector Study, French GAZEL cohort, Swedish Longitudinal Occupational Survey of Health and the US Health and Retirement Study. Partial health expectancy from ages 50 to 75 is estimated in each cohort by using multiple repeat measures of self-rated health and chronic diseases. Dr. Head will open the symposium by introducing the methodology used in estimating health expectancy, namely multistate life tables and micro-simulation. She will also present results related to social inequalities in health expectancy across cohorts. Dr. Zaninotto will show associations of health expectancy with lifetime socio-economic status. Dr. Stenholm will present the independent and combined effect of health behaviors on health expectancy. Finally, Dr. Platts will describe differences in health expectancy in relation to physical and psychosocial work exposures. Taken together, this symposium demonstrates the importance of socioeconomic status, health behaviors and work exposures in midlife on health development in advancing age.

SOCIOECONOMIC DIFFERENCES IN HEALTHY LIFE EXPECTANCY: EVIDENCE FROM FOUR PROSPECTIVE COHORT STUDIES

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There are striking socioeconomic differences in life expectancy, but less is known about inequalities in health

expectancies. We estimated differences in healthy life expectancy and chronic disease-free life expectancy using data from four European longitudinal studies for two health indicators: (i) sub-optimal self-rated health and (ii) having a chronic disease. Socioeconomic position was measured by occupational position and grouped into high, medium and low grade occupations. Multistate life table models were used to estimate healthy life expectancy and chronic disease-free life expectancy from ages 50 to 75 by occupational position and sex. In all four cohorts, we found inequalities in healthy life expectancy between ages 50 to 75 according to occupational position such that men and women in the higher occupational positions had higher healthy life expectancy compared to those in low occupational positions. Similarly, there were occupational differences in chronic disease-free life expectancy in all four cohorts.

SOCIOECONOMIC INEQUALITIES IN HEALTHY LIFE EXPECTANCY AT OLDER AGES: COMPARING ENGLAND WITH THE U.S.

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This study uses data from the Health and Retirement Study (HRS) in the US and the English Longitudinal Study of Ageing (ELSA) in England, to describe health life expectancy by lifetime socioeconomic status. Multistate life table models were used to estimate sex-specific health expectancy from ages 50 and over using longitudinal data from 2002 to 2012 and mortality up to early 2013. Three measures of health life expectancy are used: healthy life expectancy defined as excellent, very good and good health; disability-free life expectancy defined using no limitations with activity of daily living and instrumental activity of daily living and chronic disease-free life expectancy. We used father's socioeconomic position in childhood and wealth, income and social class at older age to construct a measure of life-time socio-economic status. We also explore which of the socio-economic measure is more strongly associated with health life expectancy in the UK and US.

SMOKING, PHYSICAL INACTIVITY, AND OBESITY AS PREDICTORS OF HEALTH EXPECTANCY: A MULTICOHORT STUDY

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This study examined the extent to which smoking, physical inactivity and obesity individually and in combination predict health expectancy in four European cohort studies. Data were drawn from repeated waves of the Finnish Public Sector Study, GAZEL (France), Swedish Longitudinal Occupational Survey of Health, and Whitehall II (UK). Multistate life table models were used to estimate sex-specific

healthy life expectancy and chronic disease-free life expectancy from ages 50 to 75 years. Compared to men and women with at least two behavior-related risk factors, those with no behavior-related risk factors could expect to live on average eight years longer in good health and six years longer free of chronic diseases between ages 50 and 75. Having any singly risk factor was also associated with reduction in healthy years. Of the individual behavior-related risk factors, physical inactivity was associated with the greatest reduction in healthy years and obesity with greatest reduction in chronic disease free years.

HEALTH EXPECTANCY BETWEEN AGES 50–75 IN RELATION TO PHYSICAL AND PSYCHOSOCIAL OCCUPATIONAL EXPOSURES

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While poor working conditions increase morbidity, no studies have quantified how much poor psychosocial and physical working conditions reduce health expectancy. We examined this using four cohorts: Finnish Public Sector Study (Finland), GAZEL (France), Swedish Longitudinal Occupational Survey of Health (Sweden), and Whitehall II (UK). Data on job strain (high demands combined with low control) were available for 64,533 individuals across the cohorts. Physical occupational exposure data (ergonomic strain, physical danger, night work, company records of workplace accidents and a job-exposure matrix of chemical exposures) were obtained for 13,393 male GAZEL cohort members. Partial health expectancies (age 50–75) relating to 1) self-rated health and 2) chronic health conditions were estimated using multistate life tables. Job strain was related to shorter healthy life expectancy and less consistently with shorter chronic disease-free life expectancy. Physical occupational exposures apart from night working were associated with shorter healthy and chronic disease-free life expectancy.

SESSION 1080 (SYMPOSIUM)

GERONTOLOGICAL SOCIETY OF AMERICA'S COGNITIVE IMPAIRMENT DETECTION AND EARLIER DIAGNOSIS INITIATIVE

Chair: R.H. Fortinsky, *University of Connecticut, Old Lyme, Connecticut*

Discussant: J. Simmons, *Eli Lilly and Company, Indianapolis, Indiana*

In January, 2015, the Gerontological Society of America (GSA) released a report by an expert Workgroup aimed at increasing detection and diagnosis of cognitive impairment in older adults by primary care practitioners. This report included recommendations in the form of a 4-step process to help improve the detection and diagnosis rate and spur referrals of older adults and their families to dementia-capable

community resources that are widely available but little known to primary care practitioners. The process, known as KAER, includes: Kick-starting brain health conversation, even among asymptomatic older patients; Assessing for cognitive impairment using tools that are brief, validated, no cost, and easily available; Evaluating for dementia diagnosis by referring to clinical specialists or following clinical practice guidelines; and Referring diagnosed patients and families to community resources for further education and support. The report also recommended a national Summit of primary care practitioners and health system representatives to develop action plans for disseminating and implementing the KAER process in primary care practices. This national Summit is scheduled for August, 2016. In the proposed Symposium, Fortinsky will provide greater detail about the GSA report and Summit, Maslow will discuss the KAER toolkit developed for use and dissemination at the Summit, and Kobylarz will present on the usefulness and impact of the Summit and KAER materials on Summit attendees based on surveys they will complete before and after the Summit. Discussant Simmons will place this GSA KAER initiative within the broader context of efforts to improve dementia care for older adults.

OVERVIEW OF THE GSA KAER REPORT, RECOMMENDATIONS, AND NATIONAL SUMMIT

R.H. Fortinsky, *UConn Center on Aging, University of Connecticut, Old Lyme, Connecticut*

This presentation will provide a synopsis of the Gerontological Society of America (GSA) report and recommendations to promote cognitive impairment detection and earlier diagnosis of dementia in the primary care setting in the United States. The health policy context for this report in the form of the Medicare Annual Wellness Visit (AVW) will be explained, along with a summary of the Workgroup's activities to gather evidence about cognitive impairment assessment tools to recommend in the report. The report's recommended 4-step KAER framework will be explained as a guide for primary care practitioners as they navigate the challenging process of discussing and clinically evaluating cognitive health and impairment with older patients and their families. Finally, proceedings from and action plans developed at the national Summit of health care providers and health to help implement the KAER framework will be summarized.

TOOLKIT TO ASSIST PRIMARY CARE PRACTITIONERS WITH THE RECOMMENDED 4-STEP KAER PROCESS

K. Maslow, *Gerontological Society of America, Washington, District of Columbia*

The GSA Workgroup created a compendium of tools and procedures to help PCPs implement the 4 steps in the KAER process: Kick-start the conversation about brain health; Assess for cognitive impairment, Evaluate for dementia, and Refer for community resources. The toolkit includes a selection of tools and procedures so that PCPs in single-person offices, multi-physician practices, and health care systems will be able to choose the tools and procedures that fit best with their existing primary care practices. This presentation will discuss the structure and content of the toolkit,

the topics for which appropriate tools were more and less difficult to find, and responses to the toolkit from PCPs and administrators of health plans and health care systems who participated in the GSA KAER Summit.

RESULTS OF THE KAER SUMMIT SURVEY: CHALLENGES AND SUCCESSES

F. Kobylarz, *Rutgers Robert Wood Johnson Medical School, New Brunswick, New Jersey*

The detection of cognitive impairment is a required element of the Medicare Annual Wellness Visit (AWV). Limited data is available regarding the operationalization of the detection of cognitive impairment in the primary care setting. Nevertheless, efforts to evaluate this have not been described. A pre and post survey of participants attending the KEAR Summit will examine features of the program at baseline and various intervals for one year. This qualitative study will focus on responses to survey questions to ascertain individual practices and understand processes of care for brain health. A particular focus of the survey will be on attitudes towards the KAER process, how pertinent and useful was the materials presented during the program, and challenges and barriers to implementing action plans. The KAER process can facilitate practice change and guide a quality improvement process for the detection of cognitive impairment.

COGNITIVE IMPAIRMENT DETECTION AND EARLIER DEMENTIA DIAGNOSIS: THE KAER PROCESS APPLIED TO PRACTICE

J. Chodosh, *NYU School of Medicine, Langone Medical Center, New York, New York*

Physicians frequently do not recognize cognitive impairment in their older adult patients and do not conduct an evaluation to diagnose dementia. This presentation will provide case examples of older persons with cognitive impairment, emphasizing the unique characteristics and situation of each case and the need for primary care providers to individualize procedures for detection and assessment of cognitive impairment and dementia to match the individual's situation and needs. It will provide information, insights, and tips to achieve earlier detection, improve diagnosis, and build and maintain a strong, trusting relationship between the older person and the primary care provider.

SESSION 1085 (SYMPOSIUM)

CONSENSUS IN MEASURES OF GAIT AND COGNITION: FROM THE CANADIAN CONSORTIUM IN NEURODEGENERATION AND AGING

Chair: M. MonteroOdasso, *University of Western Ontario, London, Ontario, Canada*

Co-Chair: L. Middleton, *University of Waterloo, Waterloo, Ontario, Canada*

Discussant: L. Bherer, *University of Montreal, Montréal, Quebec, Canada*

Extensive epidemiological evidence supports interrelationships between mobility and cognition in aging. However, until recently, clinicians and researchers have evaluated and treated cognitive and mobility dysfunction in older

individuals as separate problems. This approach has led to gaps in our understanding of the cognitive-motor interactions and of the potential underlying mechanisms that can affect pathways to disability in aging. Thinking and moving share behavioral and etiological factors that can drive new insights into prevention and treatment. Mechanistically, brain networks, which control movement, overlap with networks involved in cognitive performance.

Therefore, there is a need of a common framework among clinician and researchers to i) better characterize the relationship between cognitive and motor changes with aging, comorbidities and neurodegeneration, ii) standardize clinical and research methodologies to measures and assess mobility and cognition in older adults iii) agree upon a "core of set" of measures to assess cognitive-mobility interaction.

The Canadian Consortium on Neurodegeneration and Aging is a Pan-Canadian Initiative funded by Canadian Institute of Health and Research (CIHR), which aims to better understand neurodegenerative process in aging. As part of this initiative, the "Gait and Cognition team" has established by consensus a set of common measurements to assess motor-cognitive interactions. Results of the Delphi process carried on in during 2015 and the consensus meeting which involved 15 researchers from eight lead centers in Canada will be presented with the "core-set" and "minimum set" of measures selected. Having common and standardized measures will positively contribute to the prevention, management, and rehabilitation of the cognitive and mobility disability in older adults.

EPIDEMIOLOGICAL EVIDENCE OF THE BIDIRECTIONAL RELATIONSHIP BETWEEN MOBILITY AND COGNITION

R. Camicioli, *University of Alberta, Edmonton, Alberta, Canada*

An update on the evidence regarding the role of central nervous systems (CNS) in mobility in addition with established multifactorial causes connected to age related changes in the cardiopulmonary, musculoskeletal, and central and peripheral nervous systems will be presented. Research done on patients with neurological diseases consistently demonstrates that the CNS is a key contributor to gait and motor function. Stronger associations have been detected for information processing and executive functions, which are important for rapid and efficient planning of goal-oriented mobility. Emerging evidence shows changes in gait that precede and predict cognitive decline and Alzheimer's disease dementia, and other dementias. Similarly, cognitive changes also adversely affect gait and cognitive deficits paired with slowed gait in those without dementia may represent a distinct clinical syndrome.

TEMPORAL AND SPATIAL MEASURES OF GAIT AND DUAL-TASK GAIT IN AGING AND NEURODEGENERATIVE DISEASES

Q. Almeida, *Wilfrid Laurier University, Waterloo, Ontario, Canada*

This presentation will review the evidence linking spatial and temporal characteristics of gait including gait speed, pace, rhythm and variability, with global cognitive

ability, executive function, verbal fluency and memory in non-demented older adults and in neurodegenerative conditions including Parkinson Disease and dementia syndromes. The influence of neurological medications will also be considered. The value of dual-task gait, a divided attention task that requires individuals to walk (motor component) while simultaneously performing a cognitively demanding task (reciting words, mental calculations, etc.) will be reviewed as a potential brain stress test to unmask latent gait disturbances and for detecting impending functional and cognitive decline. Results from longitudinal studies showing that dual-task gait can help identify older adults at a higher risk of developing cognitive and mobility decline, and, potentially, progression to dementia will also be presented. Finally, the role of the dual-task cost will be evaluated.

COGNITIVE MEASURES SENSITIVE TO MOBILITY DECLINE, GAIT IMPAIRMENTS AND FALLS

K.Z. Li, *Concordia University, Montreal, Quebec, Canada*

This presentation will highlight recent findings on cognitive measures shown to be associated with indices of gait, mobility, and risk of falling in older adults. These associations are based upon the theoretical principle of neural overlap, i.e., the common brain regions or networks that underpin cognitive processes and motor behaviors such as walking and balancing. Evidence will be presented involving standardized neuropsychological measures of executive functioning that are suitable for the assessment of healthy and frail elderly adults. The use of experimental methods such as cognitive-motor dual-task designs will also be presented.

ON-LINE ASSESSMENTS OF MOTOR-COGNITIVE INTERACTIONS, WHAT CAN NEUROIMAGING WITH FNIRS TELL US?

S. Fraser, *University of Ottawa, Ottawa, Ontario, Canada*

FNIRS or functional near infra-red spectroscopy is an emerging neuroimaging technique that can be applied to situations that involve movement (i.e., walking/exercise). Recent technological advances have allowed for the development of portable devices which measure cerebral oxygenation changes of over ground walking in “real-life” ecological conditions. Advantages and disadvantages of this technique are discussed and their sensitivity to detect motor-cognitive interaction will be summarized. In conclusion, future applications of this technique to clinical settings will be presented.

A PROPOSED CORE SET OF MOBILITY AND COGNITIVE MEASURES

M. MonteroOdasso, *University of Western Ontario, London, Ontario, Canada*

A “core-set” of measures based on their clinical utility, feasibility, and evidence for sensitivity to mobility-cognitive interactions will be presented. Advantages and disadvantages of each measure evaluated and their sensitivity to detect motor-cognitive interaction will be summarized. A “minimum set” of measures to be used in large epidemiological or population studies will be also presented including four candidate measures, which can be performed in 15 minutes.

SESSION 1090 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: EVALUATION AND IMPLEMENTATION OF GERIATRIC CO-MANAGEMENT MODELS FOR HOSPITALIZED FRAIL OLDER PATIENTS

Chair: M. Deschodt, *Leuven, Belgium*

Discussant: H. Javedan, *Brigham and Women's Hospital*

Geriatric co-management has been described as “the most far-reaching model of shared care between a general treating physician and a geriatrician since they manage the patient together from admission until discharge and are both responsible for the process and outcome of provided care”. (*Kammerlander, 2010*) A key difference with consultation models is that patient care is co-managed together with an acute medical care discipline instead of solely making non-mandatory recommendations based on a consultation request. (*Deschodt et al. 2015*) This approach is now considered the standard for managing older hip fracture patients, but might also be beneficial in other frail populations. In this symposium we will discuss 1) the development and evaluation of two European geriatric co-management programs, i.e. a program for cardiology patients in Belgium and a program for surgical and internal patients in the Netherlands, and 2) the implementation of two North-American geriatric co-management models, i.e. a ward-based model in Highland Hospital, Rochester NY and a team-based model in Rhode Island hospitals.

GERIATRIC CO-MANAGEMENT FOR CARDIOLOGY PATIENTS IN THE HOSPITAL (G-COACH) IN BELGIUM

B. Van Grootven, *KU Leuven, Leuven, Belgium*

G-COACH aims to develop and evaluate an in-hospital cardio-geriatric co-management model using a mixed-methods multi-phase methodology. First, a systematic review and meta-analysis determined the intervention components and potential value of geriatric co-management on patient and system outcomes. Next, a two-round international Delphi study determined appropriate and feasible structure, process and outcome indicators for the evaluation of geriatric co-management programs. We integrated this data in a first program theory that details how the G-COACH intervention will affect the desired change in outcomes. Focus groups, interviews and participant observations were then used to translate this theoretical framework to a consensus-based stakeholder-developed care model. This model will be implemented on two cardiology units of the University Hospitals Leuven. A before-and-after study (September 2016 – 2017) including patients aged 75 years or older will evaluate the effectiveness, process and participants’ experiences. Data will be used to refine the program theory and scaling-up of co-management programs.

INNOVATIVE TEAM-BASED GERIATRIC CO-MANAGEMENT FOR FRAIL OLDER PATIENTS IN THE NETHERLANDS

H. Habets, *1. Zuyderland Medical Center, Sittard-Geleen, Netherlands, 2. Zuyd University, Faculty of Health, Heerlen, Netherlands*

In Zuyderland Medical Center we conducted a study aiming to prevent complications and functional decline during hospital stay. Main conclusion: comprehensive geriatric assessment at admission and delivery of advices by a geriatric consultation team was not sufficient: the recommended interventions were often not executed. This led to a new model: co-management for frail elderly at risk for functional loss. This model is currently being implemented and evaluated in a surgical, internal medicine and pulmonary ward. Main components of the program are: Comprehensive Geriatric Assessment, systematic medication review, a personalised nutrition and mobility program, specific role of the geriatric resource nurse, a physiotherapist (specialization Geriatrics), daily rounds of the geriatric team and participation in multidisciplinary rounds, the Transitional Care Bridge Program and continuity of care after discharge and follow up at the polyclinic geriatric medicine. In this presentation structure, process and first results of this approach will be presented.

GERIATRIC CO-MANAGEMENT AS A SERVICE LINE: SPREADING CO-MANAGEMENT WITHIN AN INSTITUTION

L. McNicoll, *Alpert Medical School of Brown University, Providence, Rhode Island*

The Alpert Medical School model of co-management focuses on creating co-management service line working with multiple groups within an organization which include fracture, elective joint replacement, trauma, colorectal, and urology. Geriatricians are aligned with one surgical specialty for 50–85% of their time assisting with high risk patients within that group. In addition to providing patient care aligned with co-management principles, co-managers also lead teams within the groups to discuss and agree upon protocols of care for geriatric patients, such as delirium assessment and management, pain protocols, bowel regimen protocols, and ERAS (Early Recovery After Surgery) protocols. Education is also a major part of each program as well as data collection in order to document improvement in outcomes for patients with the addition of the co-management program. At the symposium, we will be able to share our process as well as outcomes for this model of co-management.

GERIATRICS ORTHOPAEDICS CO-MANAGEMENT OF FRAGILITY FRACTURES IN ROCHESTER, NEW YORK, AND THE USA

D. Mendelson, 1. *University of Rochester School of Medicine & Dentistry, Rochester, New York*, 2. *Highland Hospital, Rochester, New York*

The Geriatrics Fracture Center (GFC) at Highland Hospital developed an innovative co-management model for fragility fracture care in 2004. Each patient is assigned both an orthopaedics surgeon and a geriatrician who share responsibility for insuring high quality care throughout the patient's entire hospitalization. Standardized protocols and consult notes are used to decrease unwarranted variability. Lean process and continuous quality and performance improvement techniques are used to maintain or improve person-centered and system-based outcomes. The center is a model for value-added geriatrics. The GFC has sustained improvements in mortality, complications, length of stay, readmission rates,

and cost. The GFC, in collaboration with Brown University and the American Geriatrics Society, is working on a dissemination program to spread the model with generous funding from the John A. Hartford Foundation. In this presentation, the structure of the GFC and outcomes will be discussed as well as the potential to replicate the program.

SESSION 1095 (PAPER)

GERONTOLOGY AND GERIATRICS EDUCATION TO IMPROVE OUTCOMES

HEALTH PROMOTION OF UNDERSERVED OLDER ADULTS USING AN ACADEMIC-COMMUNITY PARTNERSHIP MODEL

L. White, J. Styron, C. Gubler, *University of South Alabama, Mobile, Alabama*

Interprofessional collaborative practice has been shown to improve healthcare and reduce care-related costs in older adult populations. While many health profession programs have adopted formalized interprofessional education (IPE) curriculum delivered in a didactic setting, models of IPE in which students engage in interprofessional collaborative practice are needed to ensure health professions' graduates are prepared to deliver team-based care when entering the geriatric healthcare workforce. Community-based models of interprofessional collaborative practice may be particularly advantageous because faculty and students can address the vast need for health and wellness services in underserved older adult populations. This presentation will provide a framework for designing interprofessional collaborative practice experiences using an academic-community partnership model. The University of South Alabama Colleges of Nursing, Allied Health, and Medicine developed a three-year initiative in which health and wellness services were delivered by faculty-supervised health profession students to older adults living in an urban low-income senior residential community in Mobile, Alabama. First- and second-year students in medicine, nursing, physician assistant studies, and physical therapy participated in the project. The authors will explain how the interprofessional initiative was developed, including goals of the team, strengths, and limitations of the project. Academic outcomes assessed included interprofessional core competency attainment, readiness for interprofessional learning, and student perceptions of interprofessional clinical education. Community-based outcomes included the number and type of health and wellness activities designed to engage, educate, and evaluate participants and improve health conditions of individuals. Processes for establishing, maintaining, and evaluating academic-community partnerships will also be discussed.

URINARY INCONTINENCE AMONG OLDER INDIANS: ASSESSMENT AND IMPACT ON QUALITY OF LIFE

N.N. Prem, P. Chatterjee, A. Chakrawarty, A.B. Dey, *Geriatric Medicine, All India Institute of Medical Sciences, New Delhi, Delhi, India*

Urinary incontinence is a common problem in old age. Little research has been carried on this genito-urinary health issue in India as the symptom goes often under-reported. Urinary incontinence is associated with significant impact on the individual, their carers and the wider healthcare system. Management of urinary incontinence is often difficult.

In this cross sectional observational study, 608 patients were recruited from Geriatric Medicine OPD and Ward. They were subjected to a predesigned semi quantitative questionnaire to determine the frequency of urinary incontinence in older people and its impact on various aspects of their life.

Stress incontinence was most common in females and urge incontinence was common in males. Certain patients also had mixed incontinence. There was significant impact on quality of life due to incontinence and this was measured with the help of the Incontinence quality of life. Majority had Indian type of toilets. Stress type had maximum patients with severe IQOL and urge type had maximum with mild IQOL. ($p < 0.0001$). Incontinence had a significant correlation with age type, sex, social status, depression and number of drugs. Diaper use was acceptable for (>90%) of the elderly.

Urinary incontinence detection is essential, as it can lead to increased dependence. It can be treated with appropriate interventions varying from exercises, modifying medications, altering fluid intake and interdepartmental interventions. The interventions vary according to the type. Urinary incontinence is an important geriatric syndrome. Early detection and intervention can help in improving quality of life of the elderly

PERIOPERATIVE CARE OF THE ELDERLY: A EUROPEAN ANSWER TO EDUCATIONAL NEEDS IN THE FIELD

G. Bettelli, D. Cucinotta, G. Ghironzi, C. Renzini,
G. Zuliani, *2nd Level Master in Geriatric Medicine,
University of San Marino and Ferrara, San Marino, Italy*

Appropriate care in geriatric surgery requires multidisciplinary approach combining geriatric, surgical, anesthesiological and nursing knowledge, resulting in ability of the team to manage complex situations in coordinated ways.

To provide knowledge, skills, values and attitudes in the professional spheres of the surgical care of older patients, a multidisciplinary University Master on "Perioperative Care of the Elderly" is implemented at the San Marino and Ferrara University (Italy). Its aim is creating an inter-professional culture.

To reach this goal, the following Entrustable Professional Activities (EPAs) of geriatric medicine become common assets for the whole team:

- provide patient-centered care by optimizing function and well-being, in accordance with patient's functional status and needs, as evaluated by CGA

- manage the surgical care by integrating the patient's goals and values with comorbidities and reasonably expectable prognosis

- assist patients and families in decision-making

- provide thoughtful medication reconciliation

- prevent and manage postoperative delirium and other geriatric syndromes

- coordinate post-discharge care transition.

All the same, geriatricians will be educated in perioperative medicine and made familiar with some surgical and anesthesiological issues such as:

- pre-habilitation as a strategy to increase functional reserves preoperatively

- the endocrine-metabolic reaction to surgical aggression, its consequences on the surgical course, and ways to minimize it

- context-sensitive and multimodal postoperative pain management

- techniques of Enhanced Recovery After Surgery (ERAS).

Both acquisition of competencies and capacity to perform the tasks involved in the daily work are implemented in the educational plan.

DO PHOTOGRAPHS AND OLDER ADULTS' NARRATIVES FOSTER ANTICIPATORY REFLECTION IN MEDICAL STUDENTS?

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In changing higher education environments, medical educators are increasingly challenged to prepare health workers to care for ageing populations. We have developed the "Depth of Field: Exploring Ageing" reflective learning resource that uses photographs, reflective questioning prompts, older adults' narratives and collaborative dialogue to foster anticipatory reflection or 'preflection' among diverse learners. Using mixed method evaluations, we now have data from Australian medical students comprising attitudes (pre and post responses) and qualitative analysis of individual written reflections of 128 second year medical students, exploring their perceptions toward older adults. Quantitative data reveal students self-report positive perceptions towards older adults, and the intervention is associated with positive shifts in attitudes. However the written reflections expose some negative attitudes and unexplored assumptions. The qualitative reflections were captured in four main themes: Preflecting on older adults; Creating Tension; Deconstructing Assumptions, and Seeing the Person. These findings support the use of visual and narrative methodologies to foster 'preflection' that surfaces and challenges medical students' perceptions and assumptions around ageing and how these may influence their care of older adults.

DEMENTIA WORKFORCE EDUCATION: DOES IT CHANGE PRACTICE?

S. Hirst¹, S. Gordon², *1. University of Calgary, Calgary,
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Canada*

Health-care professionals are well positioned to recognize dementia in older adults. However, barriers to implementing quality care include their limited knowledge. Consequently educational programs have been designed to promote the knowledge and skills of the dementia workforce. The question that emerged is *whether or not education changes health care practice?* A systematic review of the literature was conducted to identify approaches to providing dementia workforce education. The review was conducted using databases searched from 2000 to 2015. Two researchers screened each title and abstract for inclusion. Discrepancies between them

were resolved by a third team member. A matrix was used for analysis including: type of research, participants, study design, type of education activity, outcome measures, and perceived effectiveness.

The review included 144 studies, from an initial list of 3432, which met the inclusion criteria. Descriptive data was obtained from the matrix. In addition, thematic analysis was conducted to answer the original research question. Results identify that educational activities are primarily face to face, evaluated by participants' satisfaction with the activity or changes in their knowledge levels, and usually conducted with facility staff. The exception to facility staff is physician education. Limited examination of the effect of the activity on practice have been conducted. In addition, there is no long term evaluation (> than 1 year) of the outcomes of the educational activity.

There is limited evaluation of the effectiveness of educational activities on the quality of care provided to older adults living with dementia.

SESSION 2000 (PAPER)

PALLIATIVE CARE FOR OLDER ADULTS

WISHFUL THINKING: AN EXAMINATION OF PALLIATIVE HOME CARE CLIENTS WHO EXPRESSED A WISH TO DIE NOW

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PURPOSE: To provide the highest quality of person centered palliative care clinicians should prioritize understanding of client needs and preferences at end of life to inform tailored care planning. During clinical assessments, clients may voluntarily express a 'wish to die' either directly to the clinician or it may be indirectly reported second-hand to the clinician through an informal caregiver or family member.

METHODS: This study examined 4,840 interRAI Palliative Care assessments from community dwelling palliative home care clients in Ontario, Canada (2006–2011). The interRAI PC gathers a wide range of information on physical, cognitive, and social domains, as well as demographic, health service utilization, and care preferences which is then used by the clinician to inform the care planning process

RESULTS: 308 palliative home care clients (6.7 %) voluntarily expressed a 'wish to die now'. In multivariate analyses predicting expression of a 'wish to die' strong independent variables included not being married/widowed, a shorter estimated prognosis, depressive symptoms, functional impairment, excessive amount of sleep, feeling completion regarding financial/legal matters, and struggling with the meaning of life. Of clients who expressed a 'wish to die now', clients who exhibited depressive symptoms (23.8 %)

were also more likely to exhibit cognitive impairment and recent cognitive decline, weight loss, psychological distress.

DISCUSSION: Not all clients who expressed a 'wish to die' exhibited depression, pain and psychological distress. Findings promote the need for an individualized approach to care management. Clinicians should strive to embrace not fear discussing with the client their preferences for death.

INTERPROFESSIONAL PALLIATIVE CARE WORKFORCE: A SURVEY OF TOMORROW'S HEALTHCARE TEAMS

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Recent assessments of the current palliative care workforce recommend increased training and exposure for all health care providers to manage symptoms and improve quality of life during serious illness. To assess the future workforce in palliative care, a multi-institution team conducted an online survey of students pursuing professional degrees in medicine, nursing, occupational therapy, pharmacy, physical therapy, physician assistant, and public health.

Preliminary results from 360 advanced professional students at five institutions describe the healthcare workforce currently in training. Approximately 80% of students reported personal or professional experience with people who are seriously ill and 68% reported some educational experience with death and dying. More than 90% of students reported that people in their profession can play an important role in patients' end-of-life care; 25% of students reported a desire to provide patient care for end-of-life issues and 41% were neutral. Medicine and physician assistant students reported stronger recognition of their profession's importance in end-of-life care and stronger interest in working in end-of-life care compared to other professions. Across professions, students with professional and/or personal experience reported stronger interest in providing palliative care.

These results are useful to inform professional curricula and public health planning. As need grows, it is important to expose students to palliative and end-of-life care through interprofessional experiential learning. These experiences can influence future leaders in medicine and public health to emphasize prevention and palliation of suffering, especially among older adults with serious life-limiting illness.

EFFECT OF A PERSON-CENTERED INTERVENTION ON PATIENT EXPERIENCE WITH CARE IN SERIOUS CHRONIC ILLNESS

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Patients with serious chronic illness face multiple challenges in managing conditions to reduce ongoing risk, while increasingly moving toward issues and decisions surrounding end of life. Meanwhile, broad overmedicalization leaves patients at risk for overly invasive treatment and self-management routines and a depersonalized experience of care. However, most studies of patient experience and tools designed to measure it are not well suited to addressing

patients with serious illness in late life. This study evaluates a new patient-centered approach to care for patients with serious chronic illness. LifeCourse is focused on understanding the whole person and ongoing, cross-setting assistance by layperson care guides, supported by a clinical team. We test whether participation in LifeCourse improves patient experience compared to usual care (n=110 intervention and 93 comparison patients). The outcome variable is 6-month change the LifeCourse experience tool, a multi-item self-report experience tool designed specifically to emphasize key domains of the intervention, including listening, access and time, trust, frustration, and patient goals. In multivariate analyses, LifeCourse had a significant positive effect on change in patient experience versus usual care. Domain-specific analyses indicated that the primary driver of this effect was time/access for patients. Overall, our findings show that LifeCourse has a positive impact on QOL when compared to usual care patients. These trends indicate that whole-person, supportive care approaches like LifeCourse may offer modest benefits in improving experience with care as patients require more services for chronic illness in later life.

CHRONIC AND INCURABLE DISEASE IN ETHIOPIA: AN ASSESSMENT OF OUTPATIENT PALLIATIVE CARE NEEDS

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Palliative care reduces physical suffering and the emotional, spiritual and psychosocial distress of life-threatening illness. It can be offered at any time, including concurrently with life-prolonging therapies. Palliative care is a human right, yet there are significant disparities in its provision: of the 40 million people globally in need of palliative care, just 14% receive it, largely in high-income countries. There is a particular paucity of data on palliative care needs in the African context.

We recruited 98 adults (mean age: 43.7±14 yrs, 64% female) at three outpatient clinics (Oncology, HIV, Non-Communicable Disease) and hospice patient homes in Ethiopia. Four internationally validated survey tools assessed physical symptoms, psychosocial distress and disability. In-depth interviews gauged poverty level, costs of care, and end-of-life preferences. Qualitative data was analyzed by thematic content, quantitative data by standard descriptive and frequency analyses.

In Oncology, 95.5% of the population endorsed moderate-to-severe pain and 100% were unaware of their terminal diagnoses. Across sites, there was an inverse relationship between pain and peace, while anxiety and depression mirrored pain. Widespread, enormous costs for medical care and transportation were reported. To cope, livestock, homes, and gold were sold, and children pulled from school. Oncology withstanding, the majority of subjects wished to die at home.

Oncology patients cited pain control as the top reason they preferred to die in hospital.

These results reveal extensive unmet palliative care needs. In addition to untreated pain, costs of illness are the major contributor to psychosocial distress in this Ethiopian population.

SESSION 2005 (SYMPOSIUM)

A FINANCIALLY SUSTAINABLE APPROACH TO OPTIMAL OUTCOMES IN A COMPREHENSIVE GERIATRIC SPECIALTY CLINIC

Chair: P.S. Reed, *University of Nevada, Reno, Reno, Nevada*

Twenty years ago, Zeiss and Steffen (1996) described “interdisciplinary healthcare teams” as the “basic unit of geriatric care.” Despite long-standing recognition that the complexity of elder needs extends far beyond basic medical requirements and warrants the involvement of multiple perspectives, many barriers persist to successful integration of care and services. In November 2015, the Sanford Center for Aging at the University of Nevada Reno launched a comprehensive, community-based, interdisciplinary geriatric specialty clinic to serve elders across Northern Nevada. This launch followed an 18-month needs assessment, planning and development process to identify the most appropriate clinical model for filling the geriatric service gaps of the region. This collaborative planning process, including representatives from more than 15 disciplines within the University Health Sciences Division and community members, determined a need for integrated assessment, planning and care coordination services, including the following: 1) comprehensive geriatric assessment; 2) psychosocial assessment; 3) medication therapy management; 4) advance care planning; and 5) chronic care management. Further, these clinic-based services are being extended via telemedicine to support primary care providers and their patients in rural communities. This symposium, intended for geriatric clinical providers of any discipline, will highlight each dimension of the new integrated clinical approach, detail the financial structure for this viable model, and report on the patient status and follow-up data. The various talks will walk audience members through the development and delivery of this new approach, as well as use financial and quality metrics to demonstrate the clinic's viability and impact.

COLLABORATIVE PLANNING TO FACILITATE INTERDISCIPLINARY GERIATRIC CLINICAL APPROACHES

P.S. Reed, Z. Gibb, S. Phillips, K.R. Macmillan, *University of Nevada, Reno, Reno, Nevada*

This presentation will provide an overview of the collaborative planning process used to engage multiple health disciplines and community members in developing and launching a new community-based comprehensive geriatric specialty clinic. It will outline results of the key elements of the process, such as the national environmental scan of clinical geriatric models, the regional needs assessments, the collaborative committee structure and disciplinary engagement

strategies. It will conclude with an overview of the final clinic model that was implemented.

LEADING A COMPREHENSIVE GERIATRIC ASSESSMENT IN AN INTERDISCIPLINARY TEAM-BASED CLINICAL MODEL

S. Phillips, K.R. Macmillan, Z. Gibb, P.S. Reed, *University of Nevada, Reno, Reno, Nevada*

This presentation will describe the details of the comprehensive geriatric assessment being conducted by the geriatrician on the clinic's inter-disciplinary team. It will highlight the key dimensions of the assessment, with particular focus on how these elements can be successfully integrated into a collaborative care plan along with the results of the assessments being conducted by providers in other disciplines. It will also highlight innovative uses of the clinic's EMR system to maximize care planning and reimbursement.

COMPREHENSIVE PSYCHOSOCIAL ASSESSMENT TO IDENTIFY CLIENT SOCIAL NEEDS AND AVAILABLE RESOURCES

K.R. Macmillan, Z. Gibb, S. Phillips, P.S. Reed, *University of Nevada, Reno, Reno, Nevada*

This presentation will describe the key elements of the comprehensive geriatric psychosocial assessment and life-story review being offered in the clinic. By conducting this in-depth assessment, the inter-disciplinary team is able to identify potential social risk factors that may compromise the clients' abilities to effectively manage chronic conditions and receive needed care in the most efficient / cost-effective manner. This presentation will further describe the importance of the social work perspective as a key element of the clinic's inter-disciplinary approach.

CLIENT OVERVIEW: BASELINE STATUS AND 1-YEAR OUTCOMES OF COMPREHENSIVE GERIATRIC SPECIALTY CARE

Z. Gibb, S. Phillips, K.R. Macmillan, P.S. Reed, *University of Nevada, Reno, Reno, Nevada*

This presentation will report on the data collected from clinic's patients, documenting their baseline status in terms of: quality of life, well-being, physical status, emotional status, ADLs, chronic conditions and more. Further, it will provide one-year follow up on these metrics to determine the extent to which the clinic is achieving its desired clinical outcomes, such as reducing re-hospitalization and delaying long-term care placement. Finally, in addition to reporting key quality metrics, this presentation will conclude with a review of financial metrics and clinic viability, demonstrating that it is possible to navigate the current reimbursement system to successfully offer truly comprehensive services.

SESSION 2010 (SYMPOSIUM)

FACTORS AFFECTING HIP FRACTURE RECOVERY: FRAILITY, PHYSICAL FUNCTION, COGNITION, NUTRITION AND SEX

Co-Chair: J.S. Magaziner, *University of Maryland Baltimore*
Discussant: M. Crotty, *Flinders University, Adelaide, South Australia, Australia*

Hip fractures are a common public health problem among older adults. People who experience a hip fracture are often frail with physical and/or cognitive impairment and may have compromised nutritional status. Further, most research on hip fracture recovery has focused on females. With growing numbers of hip fractures among males, it is important to determine whether the two sexes differ with respect to recovery in multiple domains. This symposium brings together international researchers from the Fragility Fracture Global Network's Special Interest Group of Research on Recovery after Hip Fracture. The goal of this Special Interest Group is to promote international discussion and collaboration to expedite research focused on improving outcomes after hip fracture.

In this symposium, presenters will provide an overview of the state of the evidence on the impact of frailty, physical, cognitive and nutritional impairment on recovery after hip fracture. Recent findings from the United Kingdom on the impact of physical impairment on recovery after hip fracture will be presented. Current assessment and management approaches and how they can be incorporated into patient care will also be discussed. In addition, emerging evidence from the United States will discuss the differences in recovery and the trajectory of recovery experienced by men and women after hip fracture. Finally, presenters will discuss identified knowledge gaps and suggest future directions for research, including multi-modal approaches and international collaborations.

DOES KNOWING ABOUT FRAILITY MAKE A DIFFERENCE IN THE CARE OF HIP FRACTURE PATIENTS?

I. Cameron, *University of Sydney, Sydney, New South Wales, Australia*

People with hip fracture are frequently frail and frailty status appears to influence outcome after hip fracture. Whether frailty is an independent predictive factor for adverse outcome is currently unclear. Many evidence based clinical practice guidelines are appropriately applied to frail people with hip fracture. In particular, those related to mobility training and optimal nutrition have relevance for the hip fracture patient population. The principles of geriatric evaluation and management should also be applied to patients after hip fracture. Currently, sarcopaenia (rather than frailty) has been a treatment target for nutritional and pharmacological trials in hip fracture patients. Detecting and treating frailty in hip fracture patients may improve recovery after hip fracture, although this is not currently confirmed based on intervention studies.

PHYSICAL IMPAIRMENTS AFTER HIP FRACTURE

S. Lamb, *University of Oxford, Oxford, United Kingdom*

Modern surgical management of hip fractures leads, in most instances, to successful restoration of skeletal integrity of the femur and the possibility for resumption of weight bearing and early locomotion. However, studies of other organs involved in locomotion reveal substantial impairments that may not recover completely, or take much longer to recover and impact many essential facets of locomotion, including ability and speed of walking, chair standing, and stair climbing. This presentation will use data collected

between 1 and 3 months after hip fracture surgery, including muscle force generating characteristics of injured and uninjured limbs, postural sway, functional balance capabilities, and pain to characterise recovery of locomotion and the pathway between organ impairments, functional limitation, and disability in older people with hip fracture. The presentation will highlight potential avenues for new effective adjuncts to hip fracture management and consider both research and practice implications.

COGNITIVE IMPAIRMENT AFTER HIP FRACTURE

S. Kurrle, *University of Sydney, Sydney, New South Wales, Australia*

The presence of cognitive impairment (i.e. delirium and/or dementia) in hip fracture patients is very common. This presentation will discuss the evidence for how delirium can be prevented and/or managed for these patients in the acute hospital setting. Management of delirium post operatively through the use of non-pharmacological methods such as special delirium units, proper attention to hydration, management of medical comorbidities, and early mobilisation, has been shown to be effective in reducing length of delirium and improving recovery. We will also discuss how the presence of dementia in an older person recovering from hip fracture can make rehabilitation more difficult and in some cases may lead to exclusion from rehabilitation. We will discuss the evidence that these patients can benefit from rehabilitation that takes a simple, functional exercise based approach and will present examples of how these approaches can be delivered.

NUTRITIONAL IMPAIRMENT AFTER HIP FRACTURE

E.F. Binder, *Washington University in St. Louis, St Louis, Missouri*

Hip fracture patients are often undernourished at the time of the fracture event as measured by serum albumin levels and/or standardized dietary assessments. Reduced food intake, particularly during the acute recovery period, further contributes to poor recovery after hip fracture. This presentation will discuss the evidence related to the importance of nutritional status on recovery and the effectiveness of nutritional supplementation after hip fracture to improve patient outcomes. The limitations of research to date in this area will be presented and discussed. Finally, potential strategies to mitigate the risk of malnutrition after hip fracture will be presented in the context of multimodal interventions that include nutritional supplementation.

SEX DIFFERENCES IN RECOVERY TRAJECTORIES AMONG HIP FRACTURE PATIENTS

D. Abraham, D.L. Orwig, M. Hochberg, J.S. Magaziner, *University of Maryland, Baltimore, Maryland*

With hip fractures increasing among men, determining whether recovery differs between sexes is important. Recovery and outcome trajectories in function (physical, cognitive, affective), disability, body composition, and strength were assessed at baseline, 2, 6 and 12 months post hip fracture in 168 men and 171 women. Men had more comorbidities, were more likely to live with spouses and to die during follow-up than women. Changes in outcomes were significantly different between men and women for gait speed,

depressive symptoms, and lower extremity physical activities of daily living. Men and women both improved to six months but only men continued to improve out to 12 months. There were absolute sex differences for most body composition measures and strength. Baseline sex differences, selective survival among males, or the influence of depressive symptoms on rehabilitation may explain differential recovery. Further studies are needed to determine the underlying reasons for sex-differences in recovery.

SESSION 2015 (PAPER)

DETECTING AND MEASURING FRAILTY I

FRAILTY AND USE OF HEALTH SERVICES IN INJURED SENIORS: A POPULATION-BASED STUDY

M. Sirois^{1,2}, V. Fillion^{1,3}, S. Jean³, 1. *Centre d'Excellence sur le Vieillessement de Québec, Québec, Québec, Canada*, 2. *Université Laval, Québec, Québec, Canada*, 3. *Institut National de Santé Publique, Québec, Québec, Canada*

Currently, most information on frailty in seniors comes from cohort or trials studies. Methodologies to identify frail seniors within secondary care data, both at patient and population level, are current surveillance priorities. **Objectives:** to measure frailty using health administrative databases and examine the association between frailty and medical services use among non-institutionalized seniors with a minor fracture. **Methods:** Population-based cohort built from the Quebec Integrated Chronic Disease Surveillance System, including seniors ≥ 65 years, non-institutionalized in the pre-fracture year. Frailty was measured using the *ERA index*. Multivariate Poisson analysis were used to examine the association between frailty level and use of emergency department (ED) and general practitioner (GP) services 1 year post-fracture, adjusting for confounders. **Results:** The cohort included 179,734 individuals (mean age 76.3 years, 74 % women). There were 13 % and 4.7%, frail and non-frail seniors, respectively. Our Poisson regression analyses show that, in the post-fracture year, ED and GP visits were significantly higher in frail VS non-frail seniors: adjusted relative risk (RR)= 2.95; 95% CI: 2.83–3.08 for ED visits and RR=1.24; 95% CI: 1.21–1.28 for GP visits. **Conclusion:** This study suggests that it is possible to characterize seniors' frailty at a population level using health administrative databases. Furthermore, this study shows that non-institutionalized frail seniors require more health services after an incident minor fracture. Screening for frailty in seniors should be part of clinical management in order to identify those at high risk of needing more health services.

COMPARING SUBJECTS EWGSOP SARCOPENIC STATUS AND THEIR CLINICAL FRAILTY SCALE LEVEL

A. Juby, C. Davis, S. Minimaana, *University of Alberta, Edmonton, Alberta, Canada*

The European Working Group of Sarcopenia in Older People (EWGSOP) classifies normal, presarcopenia, sarcopenia, and severe sarcopenia depending on lean muscle mass, grip strength and gait speed. The Clinical Frailty Scale (CFS)

has 9 classifications. Prevalence of sarcopenia and frailty increase with age. Are they two sides of the same coin?

Seniors participating in an exercise study were evaluated for sarcopenic status. Blinded to this information, they were evaluated using the CFS and classified accordingly.

Data was obtained from 39 participants (6 men), average age 75.7 years (67–90). Average MMSE 29.1 (22–30), MoCA 26.4 (18–30). 11 were normal, 11 were obese, the remainder various stages of sarcopenia. 24 were CFS 3 or higher. Poor correlation was found between EWGSOP sarcopenic status and CFS ($R=0.43$), lean muscle mass (appendicular lean mass/height²) and CFS ($R=0.21$ in women), EWGSOP grip strength cut-offs and CFS ($R=0.46$). However, good correlation was found between CFS and 6m absolute walk time ($R=0.82$) and gait speed ($R=-0.61$). This study is limited by fewer individuals in the sarcopenic or frail spectrum.

This study suggests there is poor correlation between sarcopenic status (as defined by EWGSOP criteria), absolute muscle mass or grip strength and CFS. However, there was good correlation with gait time and speed, suggesting that functional measures of muscle are more important than absolute muscle mass in the development of frailty. Sarcopenia, as defined by EWGSOP does not equate to frailty as defined by CFS. The use of standardized definitions has important implications for research into potential therapeutic interventions.

FRAILTY INDEX BASED ON CLINICAL LABORATORY MEASURES (FI-LAB) ASSOCIATES WITH TELOMERE LENGTH

E. Dent¹, E.O. Hoogendijk², M. Moldovan³, 1. *Centre for Research in Geriatric Medicine, The University of Queensland, Woolloongabba, Queensland, Australia*, 2. *Department of Epidemiology and Biostatistics, VU University Medical Center, EMGO+ Institute for Health and Care Research, Amsterdam, Netherlands*, 3. *University of South Australia, Adelaide, South Australia, Australia*

With ageing, there is a reduction in genomic telomere length (TL), and accordingly, TL is used as a biomarker for biological age. This study determined whether a recently developed Frailty Index based on clinical laboratory measures (FI-LAB) was related to TL. The NHANES 1999–2002 dataset was used for all analyses. A standard 23-variable FI-LAB was constructed using systolic and diastolic blood pressures, and routinely collected biomarkers indicating renal function, complete blood cell count, electrolytes, as well as thyroid and liver function. For comparison purposes, a standard 10-variable Allostatic Load score was developed, and included: markers of organ dysfunction (creatinine), inflammatory markers (albumin, CRP), metabolic markers (Body Mass Index (BMI) and glycated haemoglobin), cardiovascular markers (systolic and diastolic blood pressures, total cholesterol, triglycerides and homocysteine). A standard Frailty Index based on clinically observable cumulative health deficits (FI-CD) was also derived. Multiple regression analyses, controlling for sex and education-level were performed. 1725 adults aged ≥ 50 years were included. Results showed that higher frailty level classified by the FI-LAB independently associated with shorter TL [β (95% CI) = -0.18 , -0.030 to -0.07 , $P = 0.002$], as did higher Allostatic Load [β (95% CI) = -0.07 , -0.14 to -0.01 , $P = 0.003$]. The FI-CD did not associate with TL. Findings from this study suggest that

whilst FI-LAB and Allostatic Load are indicators of biological age, the FI-CD was not. Thus the FI-CD may be more of a measure of frailty than of biological age per se.

OPTIMIZED UPPER EXTREMITY FRAILTY PARAMETERS FOR ASSESSING FRAILTY IN TRAUMA PATIENTS

H. Lee¹, B. Joseph², B. Najafi¹, 1. *Interdisciplinary Consortium on Advanced Motion Performance (iCAMP), Department of Surgery, Baylor College of Medicine, Houston, Texas*, 2. *Department of Surgery, The University of Arizona, Tucson, Arizona*

Recently, an innovative upper extremity frailty (UEF) meter was developed and validated based on two inertial wearable sensors and combination of sensor-derived kinematics/kinetics and patient's demographics including age, height and body mass. This study presents an optimized model to predict frailty status based on a single wearable sensor and without demographic/anthropometrics information. A dataset of 100 trauma patients (49 frail and 51 nonfrail) were retrospectively analyzed in which two inertial sensors were attached to elbow and forearm to quantify motor performance during a 20-second repetitive elbow flexion-extension task. The test protocol included performing elbow flexion/extension as fast as possible in supine position for 20-second. The classification accuracy of new algorithm was compared with previous method as well as Trauma-Specific Frailty Index as gold standard. We extracted totally 34 UEF sensor-derived parameters indicators of slowness, exhaustion, flexibility, and weakness. A multivariate linear regression model was used to identify independent predictors. Bootstrap technique was employed for generating training and validation dataset randomly with 1000 iterations. ANOVA statistic and recursive feature elimination technique were used for reducing and optimizing the UEF parameters. After training the model, 5 independent parameters were selected. Using the model, sensitivity of 85.3%, specificity of 78.5% and accuracy of 81.6% were achieved in the validation dataset. While new results were comparable with previous method, it allows identifying frailty using a single sensor and independent of subject's demographic/anthropometrics information and thus making it a more practical tool for busy clinics without the need of specific training or additional measurements.

SESSION 2020 (SYMPOSIUM)

SLEEP PROBLEMS AND DIVERSE STRESSORS IN THE SECOND HALF OF LIFE

Chair: O.M. Buxton

Co-Chair: S. Lee, *Penn State University, University Park, Pennsylvania*

Age and age-related processes degrade sleep. As chronic insufficient sleep (e.g., <7 hours/night) increases in the adult population, additional age-related deterioration of sleep raises concerns about adequate sleep recovery in the second half of life. This symposium showcases contemporary endeavors towards better understanding sleep problems associated with diverse stressors in mid-life and late-life. In **Paper 1**, analyses of a longitudinal data of community-dwelling older adults (Age=65yrs+; Health and Retirement Study,

HRS) test the casual link between insomnia symptoms and falls. In **Paper 2**, analyses of a longitudinal sample of workers from the Midlife in the United States (MIDUS) study examine changes in perceived work inequality predicting changes in insomnia symptoms through changes in negative work-to-family spillover, and age moderation ($M_{age}=50$ yrs). **Paper 3** uses data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey in adults ($M_{age}=40$ yrs) to examine the association between elder care and sleep quality and how workplace entitlements, such as access to special leave to care for family members, modify this association. **Paper 4** uses data from the National Study of Caregivers (NSOC) to examine contextual factors and stressors associated with sleep disturbances among dementia caregivers ($M_{age}=57$ yrs). In a natural experiment from the 2011 Japan earthquake and tsunami, **Paper 5** tests the effects of disaster exposure on sleep disturbances among the elderly ($M_{age}=74$ yrs). At the end of these paper presentations, we will discuss their theoretical and methodological contributions, and consider challenges and opportunities for future research examining sleep in the second half of life.

INSOMNIA SYMPTOMS: A CAUSE OR CONSEQUENCE OF FALLS AMONG OLDER ADULTS?

T. Chen¹, G. Cheng¹, S. Lee^{2,3}, O.M. Buxton^{2,3,4}, 1. *Duke-NUS Medical School Singapore, Singapore, Singapore*, 2. *Pennsylvania State University, University Park, Pennsylvania*, 3. *Center for Healthy Aging, Pennsylvania State University, University Park, Pennsylvania*, 4. *Division of Sleep Medicine, Harvard Medical School, Boston, Massachusetts*

We conducted a cross-lagged mediation analysis to examine the casual link between insomnia symptoms and falls among older adults using data from three waves of the Health and Retirement Study (2006[Time1], 2010[Time2], and 2014[Time3]; $n=2755$). We hypothesized that, through the development of poor health (Time2), insomnia symptoms (Time1) would lead to future falls (Time3). In the reverse direction, falls (Time1) would cause more insomnia symptoms (Time3) via poor health (Time2). The focal variables were insomnia symptoms (ranging from 0–4) and single falls (yes/no). The mediators were overall health (self-rated-health-status), mental health (Center-for-Epidemiologic-Studies-Depression-Scale), and physical health (balance-tests and timed-walk). Results showed that Time1 insomnia symptoms led to more fall at Time3 via decreased Time2 mental health, but not vice versa. These findings revealed that older adults with insomnia symptoms were likely to fall through decreased mental health, but falls did not seem to cause sleep problems.

PERCEIVED WORK INEQUALITY IMPAIRS EMPLOYEE SLEEP OVER TIME THROUGH NEGATIVE WORK-TO-HOME SPILLOVER

S. Lee^{1,2}, J.A. Mogle^{1,2}, O.M. Buxton^{1,2}, 1. *Biobehavioral Health, Penn State University, University Park, Pennsylvania*, 2. *College of Nursing, Penn State University, University Park, Pennsylvania*

Age impacts insomnia symptoms prevalence. The processes by which changes in contextual factors that also vary with age affect insomnia symptoms are less clear. Using longitudinal data with three time points over 2 decades

(T1:1995–1997, T2:2004–2006, T3:2013) from the Midlife in the United States ($N=1016$, $M_{age}=49.71 \pm 11.29$), we tested whether changes in perceived inequality at work predicted changes in insomnia symptoms (frequency of having trouble falling/staying asleep) through changes in negative work-to-family spillover, and how these effects differed by age. Multilevel modeling revealed that individuals with increased perceived inequality at work over time significantly increased in negative work-to-family spillover over time. Increased negative work-to-family spillover, in turn, significantly predicted increased insomnia symptoms over time. Age moderated the relationship between perceived inequality at work and negative work-to-family spillover. Older workers (60 yrs) were more vulnerable than younger workers (30 yrs) to experiencing negative work-to-family spillover when they perceived higher inequality at work.

ADULT CAREGIVING, WORKPLACE LEAVE AND SLEEP QUALITY

J. Lam, *University of Queensland, Indooroopilly, Queensland, Australia*

This paper examines whether caring for an elderly or disabled relative may be negatively associated with sleep quality. Further, it investigates whether workplace entitlements, such as access to special leave to care for family members may modify this association. Drawing on data from 8,475 employed respondents (mean age: 40; S.D. 14.3) from wave 13 of the Household, Income and Labour Dynamics in Australia (HILDA) Survey, where 689 provided some care to an elderly or disabled relative in a typical week, it finds that high-intensity carers (those who provide at least 8 hours or more of care per week) report poorer quality sleep, higher frequency of having trouble getting to sleep within 30 minutes, having taken medicine to help sleep, and having trouble sleeping because of waking up in the middle of the night. However, it does not find such associations for respondents who report access to workplace leave.

“WHAT HATH NIGHT TO DO WITH SLEEP?”: DEMENTIA CAREGIVER’S EMOTIONAL DISTRESS AND SLEEP DISTURBANCE

A. Leggett¹, D. Maust^{1,2}, H. Kales^{1,2}, 1. *Psychiatry, The University of Michigan, Ann Arbor, Michigan*, 2. *The Department of Veterans Affairs, Ann Arbor, Michigan*

Care provision for persons with dementia (PWD) can be rewarding yet may disrupt caregiver’s health, including sleep health. Using the National Study of Caregiving (NSOC), we examine reports of sleep disruption by dementia caregivers, as well as PWD and caregiver contextual factors, caregiver health and psychological well-being as predictors of sleep disruption. Our sample included 1063 caregivers for 717 PWDs. Waking and having trouble falling back asleep almost every night was reported by 15% of caregivers and 10% reported that helping the PWD caused their sleep to be interrupted almost every night. In a hierarchical linear model, greater sleep disruption was associated with caring for male PWDs, younger age, higher education, more chronic medical conditions, pain, emotional difficulty of the care role, and lower psychological well-being. Caregiver distress was associated with trouble sleeping over and above caregiver health

and PWD disability. Thus, interventions improving caregiver distress may improve sleep health.

DISASTER EXPOSURE AND SLEEP DISTURBANCES AMONG ELDERLY SURVIVORS OF THE JAPAN EARTHQUAKE AND TSUNAMI

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Natural disasters disproportionately affect older adults. We examined prospectively the associations between disaster exposure and sleep disturbances among elderly survivors over three years of follow-up. Logistic regression models were used to analyze data from a natural experiment where a prospective cohort (aged 65 or older) suffered the 2011 Japan earthquake and tsunami between baseline (2010) and follow-up (2013) surveys. Of 3,567 panel respondents (74±6 years old, 57% female), 13% reported post-disaster sleep insufficiency (not well-rested upon waking), 41% insomnia symptoms, 11% short sleep duration (< 6 hours/day), 27% poor sleep quality, and 22% sleep medication use. Financial hardship was associated with post-disaster sleep insufficiency, insomnia symptoms, and poor sleep quality, net of baseline covariates. Property damage predicted sleep medication use while disrupted access to healthcare predicted poor sleep quality. In contrast, survivors appeared to have recovered from loss of relatives/friends as it did not predict any sleep disturbances.

SESSION 2025 (PAPER)

CHRONIC CONDITIONS IN OLDER ADULTS I

THE ROLE OF BODY COMPOSITION AND STRENGTH ON URINARY INCONTINENCE IN WOMEN FROM THE HEALTH ABC STUDY

A. Suskind¹, P.M. Cawthon², S. Nakagawa¹, L. Subak¹, I. Reinders⁴, S. Satterfield³, S.R. Cummings², A. Huang¹, 1. *UCSF, San Francisco, California*, 2. *CPMC, San Francisco, California*, 3. *The University of Tennessee, Memphis, Tennessee*, 4. *NIH, Bethesda, Maryland*

Objectives: To evaluate prospective relationships between body composition and muscle strength with predominantly stress- and urgency urinary incontinence (SUI and UUI) in older women.

Methods: Prospective community-dwelling observational cohort study of women initially aged 70 to 79 years (Health, Aging, and Body Composition study). Urinary incontinence was assessed by questionnaires. Body mass index (BMI), grip strength, quadriceps torque and walking speed were assessed by physical examination and performance testing. Appendicular lean body mass (ALM) and whole-body fat mass were measured using DEXA.

Results: Of 1475 women, 212 (14%) and 233 (16%) reported at least monthly predominantly SUI and UUI at baseline, respectively. At 3 years, there were 1137 women, 164 (14%) with new/persistent SUI and 320 (28%) with new/persistent UUI. Women had increased odds of new/persistent SUI if they demonstrated ≥5% decrease in grip strength, (adjusted OR [AOR] 1.60, p=0.047). Alternatively, women had decreased odds of new/persistent SUI if they demonstrated ≥5% decrease in BMI (AOR 0.46; p=0.014), ≥5% increase in ALM corrected for BMI (AOR 0.17; p=0.004), or ≥5% decrease in fat mass (AOR 0.53; p=0.010). Only a ≥5% increase in walking speed was associated with new/persistent UUI over 3 years (AOR 1.54; p=0.040).

Conclusion: Among women 70 years and older, changes in body composition and grip strength were associated with changes in SUI frequency over time. In contrast, changes in these factors did not influence UUI. Findings suggest that optimization of body composition and muscle strength is more likely to modify SUI than UUI risk among older women.

CHANGING FROM APPROPRIATE TO INAPPROPRIATE URINARY CATHETER USE AMONG HOSPITALIZED OLDER PATIENTS

F. Hu¹, H. Hsu¹, H. Shih¹, C. Chen², C. Chang¹, 1. *National Cheng Kung University Hospital, Tainan, Taiwan*, 2. *Chang Jung Christian University, Tainan, Taiwan*

To investigate incidence, rationales and related factors for changing from appropriate urinary catheter placement to inappropriate catheter use among hospitalized older patients in emergency department (ED). A longitudinal study was adopted at an 1135-bed tertiary-care medical center in southern Taiwan. Patients aged 65 and older with urinary catheter placed within 24 hours of hospitalization were enrolled. Demographic factors, present health condition, conditional factors of catheter placement, rationales for changing from appropriate urinary catheter placement to inappropriate use were collected through a review of medical records, interviewing participants or their primary caregivers.

Appropriate urinary catheters were placed within 24 hours of admission at the ED in 117 of the 156 patients (75%). Of these patients with appropriate urinary catheter placement, 77 patients (65.8%) experienced changing from appropriate placement to inappropriate use, with a mean duration of 2.88±1.56 days per patient. The common rationales for changing from appropriate urinary catheter placement to inappropriate use were post-operation for hip fracture (36.3%) and no longer need for monitoring of urine output (27.2%). Hierarchical regression model shows changing from appropriate urinary catheter placement to inappropriate use was associated with urinary tract infection diagnosis and no record of indication for catheter placement.

The study highlights a considerable percentage of changing from appropriate placement to inappropriate use. Efforts to improve record of indication for catheter placement and continue attention to urinary catheter use are necessary to reduce the incidence of inappropriate urinary catheter use.

A RETROSPECTIVE COHORT STUDY OF DISCHARGE HEMOGLOBIN IN OLDER PATIENTS AFTER HIP FRACTURE SURGERY

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Anemia and blood loss is common in patients with hip fractures. Preoperative and postoperative anemia in older people with hip fractures have been associated with higher risk of mortality and reduced ambulation. This study aims to evaluate discharge hemoglobin and clinical outcomes after hip fractures in older people. This is a retrospective cohort study of patients (age ≥ 65 years) that had hip fracture surgery in a tertiary referral hospital between 1 January 2011 and 31 December 2012. Main outcome measurements were 1-year mortality (data obtained from the local death registry) and 28-day readmission. Comparisons were made between patients with discharge hemoglobin $<100\text{g/L}$ and those with $\geq 100\text{g/L}$ (determined within 3 days before discharge). During the study period, 288 patients were included. Of these, 99 (34%) had hemoglobin $<100\text{g/L}$ at discharge. The proportion of patients with internal fixation was significantly higher in the group with discharge hemoglobin $\geq 100\text{g/L}$ compared to $<100\text{g/L}$ (65% vs. 48%; $p=0.009$). The group with discharge hemoglobin $\geq 100\text{g/L}$ had higher admission hemoglobin level ($123 \pm 18\text{g/L}$ vs. $117 \pm 17\text{g/L}$; $p=0.005$). The transfusion rate was similar between the two groups. Hemoglobin of $<100\text{g/L}$ at discharge was not associated with increased risk of 1-year mortality (30% vs. 22%; $p=0.17$) and 28-day readmission rate (11% vs. 10%; $p=0.82$). These data suggest that discharge hemoglobin is not a good indicator of mortality and readmission after hip fracture surgery in older adults. Further prospective studies are necessary to determine if a specific target of hemoglobin level at discharge will influence clinical outcomes.

NONCLINICIAN SLEEP COACHES FOR INSOMNIA: SECONDARY OUTCOMES FROM A RANDOMIZED CONTROLLED TRIAL

C.A. Alessi^{1,2}, J. Martin^{1,2}, L. Fiorentino³, C. Fung^{1,2}, J. Dzierzewski⁴, J. Rodriguez Tapia^{2,5}, Y. Song^{1,2}, M. Mitchell¹, 1. *VA Greater Los Angeles Healthcare System, Los Angeles, California*, 2. *University of California, Los Angeles, Los Angeles, California*, 3. *University of California, San Diego, San Diego, California*, 4. *Virginia Commonwealth University, Richmond, Virginia*, 5. *Pontificia Universidad Catolica de Chile, Santiago, Chile*

Background: Cognitive behavioral therapy for insomnia (CBTI) is recommended for older adults, but availability of behavioral sleep medicine (BSM) specialists to provide CBTI is limited. We recently reported improved sleep (e.g., Pittsburgh Sleep Quality Index [PSQI] and Insomnia Severity Index [ISI] total scores) in a 4-year randomized controlled trial testing CBTI provided by nonclinician sleep coaches among older outpatients with insomnia at one US Veterans

Administration healthcare system. As secondary analyses, we explored intervention effects on participants' beliefs and attitudes about sleep, specific aspects of self-reported sleep quality and symptoms of insomnia.

Methods: Sleep coaches provided 5 sessions over 6 weeks (including stimulus control, sleep restriction, sleep hygiene and cognitive therapy) with weekly telephone supervision by a BSM specialist. Controls received five sessions of general sleep education. Analyses were intention to treat, using mixed effects models testing the Dysfunctional Beliefs and Attitudes (DBAS16) total score and 4 subscales; PSQI 3-factor subscales, and ISI individual items; at post-treatment, 6- and 12-months follow-up.

Results: 159 subjects were randomized (mean age 72.2 years, 97% male, 79% non-Hispanic white). Intervention participants had greater improvement in DBAS16 total score and sleep expectations subscale; PSQI subscales sleep efficiency and perceived sleep quality; and ISI items satisfaction with sleep, daily functioning, noticeability to others, and worry/distress about sleep (all $p<.05$).

Conclusions: CBT-I provided by nonclinician sleep coaches with BSM supervision improved sleep-disruptive beliefs, and multiple aspects of self-reported sleep. The sleep coach approach may be an important option for the management of insomnia in older adults.

SESSION 2030 (SYMPOSIUM)

CONTEXT AND CULTURE: THE IMPACT OF AIDS ON THE HEALTH OF OLDER PERSONS IN SUB-SAHARAN AFRICA

Chair: J. Small, *Oregon State University, Corvallis, Oregon*
Co-Chair: P. Kowal, *World Health Organization, Geneva, Geneva, Switzerland*

Discussant: M. Ralston, *Mississippi State University, Starkville*

The confluence of population aging and HIV/AIDS in sub-Saharan Africa (SSA) has resulted in a wide range of psychosocial and health impacts that have yet to be fully described. Our symposium is a unique interdisciplinary reflection on the differential impacts of demographic shifts and the HIV/AIDS epidemic on older adults in SSA, highlighting insights gleaned from cross-national comparisons. Jeon Small (social scientist) will use a revised version of Knight and Sayegh's (2010) sociocultural stress and coping model to describe results of a systematic literature review on older adult caregivers to persons with HIV/AIDS in SSA. Mark Brennan-Ing (clinical psychology and gerontological research) will present a comparative study of populations who are aging with HIV in high-and-low-resource settings of Uganda and the USA. Gillian Ice (anthropology and social medicine) will present on the benefits and burdens of caregiving using comparative samples of Kenyan and Rwandan caregivers. Paul Kowal (global health and aging) will present preliminary findings from Waves 1 and 2 of the WHO SAGE-WOPS HIV study, which is a longitudinal study of caregiving and HIV/AIDS in South Africa and Uganda. Our discussant will integrate the four papers, highlight the importance of the confluence of context and culture on older adults directly and indirectly impacted by HIV and AIDS.

CAREGIVING AND HIV+/AIDS IN SUB-SAHARAN AFRICA: CONTEXT AND CULTURE IN THE STRESS AND COPING PROCESS

J. Small, *Oregon State University, Corvallis, Oregon*

Jeon Small,¹ Carolyn Aldwin,¹ Paul Kowal,²

Somnath Chatterji,² Ties Boerma², 1. *School of Social & Behavioral Health, Oregon State University* 2. *World Health Organization, Geneva, Switzerland*

In sub-Saharan Africa (SSA), older adults in unprecedented numbers have been recruited into providing care to persons living with HIV/AIDS (PLWHA) across the lifespan. The literature on older adult (OA) caregiving in SSA is fragmented across several disciplines and lacks a unified theoretical framework, we use a revised version of Knight and Sayegh's (2009) sociocultural stress and coping model examine the literature on older adult caregivers to PLWHA. An exhaustive literature review identified 68 articles on OA caregiving in SSA. The SSA experience requires understanding that OAs are often taking care of multiple family members and are often themselves in need of care. Key findings suggest that population aging and HIV/AIDS deplete the amount of social, cultural, and structural capital available to OA caregivers. Interventions which focus on collective solutions to problems such as food insecurity may be needed at both the extended family and the village level.

GLOBAL AGEING WITH HIV: DIFFERENCES BETWEEN HIGH- AND LOW-RESOURCE SETTINGS

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Globally the HIV epidemic is aging due to the success of life-prolonging antiretroviral treatment. Historically, UNAIDS data reporting stopped at age 49. But the UNAIDS' 2014 Gap Report identified older adults with HIV (OPH) as a group left behind. Challenges faced by this population include multimorbidity management, sexual health, stigma, and access to social care. Referencing three parallel studies in Uganda, South Africa and the U.S., this paper will examine similarities and differences in the complex challenges facing OPH across resource settings. For example, differences in the average number of comorbidities are evident (5.3, 1.2, and 3.2, respectively). In Africa, friends and neighbors provide much greater IADL assistance and emotional support than is observed in the U.S., but OPH in *all* settings report needing more support. The challenges in implementing policy and programmatic responses to the ageing of HIV in the context of available resources across settings will be discussed.

AGING AND HIV: A SUMMARY OF SAGE-WOPS HIV WAVES 1 AND 2 IN SOUTH AFRICA AND UGANDA

P. Kowal^{1,2,3}, N. Naidoo¹, S. Chatterji¹, J. Snodgrass², 1. *SAGE, WHO, Yangon, Myanmar*, 2. *University of*

Oregon Department of Anthropology, Eugene, Oregon, 3. *University of Newcastle Research Centre for Generational Health and Ageing, Newcastle, New South Wales, Australia*

In highly affected countries of sub-Saharan Africa, not only do older people play an important role in the care of HIV-affected adults and children, they themselves are increasingly likely to be infected with HIV. Few studies in the region have directly investigated the topic of older adults who are infected or affected by HIV/AIDS, including the effect of caregiving, antiretroviral therapy (ART) and co-morbidity with chronic diseases on the health and well-being of older people. This presentation describes the main aims of establishing the cohorts in South Africa and Uganda to describe the: 1) health status of older people either infected with HIV themselves, or affected by HIV through having an HIV infected adult offspring or had recently died of HIV-related causes; and 2) impact of role as caregivers. We will present results from SAGE-WOPS HIV Waves 1 and 2 on the direct and indirect effects of HIV on older people in South Africa (W1 n=422; W2 n=519) and Uganda (W1 n=510; W2 n=478).

THE BENEFITS AND BURDENS OF CAREGIVING: A COMPARISON OF KENYA AND RWANDA

G.H. Ice¹, A. Sadruddin², J. Bianco¹, 1. *Ohio University, Athens, Ohio*, 2. *Yale University, New Haven, Connecticut*

The HIV/AIDS epidemic has increased care burden in sub-Saharan Africa but studies on the impact on older persons are equivocal and benefits of caregiving have also emerged. This presentation discusses two qualitative studies in western Kenya and Rwanda. In Kenya, caregiving necessitated an unexpected disruption and many burdens but the change of identity/roles with caregiving was both a source of pride and empowerment for older adults. Caregivers described multiple burdens yet they felt a moral, familial or spiritual obligation to provide care. Further, many participants also assistance from orphans or anticipated reciprocity. In Rwanda, caregiving was viewed as an opportunity for older persons to make themselves useful community members. Caregiving, in this setting, was not considered a burden in the conventional sense but a moral responsibility and a practice that brought communities together. These results suggest that caregiving is multidimensional with a balance of burden and empowerment, caregiving and care-receiving.

SESSION 2035 (SYMPOSIUM)

FOUNDATION IPSEN LONGEVITY PRIZE 2017 AWARDING LECTURE

Chair: Y. Tanguy, *Fondation IPSEN*

Co-Chair: T. Kirkwood, *University of Newcastle* and S.N. Austad, *University of Alabama*

During this symposium, the Fondation Ipsen Longevity Prize 2017 will be awarded to Andrzej Bartke.

THE IMPORTANCE OF SINGLE GENE INTERVENTIONS IN AGING

S.N. Austad, *University of Alabama, Birmingham, Alabama*

When the history of the basic aging research leading to medical treatments that extend human health is written, a significant milestone is likely to be the 1996 paper by

Brown-Borg, Borg, Meliska, and Bartke describing the first single gene mutant that extended life in a mammal. Previous research beginning in the late 1980's had found such genes in very simple organisms, but many researchers in the field felt that single genes would never be found to extend life in such a complex animal as a mammal. Of course, now we know that there are a number of individual genes – several dozen so far – that can extend life in mammals. The significance of these findings is not that we should begin manipulating the human genome to allow everyone to live longer. It is that each such gene represents a potential drug target for slowing aging. Consequently, drugs doing exactly this -- began to emerge less than 15 years after this initial, pivotal discovery. Dr. Bartke has been a key driver in the field since this original publication as will be described.

GROWTH AND AGING; THE HIDDEN COSTS OF STATURE

A. Bartke, *SIU, Springfield, Illinois*

Elimination of growth hormone (GH) actions by mutations or targeted gene deletion produces a remarkable extension of longevity in both sexes of laboratory mice. Long-lived GH-deficient and GH-resistant animals are characterized by small body size, delayed puberty, reduced fecundity and a striking delay in multiple symptoms of aging, including the decline of gonadal function. These findings lead to a somewhat counterintuitive conclusion that the normal actions of GH incur significant costs in terms of the impact on aging and longevity. Studies in genetically normal ("wild type") mice, domestic dogs and various human populations indicate that GH signaling is indeed negatively associated with life expectancy across mammalian species. The evolutionary history of the genetic variation underpinning the trade-offs between growth, maturation, reproductive functions, stress resistance, age-related disease and longevity is difficult to decipher. However, persistence of a wide range of the corresponding phenotypes may benefit survival of populations under challenging environmental conditions.

Supported by NIA

SESSION 2040 (SYMPOSIUM)

A BINATIONAL COMPARISON OF FAMILY AND FORMAL SUPPORT IN THE AMERICAS: MEXICO AND THE U.S.

Co-Chair: J.L. Angel, *University of Texas at Austin*
K.S. Markides, *University of Texas Medical Branch at Galveston*

Discussant: W. Vega, *University of Southern California*

This symposium examines the relationship between formal eldercare policy and the actual capacities of various levels of government and other institutions to implement specific agendas. The symposium will place special emphasis on the Hispanic population which is rapidly aging in the U.S., with the number of adults 65 and older expected to increase by more than six times by 2050 to 17.5 million. Mexico's population is also aging and will increase by 227 percent over the next 25 years. Governments recognize that these aging trends will cause a strain on both healthcare systems as well as other community resources.

This symposium will also focus on the consequences of rapid declines in fertility and rising longevity for the U.S. and Mexico. Given immigrants interconnectedness, understanding how aging processes in Latin America influence health and retirement policy there and how the aging of older immigrants in the U.S. influence social delivery here is critically important. As of yet, however, the ways in which those nations can address the problem of rapid aging remain unclear.

Presentations will examine issues related to older U.S. adults, and Mexicans including: 1) the effects of immigration-related factors on financial security, adaptation, and autonomy, 2) the impact of family and economic resources on long-term care alternatives, 3) innovative strategies and concrete solutions to improving health and social welfare, and 4) identifying methodological challenges and opportunities for investigations of informal support in Mexico and the U.S.

CAREGIVING NETWORKS AND BENEFITS OF CAREGIVING: DIFFERENCES BY RACE AND ETHNICITY

E.M. Agree¹, T. Wakui^{2,1}, 1. *Sociology, Johns Hopkins University, Baltimore, Maryland*, 2. *Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan*

Research on family caregiving has often focused on the experience of care burden, but an emerging literature has shown that caregiving can have benefits for both caregivers and care recipients, and that these benefits may vary by cultural background, race or ethnicity. This study uses nationally representative data from the U.S. National Study of Caregiving (NSOC) and National Health and Aging Trends Study (NHATS) to examine the structure of caregiving networks and the experience of benefits by caregivers from different backgrounds. NHATS studies late-life disability and NSOC collects data on informal caregivers to NHATS participants. Preliminary results show that African American elders have a slightly larger care networks, but are no more likely to live with their helpers than white elders. Although previous research has reported higher levels of positive caregiving among minority caregivers, we find that health of the care recipient and relationships are more important than background.

DEMENTIA AND SOCIAL SUPPORT TRAJECTORIES IN THE MEXICAN-ORIGIN POPULATION

S. Rote¹, J.L. Angel², T. Hill³, K.S. Markides⁴, 1. *Kent School of Social Work, University of Louisville, Louisville, Kentucky*, 2. *University of Texas at Austin, Austin, Texas*, 3. *University of Arizona, Tucson, Arizona*, 4. *University of Texas Medical Branch, Galveston, Texas*

Given the future growth of the elderly Mexican-origin population, the need for culturally informed dementia care will inevitably grow in the years ahead. Dementia-related needs of older adults living in the community are multidimensional and based on severity of dementia; yet, there is a lack of information on emotional and instrumental support need as cognitive impairment unfolds for the elderly population in general and for the Mexican-origin population in particular. The current explores different patterns or trajectories of emotional and instrumental support need for

3,050 Mexican Americans aged 65 and older from seven waves of the Hispanic Established Epidemiologic Studies of the Elderly (H-EPESE, 1993/94–2010/11). We identify three distinct classes of social support trajectories: stable high support need, increasing support need, and stable low support need. Mexican American elders with increasing cognitive impairment report increasing emotional and instrumental support need throughout the study waves. Predictions of older Latinos at risk of being left without sound support and consequently high dependency on public resources are discussed.

FAMILY AND COMMUNITY-BASED SUPPORT FOR OLDER ADULTS IN MEXICO

L. Gutierrez-Robledo, M. Lopez Ortega, *Instituto Nacional de Geriatria, Mexico City, Mexico*

Mexico is undergoing a rapidly aging process and by the year 2050 the proportion of adults 60 years and older is estimated to increase from the current 10 percent of total population to 28 percent in the year 2050. However, this process is taking place in a context of limited resources, lack of long-term care policies and specific primary care strategies for older adults, as well as insufficient regulation of institutional and community-based care. This study presents a summary of the current state of social care support systems for older adults in Mexico, with an emphasis on family and community-based care and the challenges they face in meeting an increasing care demand. It also presents some recommendations on how to tackle some of these challenges.

AGING IN MEXICO AND THE ROLE OF THE CIVIL SOCIETY ORGANIZATIONS

V. Montes de Oca Zavala¹, P. Rea Angeles¹, R.J. Angel², 1. *Universidad Nacional Autónoma de México, Mexico City, Mexico*, 2. *University of Texas at Austin, Austin, Texas*

The aging population has influenced public policy in many countries, including Mexico, over the past two decades. In Mexico, this new focus on the rights of the elderly influences the positions of civil society organizations. We analyze official communications from civil society organizations in Mexico City and employ qualitative techniques to identify perspectives on active ageing, social participation, and the social rights of older adults. Our most significant finding is that organizations have fought for the labor rights of unions in strategic sectors that have been threatened by the economic policy of privatization. Their missions are not framed in terms of aging, but in terms employment. Other groups focus on concrete needs such as institutionalized care, strengthening community networks, and defending the rights of pensioners. Views of old age and that the experience of aging is heavily determined by one's labor market history and the more general processes of development.

ISSUES IN SURVEYING FOR FAMILY HEALTH SUPPORT IN CROSS-NATIONAL STUDIES IN THE AMERICAS

R.B. Wallace, *Epidemiology, The University of Iowa, Iowa City, Iowa*

Comparative research among countries is critical to promoting improved and optimal support for family health needs among older persons, but conducting household

surveys has challenges in addition to translation across languages and native dialects, including: defining representative samples, gaining permission to approach households; understanding cultural variation in the use of both formal and informal care; crafting useful survey items in the face of substantial differences in general and health literacy; identifying local complementary and alternative health practices; and selecting the best household respondents. Also, given the substantial regional variation in actual and potential health and long-term care services available and accessible to families, including from community and public health sources, many survey formats and items may be inappropriate across diverse settings. Some potential solutions to these challenges will be presented, including techniques not yet widely applied in developed or developing countries.

SESSION 2045 (SYMPOSIUM)

MULTIPLE PERSPECTIVES ON FAMILY LIFE

Chair: K.L. Fingerma, *The University of Texas at Austin, Austin, Texas*

Research on families in late life has often focused on individual reporters, rather than dyadic or family perspectives. This symposium considers multiple perspectives on family relationships as well as the role of changing societies in shaping these perceptions. Suitor and colleagues consider mother's favoritism in late life, and how grown children's perspectives on who is the favorite may differ or coincide with the mother's perspective- with consideration of ethnic differences in the US. Han examines marital partners' discrepant views of gender roles and marital satisfaction in South Korea and considers how changes in society shape these views. Fingerma and colleagues look at parents' and grown children's perceptions of support exchanges. They find greater discrepancies in perceptions of support in younger dyads, with parents reporting receiving less support than offspring report providing. Finally, migration has increased dramatically worldwide and family ties are shaped by this experience. Dykstra and Fokkema examine a large sample of migrants to France, and consider family patterns in their relationships with their grown children. Collectively, these studies suggest family members bring unique perspectives to intergenerational and marital relationships. Individuals have distinct relationships with each of their family members, favoring some children over others and relating to parents differently than to their children. Importantly, societal changes and cultural values shape these perceptions and implications of these perceptions for family members' well-being.

IT'S REALLY NOT ME? ADULT CHILDRENS' MISPERCEPTIONS OF MOTHERS' FAVORITISM AND DISFAVORITISM

J. Suitor¹, M. Gilligan², M. Rurka¹, S. Peng¹, K.A. Pillemer³, 1. *Purdue University, West Lafayette, Indiana*, 2. *Iowa State University, Ames, Iowa*, 3. *Cornell University, Ithaca, New York*

Recent studies have revealed that both mothers and adult children report that maternal favoritism and disfavoritism are common in later-life families; however, little is known about whether children's perceptions of differentiation

mirror mothers' own reports. In this paper we use data from 310 mothers and 725 offspring from the Within-Family Differences Study to examine patterns and predictors of congruence regarding reports of favoritism and disfavoritism. Contrary to the intergenerational stake hypothesis, mothers and offspring reported similar rates of favoritism and disfavoritism; however, children were very inaccurate reporters of which offspring mothers favored and disfavored. Congruence was more likely when mothers and offspring were the same gender, shared values, and frequently exchanged support. Greater congruence was found in Black than White families. Given that adult children's perceptions of such differential treatment strongly predict depressive symptoms, shedding light on these processes is important in understanding the role of intergenerational relations in well-being.

VARIATION IN PARENT-CHILD RELATIONSHIPS WITHIN MIGRANT FAMILIES

P.A. Dykstra¹, T. Fokkema^{2,1}, 1. *Erasmus University, Rotterdam, Netherlands*, 2. *NIDI-KNAW, University of Groningen, Rotterdam, Netherlands*

Silverstein and Bengtson (1997) were pioneers in examining multiple dimensions of parent-child relations simultaneously. Their typology of American late-life families has been replicated in different countries. Most of these studies focused on one parent-child dyad per family and all but one study² did not pay attention to the specific case of migrants, thereby masking within-family variations in intergenerational solidarity and leaving the question about the impact of migration unanswered. This paper aims to advance our knowledge in both areas. Data are taken from the French 'Route to Retirement of Immigrants' survey in which more than 6000 migrants, aged 45–70 and of different origin, were asked about various dimensions of their relations with each child: geographical proximity, contact frequency, family obligation norms, and personal, practical and financial support exchange. Once parent-child are assigned to latent classes, multilevel multinomial logistic regression will be used to identify significant predictors.

GENERATIONAL DIFFERENCES IN PERCEPTIONS OF SUPPORT EXCHANGES

K.L. Fingerman¹, M. Huo¹, K. Kim³, K. Birditt², 1. *Human Development, The University of Texas at Austin, Austin, Texas*, 2. *University of Michigan, Ann Arbor, Michigan*, 3. *University of Massachusetts, Boston, Massachusetts*

In Western countries, parents typically provide support to their children, even after they are grown; grown children may reciprocate and provide support to parents in late life when parental health declines. Yet, we do not know whether both parties perceive these exchanges in the same manner across adulthood. Participants included two sets of dyads from the *Family Exchange Study*: Middle aged parents and young adult children (n = 664 dyads, 1328 participants) and older parents and middle-aged children (n = 221 dyads, 442 participants). Participants report frequency of giving and receiving 6 types of support using the Intergenerational Support Index (ISI). The older dyads typically agreed in reports of support provided by parents to offspring and by offspring to parents. In the younger dyads, the young adult children reported providing more frequent support of all types than

parents reported receiving. Norms for intergenerational support may shape perceptions of such support.

KOREAN MIDDLE AGED COUPLES' DISCREPANCIES IN GENDER ROLES, MARITAL AND LIFE SATISFACTION

G. Han, Y. Bae, *Seoul National University, Seoul, Korea (the Republic of)*

Due to gender inequalities, men and women have different subjective experiences of marriage. This discrepancy between partners might be particularly salient in a rapidly changing society like Korea. This study asked how discrepancies among Korean middle aged couples' beliefs about gender roles affect marital stability and well being. We used dyadic data from 1074 middle-aged Korean baby boomer couples to examine this question. Data were analyzed using actor-partner interdependence model (APIM). Dependent variables were marital stability and life satisfaction. Main independent variables were gender role attitudes, spousal relationship satisfaction and discrepancies in gender role attitude and spousal relationship satisfaction. Results show that only 42% of the couple shared an outlook of their marriage where neither husband nor wife ever considered divorce. In many couples, more wives considered divorce than husbands. When gender role attitude discrepancies between partners was larger, marital stability of the couple tend to be lower.

SESSION 2050 (SYMPOSIUM)

TRAJECTORIES OF CARE FOR LGBT (LESBIAN, GAY, BISEXUAL AND TRANS) AGEING POPULATIONS

Chair: R.L. Jones, *The Open University, UK, Milton Keynes, United Kingdom*

Co-Chair: A.D. King, *University of Surrey, Guildford, Surrey, United Kingdom*

This symposium presents research from the UK, US and Canada which focuses on aspects of care and the care needs for ageing lesbian, gay, bisexual and trans (LGBT) people. The symposium will offer insights which contribute to broader understandings of the heterogeneity of ageing. It showcases cutting edge research in the field which provides compelling evidence for the need to recognize and address the unique care needs of older LGBT individuals - a diverse new ageing population worthy of more attention within gerontology. In particular, this symposium demonstrates that despite recent socio-legal shifts, LGBT people are still an invisible and marginalised population in care settings and their life-stories and relationships are frequently overlooked by care providers. The paper by Hafford-Letchfield et al., present findings from a pilot scheme designed to find ways to enhance the inclusion of older LGBT residents in English care homes. Flatt et al., address the area of long term care in the US, identifying predisposing, enabling and need factors of older LGBT people. The papers by both Almack and De Vries et al., focus on the unique experiences and diversity of support needs of LGBT older people towards the end of life, in the UK and Canada respectively. All four papers raise issues of intersections between ageing, gender identity and sexual orientation in different geographical contexts and across a range of care settings.

PREPARATIONS FOR END OF LIFE AMONG LGBT OLDER CANADIANS

B. deVries^{1,2}, G.M. Gutman², L. Chamberland⁴, J. Fast³, J. Gahagan⁵, A. Humble⁶, S.E. Mock⁷, 1. *Gerontology, San Francisco State University, San Francisco, California*, 2. *Simon Fraser University, Vancouver, British Columbia, Canada*, 3. *University of Alberta, Edmonton, Alberta, Canada*, 4. *University of Quebec at Montreal, Montreal, Quebec, Canada*, 5. *Dalhousie University, Halifax, Nova Scotia, Canada*, 6. *Mount St. Vincent University, Halifax, Nova Scotia, Canada*, 7. *University of Waterloo, Waterloo, Ontario, Canada*

Research over the last decade has documented the unique historical experiences and demographic characteristics of lesbian, gay, bisexual and transgender (LGBT) older adults. To explore the influence of these and other variables on end-of-life planning, focus groups were held in five Canadian cities (Vancouver, Edmonton, Montreal, Toronto, and Halifax) with lesbians and bisexual women ($n=29$), gay and bisexual men ($n=39$) and transgender individuals ($n=23$) age 55+. All groups described difficulty identifying potential caregivers and engaging others in discussion of end-of-life issues. Lesbians and bisexual women highlighted the need for community intervention, gay and bisexual men issues of trust and the legacy of HIV, transgender persons the insensitivity of health care settings. The findings show both similarities and differences between LGBT groups and while focused on the experiences of stigmatized sexual minority groups, have broad implications for others challenging traditional family norms. Service provider data ($n=26$) compliment the LGBT data.

IS EVERYONE EQUAL IN OLD AGE? END-OF-LIFE CARE FOR OLDER LESBIAN, GAY, BISEXUAL AND TRANS PEOPLE

K. Almack, *Health Sciences, University of Nottingham, Nottingham, United Kingdom*

The heterogeneous care needs of older people are often neglected. This paper examines older LGBT people's experiences and perceptions of care towards the end of life as a 'critical case' in addressing diversity within the delivery of end of life care services in the UK. In doing so, the paper discusses findings from the qualitative strand (60 in-depth interviews with LGBT people aged 60+) of The Last Outing - a large mixed methods UK project. Findings revealed that despite legislation providing equality and protection for LGBT people, a significant number of barriers and stressors still exist in accessing services and support. It is clear that older LGBT people's histories and pathways have profound influences on well-being and access to support towards and at the end of life. These are issues that need to be addressed to ensure equitable access to end of life care services for all in old age.

PREDICTORS OF INFORMAL AND FORMAL LONG-TERM CARE USE AMONG SEXUAL AND GENDER MINORITY OLDER ADULTS

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Few studies have examined long-term care (LTC) use among sexual and gender minority (SGM) older adults. Guided by Andersen's Healthcare Utilization Model, we identified predisposing, enabling, and need factors associated with informal (caregiving) and formal (homecare, long-term/continuing care, hospice care) LTC use in a community-based sample of SGM older adults ($n=210$), mean age 59.6. Nearly 20% used informal or formal care in the past year and 10% used both. Informal LTC use was associated with identifying as female (OR:8.8; 95%CI:2.2–35.2), HIV positive (OR:8.5; 95%CI:2.0–35.1), having one or more instrumental activities of daily living (ADL) impairments (OR:5.2; 95% CI:2.0–13.2), and having greater service needs (OR:1.4; 95% CI:1.2–1.7). Formal LTC use was associated with access to Medicare (OR:4.2; 95% CI:1.7–10.9) and comorbidities (OR:1.3; 95%CI:1.1–1.6). A greater understanding of LTC needs of SGM older adults is necessary for developing policies and services aimed at improving care and quality of life for this population.

DEVELOPING INCLUSIVE CARE HOME ENVIRONMENTS FOR OLDER LGBT PEOPLE: A PILOT SCHEME IN ENGLAND

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We present findings from an evaluation of a pilot scheme in England aimed at enhancing the inclusion of older LGBT residents in care home environments. Implemented in 2016, six LGBT community members were recruited and trained to undertake community audits of current care home practices. The scheme was implemented in one locality across six homes, which belonged to a national provider of housing for older people. Based on their findings, Community Advisors (CAs) advised home managers on ways of developing LGBT-inclusive environments. As an external team we conducted a qualitative evaluation, which included pre- and post-intervention interviews ($N=39$) with CAs ($n=8$), home managers ($n=6$) and other management staff ($n=3$). Based on the findings, we discuss how the scheme took a 'co-production' turn and identify ways in which CAs can be a valuable resource in bridging the gap between hetero-centric cultures of homes and the lived realities of older LGBT people.

SESSION 2055 (SYMPOSIUM)

EVALUATION OF KNOWLEDGE MOBILIZATION IN GERONTOLOGY: DIGITAL TOOLS, PAPER TOOLS, OR BOTH?

Chair: L. McDonald, *University of Toronto, Toronto, Ontario, Canada*

Discussant: T. Goergen, *Criminological Research Institute of Lower Saxony*

The purpose of this research was to evaluate the impact of pocket tools in digital and paper formats that contained evidence-based information about the core challenges of aging. The tools, based on current research in aging, were created by interdisciplinary teams for an established national/international knowledge mobilization network of older adults, students, policy makers, academics and practitioners. The overarching goal of the network was to place the most recent knowledge on aging in the hands of users in a rapid and straightforward way. Over 230 tools including care giving, financial literacy, legal issues, policing, dementia, mental health, ethnicity, elder mistreatment and technology were developed and have been utilized by over a million users nationally and internationally. All researchers, and community partners to this project have had strong vested interests in knowing if the tools were effective, which format worked best for their stakeholders, and how the information was used. The investigation included a survey of current users of the tools (n=800) to evaluate how the tools were used; digital and paper tool users (seniors, practitioners, caregivers) were compared on outcomes of effectiveness in 9 random clinical trials (n=783) and 40 respondents were interviewed in-depth about their challenges in using the tools. Here we report on the survey and the first random trial of tools, the outcomes, challenges and the roles and implications for international partners. The results suggested that both digital and paper tools were very helpful in uptake but the digital divide still existed according to age and education.

THE CONTINUING DIGITAL DIVIDE: RESULTS FROM THE KNOWLEDGE MOBILIZATION SURVEY

L. McDonald, *University of Toronto, Toronto, Ontario, Canada*

Knowledge mobilization (KM) is practical because it is cost-efficient, makes use of existing research and can happen at a faster pace than waiting to change the behaviours of whole generations of seniors, students, practitioners and policymakers. While KM seems obvious, there is a lack of research about the effectiveness of KM in the field of gerontology. This research traverses new terrain in aging and technology by evaluating KM through the use of pocket tools, delivered on paper or digitally. The analyses were based on a random sample of 3,500 members of a KM network (n=800) who were surveyed in one hour, standardized telephone interviews. The results showed digital tools were useful to the professionals depending on education, occupation and method of use and caregivers according to age and education; for seniors, paper tools were preferred depending on age and purpose of the tools. Age acted differently across the groups.

A RANDOM CLINICAL TRIAL OF THE EFFECTIVENESS OF DIGITAL AND PAPER CAREGIVING TOOLS

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This research is part of a multi-method research program that evaluated the impact of knowledge mobilization of evidence-based information for older adults, professionals and caregivers. This research reports the results from nine

caregiving clinical trials with one group of older adults, one professional group and one of carers, exposed to three levels of the intervention in each trial (n=261). The null hypotheses were that caregiving knowledge would not differ across the three conditions of no tools, paper tools or digital tools. Respondents were randomly assigned to one of three conditions for each of the three groups. The computed sample size required 29 respondents assigned to each of the three conditions for each of the three groups. Respondents were tested on knowledge of caregiving pre-post. F tests showed there were significant differences across each of the three conditions. Professionals achieved higher scores with digital tools and older adults, the paper tools.

THE PLACE OF INTERNATIONAL PARTNERSHIPS IN KNOWLEDGE MOBILIZATION

A. Lowenstein, *Max Stern Yezreel Academic College, Haifa, Israel*

The purpose here is to examine the role of international partners in knowledge mobilization (KM) using Israel as a case example. The International Initiative for the Care of the Elderly is an international collaboration across fourteen countries: Australia, Canada, Israel, China, England, Germany, India, Israel, Japan, Scotland, Brazil, South Africa, Ireland and Switzerland. The international partnership has enhanced the universality of the content of the pocket tools as exemplified by Israeli physicians' improvement of an elder abuse tool, or the dementia tool expanded by South Africa. Second, countries have developed new tools as in Switzerland for consulting and Brazil on caregiving. Third, partnership countries have enriched cultural sensitivity especially about dying as adapted in Brazilian tools. Fourth, translation of the tools has made them available in Hebrew, English, French, Portuguese, Hindi, Japanese and Spanish. Lastly, PhD students have been participants in many international meetings to improve their networking.

THE CHALLENGE OF INTERNATIONAL PARTNERSHIPS FOR ADAPTING KNOWLEDGE MOBILISATION

A. Phelan, *School of Nursing, Midwifery & Health System, University College Dublin, Dublin, Dublin, Ireland*

Knowledge mobilisation has become an important aspect for both funding agencies and research applications where findings of studies are required to make a tangible impact between research or expertise on policy and/or practice. Within the knowledge mobilisation research focusing on the use of pocket tools (paper or digital), the National Initiative for the Care of the Elderly (NICE) convened an international advisory panel. This paper examines the emerging issues and challenges inherent in knowledge mobilisation beyond the national research site. Although such social innovation seems logical, issues such as cultural context, legislative and policy boundaries and health and social care structures can mean that knowledge mobilisation on an international scale requires careful localisation and adaptation for transferability. This paper considers these issues related to the NICE project and offers some recommendations for similar projects. Participants will be introduced to the relevant, experiential based challenges for international partnerships related to knowledge mobilisation. In addition, participants will gain

knowledge on how to address the emergent issues within similar projects.

SESSION 2060 (PAPER)

NURSING CARE IMPROVING PATIENT CARE OUTCOMES

PREPARE OLDER PATIENTS FOR CARDIAC SURGERY: DEVELOPMENT AND FEASIBILITY OF A NURSING INTERVENTION

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Background and aim: In older patients undergoing elective cardiac surgery, timely identification and preparation of patients at risk for frequent postoperative hospital complications provides for the opportunity reducing their risk. We developed an evidence based multi component nursing intervention (PREDOCS-Program) to improve patients' physical and psychosocial condition in order to reduce their risk on postoperative complications and we tested the PREDOCS-program on its feasibility and estimated theoretical cost savings.

Method and material: In a team of researchers, experts, cardiac surgeons, cardiac surgery nurses and patients, the first phase of the revised guidelines for developing and evaluating complex interventions of the Medical Research Council (MRC) were followed. Subsequently, in a mixed-methods multicenter study, following the second phase of the MRC guidelines, we tested the feasibility in three hospitals and calculated theoretical cost savings.

Results: PREDOCS-program is administered during a consult by the nurse, two to four weeks before the surgery procedure. Twenty one females and 49 males out of the 114 eligible patients completed the intervention. Patients were equally satisfied with the usual care and the PREDOCS-program (satisfaction rates on a scale from 1–10 respectively: 7.5 (95%CI: 6.4–8.7) and 7.6 (6.6–8.6)). The PREDOCS-program will be cost-effective when postoperative complications are prevented in six to sixteen of 1,000 cardiac surgery patients.

Conclusion: In creating transparency in the assumed working mechanisms, an extended stepwise multi-method procedure was used to develop the PREDOCS-program, which will be already cost-effective when postoperative complications are prevented in six to sixteen of 1000 cardiac surgery patients.

LIVING WITH PAIN: EVALUATING CLINICAL OUTCOMES WITH THE ROY ADAPTATION MODEL

S.G. Robinson-Lane, *Physical Medicine and Rehabilitation, University of Michigan, Livonia, Michigan*

Disparities exist in pain management amongst Black elders in the US. Although many barriers have been identified, few studies examine the experience of managing pain

from the participant's perspective. It is hypothesized that the Roy Adaptation Model provides an appropriate framework to evaluate clinical pain outcomes in ways that prioritize care needs and identify culturally relevant interventions.

A 10-month ethnographic study was completed in an independent living facility housing predominately Black adults, age 55+ (n=470). Following participant observation and informal interviews, participants (n=106) completed questionnaires comprised of a demographic tool, the Brief Pain Inventory, the PROMIS Global Health tool, and the Psychological Stress Measure-9 as well structured interviews (n=20). Structured interview transcripts, fieldwork journal notes, and questionnaire responses were descriptively and thematically analyzed. Findings were clarified with participants and evaluated for model fit.

Severe persistent pain is a primary stressor that causes discomfort, disability, loss of income, difficulty maintaining social relationships, and impaired emotional well-being. Multiple comorbidities, functional status decline, and poverty exacerbated the pain experience. Fear of dependence motivated engagement in health promotional activities and self-care, which may have influenced the overall mild to moderate stress of the group. Identified care priorities included: improved medication management, patient education, integration of non-pharmacological treatments into care, and encouragement of social engagement. Effective coping resulted in a positive sense of self, decreased psychological distress, spiritual well-being, and satisfaction in social relationships.

The Roy Adaptation Model provides an appropriate framework for bridging research and clinical practice that addresses disparities in culturally diverse populations.

CARE INSTABILITY IN NURSING HOMES; A QUALITATIVE STUDY

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The use of long-term care services has risen and this trend is expected to continue as the population reaches old age.

This study was conducted with a qualitative approach using conventional qualitative content analysis. The study was conducted on 23 Iranian participants including 14 elders and 9 caregivers. Data were collected with unstructured interviews and continued to the point of data saturation. Analysis of the data was performed continually and concurrently with data collection through a comparative method.

As results three themes emerged from 595 open codes including *care as unpleasant task*, *sustained care* and *insufficient resources*. Ten subthemes indicated participants' experiences and understanding of caring conditions in a nursing home.

The prevailing given care was the routine one with a focus on physical aspects although there was some psychological care given to the older people. The findings of this research are guidelines for managers and care planners in nursing homes who should also pay attention to physical and

psychological care needs of older people. In addition, it is important to pay close attention to the needs of the caregivers and provision of instructions for treatment, supervision, education of caregivers and medical students and finally better care.

ORAL HEALTH MATTERS FOR THE NUTRITIONAL STATUS OF FRAIL OLDER PERSONS

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Oral conditions such as dry mouth, dental caries and periodontitis increase with age and affect a person's ability to chew and swallow, which is why eating a healthy diet and obtaining a satisfactory nutritional status may be a problem. Oral health is therefore of great importance within elderly nursing care. The aim of this study was to evaluate oral health and nutritional status among older persons in a daily care context. Data from the Swedish quality register, Senior Alert, including structured assessments of oral and nutritional status using the Revised Oral Assessment Guide-Jönköping and the Mini Nutritional Assessment-Short Form. In total 1190 persons (mean age 82.3 ± 7.9) had both oral and nutritional assessments registered by nurses in daily care. Approximately 29% had moderate oral health problems and another 12% severe problems. Over 60% were considered at risk of malnutrition or malnourished. There was a correlation between poor nutritional status and poor oral health ($r=0.2$, $p<0.001$) and about half of persons at risk or malnourished simultaneously had oral problems. A multivariate logistic regression revealed that the risk of being at risk or malnourished increased with voice problems (Exp B CI 1.4–5.7 $p=0.003$), mucous membranes (Exp B CI 1.0–5.4 $p=0.042$) and swallowing (Exp B CI 1.4–4.1 $p=0.002$). Consequently, there was a relationship between oral problems and nutritional status, indicating the importance of evaluating oral status for older persons with nutritional problems. To improve oral health there is a need for exchanging knowledge between nursing staff and oral health professionals.

EFFECTIVENESS OF EDUCATIONAL NURSING HOME VISITS: A RANDOMIZED CONTROLLED TRIAL

A. Buss², K. Wolf-Ostermann², S. Strupeit², 2. *Munich University of Applied Sciences, Munich, Germany*, 2. *University of Bremen, Bremen, Germany*

Facilitating and maintain functional ability and quality of life is a major task of nursing. Home visits may have positive effects on functional ability and quality of life in elderly people. The aim of this study was to determine the effectiveness of educational home visits on the functional status, quality of life, and care dependency in older adults with mobility impairments.

A randomized controlled trial was performed in the living environments of patients with functional impairments from Hamburg, Germany. The intervention group received an additional nursing consultation intervention on mobility and quality of life. The control group received the usual

care. Data were collected from August 2011 to December 2012 at baseline, 6 months and 12 months of follow-up. The main outcomes were functional status (Barthel Index), quality of life (WHOQOL-BREF), and care dependency (Care Dependency Scale). Data were analyzed using descriptive statistics and generalized linear models.

In total, 113 participants were included in the study. The intervention had no effect on functional status, quality of life, and care dependency. However, self-efficacy and younger age were related to better functional status over time. Better self-efficacy and less depression resulted in a better quality of life and better self-efficacy resulted in a better functional status and lower care dependency.

Further studies on the effects of educational nursing interventions should be performed using different concepts and rigorous research methods. However nursing education should be part of nursing practice and may be integrated in everyday care.

SESSION 2065 (SYMPOSIUM)

MAPPING A CRITICAL ETHICAL LANDSCAPE FOR DEMENTIA: RESEARCH, POLICY, AND PRACTICE

Chair: P. Kontos, *University Health Network*

Co-Chair: A. Grigorovich, *University of Toronto, Toronto, Ontario, Canada*

In the field of dementia, ethical issues have primarily been considered from a biomedical perspective, with a focus on norms for medical treatment and participation in medical research trials. The primacy of the biomedical approach to ethics in dementia has eclipsed a broader understanding of the cultural, political and philosophical assumptions that underpin current research, policy and practices. This symposium will interrogate current ethical issues in dementia, raise concerns about the appropriateness of biomedical approaches to support ethical decision-making, and identify gaps that require critical ethical intervention. Paper presentations will explore these issues through empirical studies and critical analyses of case examples including: 1) New policy and ethical frameworks for guiding future research and funding efforts in dementia (e.g. Responsible Innovation and Institutional Corruption); 2) Mild Cognitive Impairment (MCI) and the ethical fallout of anticipating testing, being tested, being diagnosed, and living with MCI; 3) A new ethic of sexuality that upholds and supports the sexual rights of older adults living with dementia in long term residential care settings; and 4) Application of ethical perspectives on flourishing and solidarity to dementia care in order to shift societal response from a disability model to an agency preserving model, and from custodial (comfort and control) goals to ecologically enabling (relational) goals of care. Conclusions consider how these case studies map a new and critical ethical landscape for research, policy, and practice for dementia care.

ETHICS AND DEMENTIA: NEW EVIDENCE-BASED PERSPECTIVES ON INNOVATION AND PUBLIC HEALTH

P.J. Whitehouse, *Case Western Reserve University, Cleveland, Ohio*

Dementia is a huge public health challenge with value conflicts affecting efforts to treat and care for persons with cognitive impairment. Standard biomedical ethical frameworks that focus primarily on the clinical or research arenas do not provide an adequate moral lens to find the necessary balance in setting priorities in a world of limited resources, global climate change, and competing social concerns. What appears missing in part is a focus on organizational ethics, including examining the roles of advocacy and professional organizations, as well as pharmaceutical and diagnostic device manufacturers. Well-developed and empirically-supported organizational value and social justice frameworks such as institutional corruption and responsible innovation will be reviewed. Evidence-based contributions of the arts and humanities to practice are growing at the interface between ethics and aesthetics. Increasingly data-driven prevention efforts and community transformation will play a role in addressing the social challenges of dementia.

NARRATIVE PRACTICES AND ETHICAL FALLOUT IN THE CASE OF MILD COGNITIVE IMPAIRMENT (MCI) DIAGNOSIS

S. Katz, *Trent University, Peterborough, Ontario, Canada*

This paper is informed by emerging critiques of MCI diagnoses, validity, capitalization, treatment, biomarkers, and psychometric landscape. Using an interpretive analysis of data collected with 12 focus groups of older individuals, families, and care-givers, discussion focuses on the ethical uses of hybrid vocabularies, metaphors, and narratives to highlight the

the importance of subjective and lay accounts of aging and cognitive health. Given that MCI is a category laden with the threat of Alzheimers disease, the focus group data reflect a need for meaning-making and caring practices around diagnoses, as well as creative questioning and contesting of the MCI category itself. Conclusions explore how diagnoses of cognitive impairment are ethical as well as scientific practices, such that experts and practitioners need to consider how older individuals embed and share diagnoses in their everyday contexts through narrative practices that render disruption and apprehension into livable, acceptable, and coherent stories.

RELATIONAL CITIZENSHIP, SEXUAL RIGHTS, AND A NEW ETHIC FOR DEMENTIA CARE

P. Kontos^{1,2}, A. Grigorovich^{1,2}, 1. *Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada*, 2. *Toronto Rehabilitation Institute - University Health Network, Toronto, Ontario, Canada*

Despite the important contributions the citizenship movement has made to improving the status and treatment of persons with dementia, it has not accounted for their sexual rights. Drawing on a new model of relational citizenship, we advance an ethic of embodied relational sexuality that importantly broadens the exclusive goal of biomedical ethics from only the duty to protect individuals from harm, to also the duty to uphold and support the sexual rights of persons living with dementia in long-term care settings. The ethic is grounded in empirical research in long-term residential care and draws from scholarship on sexual citizenship, human rights, embodiment, and relationality to articulate a

multiscalar approach (micro-, meso-, and macro-level). The adoption of this ethic ensures that persons with dementia experience freedom from discrimination and have equal opportunities to pursue intimate sexual activities and relations to the fullest extent possible.

DEMENTIA AND THE HUMAN GOOD: RECOGNITION, SOLIDARITY, AND FLOURISHING

B. Jennings, *Vanderbilt University Medical Center, Nashville, Tennessee*

Dementia care is often reduced to the custody of the patient's comfort and safety due to an overly limited understanding of the achievable quality of life and the relational capabilities of persons living with dementia. This does not appropriately recognize the meaningful agency of persons with dementia, nor does it appreciate the enabling relationships persons can have in an ecology of caring. I offer an approach to dementia care informed by an empirically grounded and theoretical work by philosophers and social scientists, including M. Nussbaum, T. Kitwood, R. Harré, S. Sabat, and J. Hughes. This approach focuses on the enabling effects of the overall ecology of dementia care (social relationality of care providers and the built environment of facilities) rather than on the neurological deficits of the brain and its behavioral limitations.

SESSION 2070 (SYMPOSIUM)

NETWORK CHANGES AND HEALTH: WHAT DRIVES WHAT?

Chair: H. Litwin, *Hebrew University of Jerusalem, Jerusalem, Israel*

Discussant: J. Lubben, *Boston College, Boston, Massachusetts*

Research has pointed to the relationship between social network and health in late life. However, it is still unclear whether greater network resources are responsible for better health or whether people with better health tend to recruit and maintain more social ties. This symposium attempts to disentangle the network/ health nexus by means of uniquely appropriate longitudinal databases that employ state-of-the-art social network inventories. We focus, especially, on data derived from name-generating network mechanisms. The papers also address a range of populations. The study by van Tilburg and Broese van Groenou looks at 25 years of data from the Longitudinal Aging Study Amsterdam (LASA) and finds that social networks are influenced by cognitive health, but also protect against mortality. Using data from the German Ageing Survey (DEAS), Deindl and Brandt discovered effects of health on social networks over time and vice versa. Schwartz and Litwin employed structural equation modeling to examine data from the Survey of Health, Ageing and Retirement in Europe (SHARE). The results show that social networks and mental health have a reciprocal relationship, but the effect of mental health is stronger. Webster, Ajrouch and Antonucci examined two waves of data (1992; 2015) from the longitudinal Social Relations Study in Detroit and found that later-life health and relationship transitions are inter-connected and moderated by education. Finally, the study by Chi looks at three groups of

Chinese older adults in immigrant, transnational, and non-migrant families, and finds that worry about future health needs are moderated by network factors.

SOCIAL NETWORKS AND PHYSICAL, SENSORIAL AND COGNITIVE FUNCTIONING IN A 25-YEAR LONGITUDINAL STUDY

T. Van Tilburg, M.I. Broese Van Groenou, *Sociology, Vrije Universiteit Amsterdam, Amsterdam, Netherlands*

Social relationships protect against incidence of diseases, poor physical functioning and early mortality. However, poor health impoverishes social network size and diversity by exhausting supporters and limiting investments to maintain and renew relationships. We study the causal process from network functioning to health, and from health to network functioning, exploiting eight observations of the Longitudinal Aging Study Amsterdam between 1992 and 2016. Included are 2956 people aged 55–102. Networks have 80 members at a maximum, and individual network members are followed longitudinally. First analyses show that having daily network contact, a large and variegated network, and a stable network composition are threatened in old age but promoted by good physical, sensorial and in particular cognitive functioning. A large network, in particular when including non-kin, is protective against early mortality, also when controlled for physical, sensorial and cognitive functioning.

RECIPROCAL RELATIONSHIPS BETWEEN SOCIAL NETWORKS AND MENTAL HEALTH

E. Schwartz^{1,2}, H. Litwin^{1,2}, 1. *Paul Baerwald School of Social Work and Social Welfare, Hebrew University of Jerusalem, Haifa, Israel*, 2. *Israel Gerontological Data Center, Jerusalem, Israel*

This study considered the relationship between social network and mental health among older Europeans. The data came from Waves 4 (2011) and 6 (2015) of the Survey of Health, Aging and Retirement in Europe (SHARE). The analytical sample numbered 26,238 respondents. Social network was measured as the degree of connectedness—an index composed of several network characteristics assessed through a name generator, and by a global measure of satisfaction with the network. Mental health was a composite construct based on three mental health indicators: CASP, Euro-D and a global life satisfaction measure. A cross-lagged analysis was employed, using structural equation modeling. Preliminary results indicated that social networks and mental health have a reciprocal relationship across time. These results showed significant links between both the network indicators and subsequent mental health changes and between mental health and subsequent network change. Gender differences in these associations did not emerge.

LONG-TERM BIDIRECTIONAL LINKS BETWEEN SOCIAL ISOLATION AND HEALTH: THE MODERATING ROLE OF EDUCATION

N.J. Webster¹, K.J. Ajrouch², T.C. Antonucci¹, 1. *University of Michigan, Ann Arbor, Michigan*, 2. *Eastern Michigan University, Ypsilanti, Michigan*

This study considers the influence of health changes on social isolation among older adults and examines how this

association varies by education. The analysis employed two waves of data (1992; 2015) from the longitudinal Social Relations Study. Data include a U.S. regionally representative sample (N=314) of adults age 60+ in 2015 from the Detroit, MI Metropolitan area. Social isolation, determined using two measures of network size (total number of network members and number of people respondents couldn't imagine life without) were assessed using the hierarchical mapping technique, an ego-centric name generating instrument grounded in the Convoy Model of Social Relations. Bidirectional cross-lagged effect models were conducted to test main effects as well as competing theories of cumulative advantage/disadvantage and age as leveler. The findings identify how later-life health and relationship transitions are inter-connected. Investigation of the role of education in this process highlights potentially vulnerable subgroups of older adults.

CAUSAL LINKS BETWEEN SOCIAL NETWORKS AND HEALTH

M. Brandt², C. Deindl³, 2. *Technical University Dortmund, Dortmund, Germany*, 3. *University of Cologne, Cologne, Germany*

This study considers the complexity of the relationship between health and social networks. Specifically, the analysis examines network size, composition and social support exchange in relation to self-rated health. The data are drawn from The German Ageing Survey (DEAS), which includes information about health and social networks (using a name generator) over a period of 18 years (1996–2014). In the first step, we estimate fixed-effects models to disentangle the influences of changes in social networks on health and vice versa. In the second step, we use a cross-panel design in order to analyze specific connections between different aspects of social networks and health over time. First results indicate significant effects of health on social networks and vice versa over time. In particular, the variable of social support shows a causal connection to health, after direct and indirect paths between health and social network are incorporated into the analytical model.

SOCIAL NETWORKS AND WORRY AMONG CHINESE OLDER ADULTS IN IMMIGRANT FAMILIES

I. Chi¹, L. Xu², 1. *School of Social Work, University of Southern California, Los Angeles, California*, 2. *University of Texas, Austin, Texas*

This study considered three groups of Chinese older adults in immigrant, transnational, and nonmigrant families. It investigated what they worry about and the relationship of their social networks to their degree of worry (N=786). Analysis of variance, chi-square tests and stepwise linear regression were conducted. Results showed that most participants worried about having no one to take care of them when their health needs increase. In general, older Chinese adults in immigrant families had the highest levels of worry. Emotional closeness with adult children was a significant correlate of worry for all respondents. The influence of having local friends on reducing worry was significantly stronger among those in immigrant families, as was the influence of children's filial piety. Practitioners and policy makers should

pay special attention to older adults in immigrant families, with a particular focus on promoting emotional closeness with adult children, friend networks, and children's filial piety.

SESSION 2075 (SYMPOSIUM)

AIR POLLUTION IN BRAIN AGING AND DEMENTIA

Chair: C.E. Finch, *University Southern California, Los Angeles, California*

Co-Chair: J. Chen, *University of Southern California, Los Angeles, California*

Discussant: G.M. Martin, *University of Washington*

Over 75% of older Americans are living in metropolitan areas, and this urban-dwelling aging population will continue to grow in the coming decades. Ambient air pollution, a ubiquitous exposure in urban environments, has emerged as a new environmental factor in brain aging and dementia. Over the last few years, accumulating epidemiologic and neurotoxicological data have shown the aging brain is vulnerable to neurotoxic effects of ambient air pollutants. For instance, elevated levels of fine particulate matter (PM_{2.5}; PM with aerodynamic diameters <2.5µm) are associated with several years of faster cognitive aging and loss of white matter volume. Rodent brain models with inhaled PM exposure suggest the neurodegenerative mechanisms may involve increased neuroinflammation and soluble amyloid, and attrition of glutamate receptors. Assembling four presentations with new findings, this symposium aims to better define the individual risk, heterogeneity, and pathobiological mechanisms linking ambient air pollutants with brain aging and dementia. Epidemiological studies show that both PM_{2.5} and O₃ exposures may increase the risk for dementia in older women (Chen). Epidemiologic studies also show that PM_{2.5}-associated adverse effects on aging brain may be strengthened in populations with APOE4 alleles (Chen) and in populations of low educational attainment (Ailshire). Rodent models with PM exposures from traffic emissions document the role of the lung-brain axis in microglial activation (Block) and illustrate ApoE4 interaction with exposure contributing to brain amyloid deposition (Cacciottolo). Together these findings show that environmental factors contribute to accelerated brain aging in synergy with the ApoE4 allele risk factor for Alzheimer disease.

NEUROTOXIC EFFECTS OF AMBIENT AIR POLLUTION ON BRAIN STRUCTURE AND DEMENTIA RISK IN OLDER WOMEN

J. Chen¹, X. Wang¹, R. Casanova², M.L. Serre³, W. Vizuete³, H.C. Chui¹, S. Resnick⁴, M. Espeland², 1. *University of Southern California, Los Angeles, California*, 2. *Wake Forest School of Medicine, Winston-Salem, North Carolina*, 3. *Gillings School of Global Public Health, UNC, Chapel Hill, North Carolina*, 4. *National Institute on Aging, Baltimore, Maryland*

Ambient air pollution is a novel determinant of cognitive aging. Using a Bayesian Maximum Entropy method to estimate outdoor concentrations of PM_{2.5} (particulate matter < 2.5µm; 1999–2010) and O₃ (1996–2010) for the prospective cohort (n=7479) from Women's Health Initiative Memory Study, we examined whether long-term exposures affect the

aging brain structure and dementia risk. Residing in places with high PM_{2.5} (>12 µg/m³) increased the relative risk (by 81–92%) for global cognitive decline and all-cause dementia, with greater adverse effects in APOE ε4/4. In both region-of-interest and voxel-based morphometry (VBM) analyses of brain MRI (n>1300), increased PM_{2.5} predicted smaller white matter volumes in multi-modal association regions (frontal; temporal). In VBM, PM_{2.5} exposure also predicted smaller volumes of prefrontal cortex, but not the hippocampal-amygdalar complex (HAC). Preliminary results suggested long-term O₃ exposure was associated with smaller grey matter (bilateral HACs/temporal poles; left entorhinal/perirhinal cortices) and increased the dementia risk in older women.

PM2.5 AIR POLLUTION, EDUCATIONAL ATTAINMENT, AND COGNITIVE FUNCTION AMONG OLDER U.S. ADULTS

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This study examines whether the association between air pollution and cognitive function among older adults differs by educational attainment. Data on 13,389 adults over age 50 are from the 2004 Health and Retirement Study and were linked to 2004 annual average concentrations of ambient fine particulate matter air pollution (PM_{2.5}). Multilevel linear regression models were used to examine the association of PM_{2.5} concentrations and individual-level education on cognitive function. Higher concentrations of PM_{2.5} were associated with lower scores on cognitive function, but the association was stronger among individuals with lower educational attainment. These findings were robust to the inclusion of a variety of individual demographic, socioeconomic, and health factors as well as neighborhood-level education and income. The findings suggest the cognitive harms of pollution exposure may be offset by educational attainment, and that older adults with low educational attainment may be particularly vulnerable to air pollution.

AIR POLLUTION, MICROGLIA, AND THE LUNG-BRAIN AXIS

M. Block, 1. *Indiana University School of Medicine, Indianapolis, Indiana*, 2. *Stark Neuroscience Research Institute, Indianapolis, Indiana*

Urban air pollution exposure has recently been linked to increased risk of several central nervous system (CNS) diseases and conditions, including cognitive decline and Alzheimer's disease (AD). The mechanisms mediating these effects are poorly understood. Recent findings indicate that the brain's innate immune cells, microglia, detect and respond to inhaled pollutants, where pulmonary damage may signal to the brain through circulating factors (The Lung-Brain Axis). Here, we will reveal the role of damage associated molecular patterns (DAMPs) in the microglial response to diesel exhaust particles, discuss the effects of these circulating factors in the 3x-TG murine AD model, and explore how aging may impact this process. These findings provide insight into the mechanisms underlying how air pollution may activate microglia and deleteriously impact central nervous system health.

NEURODEGENERATIVE EFFECT OF NANOSIZED URBAN AIRBORNE PARTICULATE MATERIAL (NPM)

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Particulate air pollutants are increasingly recognized for their neurotoxic impact in human populations and in experimental rodent studies, but the mechanisms involved and interaction with the APOE $\epsilon 4$ risk factor for Alzheimer disease (AD) remain unknown.

To evaluate the mechanism behind air pollutant neurotoxicity were examined female EFAD transgenic mice (5x $FAD^{+/-}$ human APOE $\epsilon 3$ or $\epsilon 4^{+/-}$) with long-term exposure to nano-sized urban PM (nPM). nPM exposure increased cerebral β -amyloid, exacerbated by APOE $\epsilon 4$. Moreover, nPM exposure increased A β oligomers, caused selective atrophy of hippocampal CA1 neurites and decreased glutamate GluR1 subunit. nPM-induced CA1 atrophy was confirmed in wildtype female mice. Pro-amyloidogenic APP processing was also increased in neuroblastoma cells (N2a-APP/swe) with *in vitro* exposure to nPM, and correlates with alteration of lipid raft. We suggest that airborne PM exposure promotes pathological brain aging, with potentially greater impact in $\epsilon 4$ carriers throughout increased cerebral A β production and glutamatergic remodeling.

SESSION 2080 (PAPER)

GRANDPARENTING RISKS AND RESOURCES

LONG-TERM AND LATER-LIFE STEPGRANDPARENT-STEPGRANDCHILD RELATIONSHIPS

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Stepgrandchild-stepgrandparent relationships are increasingly common as a result of relatively high rates of divorce and remarriage and improved longevity. Positive intergenerational step-relationships can strengthen feelings of family solidarity and promote the social, emotional, and physical well-being of stepfamily members, yet little is known about how stepgrandchildren or stepgrandparents define and develop roles and relationships following remarriage. Guided by a developmental life course change perspective and grounded theory methods, we interviewed 41 stepgrandchildren about their relationships with 61 stepgrandparents. Some stepgrandchildren ($N = 24$) acquired stepgrandparents when they were adolescents or young adults (i.e., a biological grandparent remarried in later-life), while other stepgrandchildren ($N = 37$) acquired stepgrandparents before birth (i.e., a biological grandparent remarried when a parent of the stepgrandchild was young). Attention to variations in the ways in which stepgrandparents were acquired allowed for systematic examination of relational processes and contextual factors that affected stepgrandchild-stepgrandparent relationships in different family structures. Findings revealed that stepgrandchildren's closeness to stepgrandparents was

influenced by factors such as timing of life transitions (e.g., when in individuals' life courses intergenerational relationships began), stepgrandparents' roles in the life of the middle-generation parent and the quality of those relationships, whether or not the stepfamily defined the stepgrandparent as kin (e.g., through the use of claiming language), intergenerational contact frequency, stepgrandparents' affinity-building and how stepgrandchildren responded to stepgrandparents' efforts. Findings underscore the importance of attending to context when examining processes that affect intergenerational step-relationship development. Implications for researchers, practitioners, and educators are discussed.

INTENSITY OF CAREGIVING, WORKING, AND DEPRESSIVE SYMPTOMS AMONG GRANDPARENTS IN CHINA

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This study investigated the association between intensity of caregiving and depressive symptoms among grandparents. And whether working could relieve grandparents' depressive symptoms as a moderator. Data came from the Chinese Health and Retirement Longitudinal Study (CHARLS, 2011–2012) baseline data, a nationally representative sample of those 45 and older. The analytic sample contained 5,430 grandparents with grandchildren aged under 16. The CESD-10 was used to measure depressive symptoms with a score from 10 to 40. We used Multiple Linear Regression. Most of grandparents spent high intensity of caregiving (≥ 48 weeks/year). After controlling demographic and socioeconomic variables, rural and urban grandparents co-residing with grandchildren tended to have more depressive symptoms, when providing care for their grandchildren. However, when not co-residing with grandchildren, both rural and urban grandparents had less depressive symptoms with spending high intensity of caregiving. Working acted as a supportive moderator on depressive symptoms among rural grandparents, but tended to be a stressful moderator on depressive symptoms among urban grandparents, when grandparents provided care of high intensity. Caregiving to grandchildren may benefit mental health of grandparents, which may be because in Chinese culture "Pleasure from grandchildren reduces loneliness". But not all caregiving appears positive; caregiving could burden grandparents.

CAREGIVER OPTIONS FOR FUTURE CARE PLANNING BY OLDER CUSTODIAL GRANDPARENTS RAISING ADOLESCENTS

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Grandparents raising grandchildren worry about what will happen to their grandchildren if they die. Yet, conversations with custodial grandparents about caregiver options remain largely understudied. This qualitative study describes issues related to caregiver options for future care planning with older grandparents raising adolescent grandchildren. This research applied a phenomenological approach involving in-depth, face-to-face interviews with twenty one grandparents ranging in age from 58 to 88 years. The grandparents identified as a

primary caregiver to a grandchild 12 or older and were residents of Oklahoma, Alabama, or Kentucky. A semi-structured interview guide contained a question asking "What is your thinking about caregiving arrangements for your grandchild in case you are no longer able to provide care? What actual steps, if any, have you taken to begin these caregiving arrangements in case you are no longer able to provide care?" Recruitment methods included word of mouth, newspaper advertisements, and distributing flyers to community agencies. Interviews were audiotaped and transcribed verbatim to identify themes. Older grandparents raising adolescent grandchildren described four issues related to caregiver options and future care planning: (1) behavioral health of the grandchild, (2) rationale for preferred caregiver choice, (3) nature/status of conversation with preferred caregiver, and (4) potential conflicts with grandchildren's biological parents. These findings suggest older grandparents raising adolescent grandchildren face complex dynamics when considering caregiver options for future care planning. These older caregivers can benefit from research, practice, and policy to assist with the development of tailored interventions targeting future care planning.

DETERMINANTS OF GRANDPARENTS' PSYCHOLOGICAL WELL-BEING: GENERATIVITY AND ADULT CHILDREN'S GRATITUDE

C. Noriega¹, J. Lopez¹, C. Velasco¹, W. Yolpant², 1. *CEU San Pablo University, Madrid, Madrid, Spain*, 2. *Case Western Reserve University, Cleveland, Ohio*

Grandparents have become an important source of support for current families. Two expressions of generativity are the care provided to grandchild/ren and the values transmitted. Little data have examined how intergenerational relationships affect to grandparents' generativity and well-being. This study explored the relationship between grandparents' psychological well-being, socializing values and styles, and adult children's gratitude. Based on the Generativity Model of Chen (2009), we hypothesized that the influence on the grandparents' well-being of the values they desire to transmit to their grandchild/ren (generative concerns) would be mediated by their socializing styles (generative acts), and adult children's gratitude (perception of recipient's attitude). Grandparents' socializing styles would also influence their well-being mediated by their adult children's gratitude. This study consisted of 300 grandparents from Madrid (Spain), with grandchild/ren aged 6–12 years old. Participants' mean age was 71.55 (SD=7.32) and 56% were women. Excellent model fit was found using Path Analysis ($\chi^2=51.77$; $p=.26$; CFI=.98; TLI=.98; RMSEA=.02). Personal and relationship values predicted participants' psychological well-being mediated by socializing styles (democratic and liberal styles) and adult children's gratitude. A direct influence of the abilities and knowledge values on psychological well-being, which had not been hypothesized in the original model, was found. No significant associations between authoritarian style and well-being were found, once other variables were considered. These results highlight that grandparents' engagement in generative acts positively affect their well-being, especially when adult children express gratitude for the help provided by grandparents. This suggests the need to promote intergenerational shared activities and positive family interactions.

RESOURCE DEPLETION OR MOBILIZATION? GRANDPARENTING AND ITS MENTAL HEALTH IMPLICATIONS IN TAIWAN

C. Peng, *Senior Citizen Service Management, Minghsin University of Science and Technology, Hsin-Chu, Taiwan*

As considerable studies have been done to investigate the effects of grandparenting on grandparents' health, most of these studies were conducted in Western societies and have found mixed results. To fill these gaps, this study drew on longitudinal data from the Study of Health and Living Status of the Elderly in Taiwan to extend the knowledge of grandparenting to a cultural context that differs from the United States, where the majority of the research in this area has been conducted. Based on the stress and process theory, two contrasting models were built to test the effect of grandparenting on grandparents' mental health. The resource depletion model hypothesized that grandparenting functions as a stressor that diminishes mental health, while the resource mobilization model specified that grandparenting mobilizes psychosocial resources that improve grandparents' mental health. Structural equation modeling was utilized to perform the analysis. The results supported the resource mobilization model, which suggests a positive relationship between grandparenting and grandparents' mental health. It further revealed that grandparenting provides a protective effect on grandparents' mental health through increased social support, and multigenerational living arrangement also has positive effects on grandparents' mental health among Taiwanese elderly. These findings suggest that cultural context and the expectations of the caregiving role may affect the health impact experienced by grandparents. This study suggests caution in assuming that findings in Western countries may be valid across societies, or that interventions based on these findings can be applicable in other countries.

SESSION 2085 (SYMPOSIUM)

SUCCESSES IN OLDER ADULT NUTRITION AND PHYSICAL ACTIVITY STUDIES: A USDA MULTISTATE RESEARCH PROJECT

Chair: D. Buys, *Mississippi State University, Starkville, Mississippi*

Co-Chair: J. Gilbride, *New York University, New York, New York*

Midlife and older adults represent the fastest growing segment of the US population; they have higher rates of obesity, chronic disease and disability than previous generations and current younger adults. Often preventable with effective nutrition and/or physical activity interventions, such efforts require collaboration between disciplines and institutions and across the levels of the socio-ecological model. This symposium highlights a multistate research project (MSRP) begun in 1989 in the northeastern United States through the United States Department of Agriculture's MSRP mechanism. Working in partnership with the National Institute for Food and Agriculture, state agricultural experiment stations conduct and coordinate targeted investigations on high priority topics like nutrition and aging. This MSRP is a long-term collaboration among multidisciplinary scientists from private and state universities, including Land Grant Universities and

Cooperative Extension. The research, carried out in 5-year cycles, addresses specific goals for finding novel interventions and approaches to improve the nutritional health of older adults. For more than 20 years, multidisciplinary scientists have built on a legacy of prior research and a culture of collaboration by sharing resources and knowledge, jointly collecting qualitative and quantitative data to assess diet and health, testing tools in rural, suburban and urban settings, and expanding nutrition education and outreach. Some of these efforts are presented here, with projects addressing enablers of healthy eating among diverse older adults, measurement of sarcopenia in older women, factors influencing the nutritional risk and food intake of community-residing older adults, and telenutrition as an outlet for nutrition intervention among obese men.

RECOMMENDATIONS TO SUPPORT ENABLERS OF HEALTHY EATING IN OLDER ADULTS IN DIVERSE COMMUNITIES

N. Cohen¹, Q. Jiang¹, M. Ventura Marra², K. Woolf³, J. Gilbride³, S. Francis⁴, 1. *Department of Nutrition, University of Massachusetts Amherst, Amherst, Massachusetts*, 2. *West Virginia University, Morgantown, West Virginia*, 3. *New York University, New York, New York*, 4. *Iowa State University, Ames, Iowa*

Communities can provide an “age-friendly” environment to support healthy eating in older adults (OA) by addressing the highest priority approaches that promote key enablers of good nutrition. Using the Social Ecological Model, nutrition and aging professionals (n=30) from two rural (WV, IA) and two urban (MA, NY) city/county regions participated in focus group discussions to identify and prioritize enablers and behavioral settings essential for OA nutrition. Transcripts were recorded and analyzed for major themes using content analysis. The most important enablers were accessibility and cost, transportation and social support. Recommendations to improve enablers included nutrition education and outreach; modifying or expanding services and advocacy to improve accessibility and transportation; gearing program or food content and the built environment specifically to OA needs; addressing partnerships, policies, discounts and financial assistance to improve affordability; and fostering social support and empowerment. Community-based interventions targeting enablers can support older residents in achieving optimal nutritional health.

IDENTIFYING SARCOPENIA IN OLDER RHODE ISLAND WOMEN USING CURRENT DEFINITIONS

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Several working groups have established guidelines for the identification of sarcopenia (i.e. age related loss of lean mass) among older adults. However, more data need to be collected to determine sarcopenia prevalence among older populations using these guidelines. For this purpose a cross-sectional analysis was performed in a sample of older, community dwelling, female Rhode Island residents (n=93) aged 68.3 ± 7.0 years with a BMI of 29.6 ± 6.2 kg/m². Appendicular

lean mass was evaluated via DXA and bioelectrical impedance. Participants' gait speed and grip strength were assessed. Using any definition there was sarcopenia prevalence of 17.2%, while criteria specific prevalences varied from 2.2%-12.9%. Sarcopenia classification variations between different guidelines are in line with other populations but indicate the variation in prevalence depending on guidelines used and lack of agreement between sarcopenia classification guidelines. These results warrant further evaluation with a larger cohort and among different sub-populations such as race and/or ethnic groups.

FACTORS INFLUENCING THE NUTRITIONAL RISK AND FOOD INTAKES OF COMMUNITY-RESIDING OLDER ADULTS

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Understanding the nutritional status and food intakes of older adults is essential if this population is to remain independent. A multistate cross-sectional study evaluated the nutritional risk (NR) and food practices of 352 older adults attending various community-based health interventions. Most participants were white (77.6%) women (83.5%) between the ages of 60 to 70 years (42.9%). The majority were classified as “at possible NR” (53.7%) or “at NR” (26.4%). Participants had “low” lean protein, dairy and processed meat intake frequencies and “moderate” intake frequencies of whole fruit and juice, total and whole grains, vegetables and added fats, sugars and sweets. Factors influencing these food intakes include state, age and gender ($p \leq .05$). Results indicate that older adults choosing to participate in lifestyle interventions are at NR. Future needs-based nutrition education programs designed to reduce NR should target protein intakes while addressing the role of state, age, and gender on food intakes.

IMPROVING WEIGHT STATUS IN OBESE MIDDLE-AGED AND OLDER MEN THROUGH TELENUTRITION

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Obesity threatens the health, functionality, and quality of life of 34.5% of men in the United States with middle-aged men at highest risk. A randomized controlled trial piloted the effect of a 12-week telenutrition weight loss program compared to usual care on body weight in obese men, ages 40–70 with hypertension, diabetes or hyperlipidemia. Both groups (n=60) received educational materials; only the intervention group received individualized weekly support by a Registered Dietitian via telephone and videoconferencing.

In both groups, body weight was significantly reduced from baseline by 3.0% (95% CI: 1.5%, 4.0%; p-value: <0.001) at week 6, and by an additional 1.5% (95% CI: 0.8%, 2.2%; p-value: <0.001) at week 12. Body weight in the intervention group was further reduced by 1.9% (95% CI: 1.4%, 3.6%; p-value: 0.034) at week 12. Telenutrition can be effective for weight loss among men in health disparate areas like Appalachia.

SESSION 2090 (SYMPOSIUM)

THE UNSEEN CAREGIVER: SURVIVORSHIP, CREATIVITY, AND INNOVATION

Chair: K. Cloyes, *University of Utah, Salt Lake City, Utah*

Co-Chair: J. Eaton, *University of Utah, Salt Lake City, Utah*

Discussant: L. Ellington, *University of Utah, Salt Lake City, Utah*

Older adults will constitute 16% of the world's population by 2050. Meeting the care needs of scores of older adults with chronic health conditions will depend on the contributions of "informal" care provided by family caregivers and formal care provided by health aides and nursing assistants. Moreover, the vast majority of these caregivers are women whose labor represents billions of US dollars, even as they report struggling with financial and personal burdens.

This symposium examines the experiences and challenges of three groups of caregivers who, while collectively providing care and support to many older adults, report feeling "unseen", unacknowledged, and unsupported. Comparative analysis of their situation reveals both difficulties associated with their sense of "invisibility" and opportunities for enhancing support and empowerment. Jones describes the lack of social and medical discourse concerning family caregivers of cancer survivors, including gaps in understanding how they transition from chronic illness phase to survivorship and implications for support. Cloyes explores perceptions of creative caregiving and connections with long term care outcomes among nursing assistants, a group seldom included in research. Finally, Eaton presents findings on the use of ethnodrama to highlight the experiences of family caregivers, including its potential to promote public discussion of the caregiving experience and caregivers' social support. Ellington, an expert in communication between informal and professional caregivers, will facilitate discussion of how a broader and more inclusive view of caregiving, including innovative methods, will expand the science of caregiving.

ANALYSIS OF SURVIVORSHIP DISCOURSE IN RELATION TO CANCER CAREGIVERS

A. Kuglin Jones, *University of Utah, Salt Lake City, Utah*

Cancer is the second most prevalent condition that necessitates the assistance of nearly three million American family caregivers. Caregivers of adult cancer survivors are invisible partners in the survivorship journey created by a cancer diagnosis. A structure exists to describe the trajectory of survivorship and support for individuals with cancer but comparative research is lacking in revealing such a framework for caregivers. I conducted a critical literature review and a model

inclusive of 6 elements; language, identity, societal reaction, analogy/metaphor, meaning of health, and support, emerged allowing for survivorship discourse in relation to the cancer survivor. Analysis revealed a lack of linguistic or theoretical resources to describe the survivorship experience through the lens of the caregiver. No common social language exists to explain the caregiver experience. Without a common way to define, describe or explain the experience, identity is conflicted, health is ignored and support mechanisms absent.

NURSING ASSISTANTS AS AGENTS OF CREATIVE CAREGIVING IN LONG-TERM CARE

K. Cloyes, J. Eaton, L. Ellington, *College of Nursing, University of Utah, Salt Lake City, Utah*

Nursing assistants (NAs) provide most direct care for long term care (LTC) residents, greatly impacting resident wellbeing, yet are often seen as "unskilled" labor. Our study explores how arts-based caregiving techniques may improve resident quality of life and NA empowerment. We present content analysis of focus group data from NAs in two LTC facilities (n = 12). Initially, NAs related creativity to being "artistic," not to caregiving. Yet they then described engaging residents in creative activities (singing, dancing, storytelling) to build relationships and reduce challenging behavior. While most frequently linked with discerning and responding to resident needs, creativity was also foundational to time management, teamwork and navigating challenges. Many reported learning creative approaches by watching experienced NAs and that, while appreciated by family members, these skills are often unrecognized by professional staff. Developing NA-centered interventions to promote creative caregiving may enhance both person-centered LTC and NA empowerment, improving resident care.

COMMUNITY-BASED ACTION TO MAGNIFY THE FAMILY CAREGIVER EXPERIENCE THROUGH ETHNODRAMA

J. Eaton¹, N. Madsen², *1. College of Nursing, University of Utah, Salt Lake City, Utah, 2. Utah Caregiver Support Program, Salt Lake City, Utah*

The majority of long term care needs are placed upon family members who often have minimal support. In this study we collaborate with family caregivers to create an ethnodrama about their experience and evaluate the efficacy of professional performance to increase knowledge and motivate action. Twenty-two participants met over four months to discuss their life as caregivers. Discussions were analyzed in a two phase process and themes were developed into a script performed five times for 253 attendees. Evaluations (n=153) noted that 70.8% felt the performance represented their experience and 81% were motivated to take action. Caregivers expressed feeling valued and relief at the knowledge that they are not alone. While many related to the content, others assumed that action only applied to those providing care. Ethnodrama has the potential to humanize the complex reality of caregiving for family, professionals, and policy makers.

SESSION 2095 (PAPER)

HEALTH AND SOCIAL SERVICE INTERVENTIONS AND SOCIAL NETWORKS

SOCIAL INNOVATION IN AGEING, THE CHALLENGE OF SCALABILITY AND REPLICABILITY, NETWELL 10 YEARS ON

L. Carragher^{2,1}, R. Bond^{2,1}, 1. *Dundalk Institute of Technology, Dundalk, Ireland*, 2. *The Netwell Centre, Dundalk, Ireland*

Background: Evidence suggests that social innovation and ‘whole system’ approaches to facilitate greater levels of independence for older people are key to future sustainability of health and social care systems. However, little is known about how to make social interventions in the ageing field scalable and replicable. The aim of this program, introduced in Ireland in 2006 as a longitudinal collaborative experiment between the Health Service, Local Government and an academic partner, the Netwell Centre, was to develop, test and report on a range of service interventions for ageing.

Methods: A community-based participatory research approach was implemented to partner with older adults, health care practitioners, not-for-profit providers and communities.

Results: A total of 1,021 older adults continue to be supported at home through dedicated service brokerage to ensure access to the most appropriate services. Where service gaps are identified, these are filled through community and voluntary collaborations. 54 volunteers provide weekly home visits to the most vulnerable. 48 volunteers provide a daily telephone information service, making an average of 100 calls per day. 338 older men regularly participate in non-formal learning activities in Men’s Sheds. 124 older women attend weekly social groups. 20 families receive dementia support, including one-to-one communication and care-giving training. 240 older adults from community groups and nursing homes attend a social event every 6 weeks to grow and maintain social networks.

Conclusions: Ten years on, our evidence suggests that while many of the elements of a whole system approach can be replicated, this is dependent on community vitality and ensuring the 3rd sector is properly engaged with service delivery partners.

THE SOCIAL NETWORKS OF OLDER MIGRANTS IN LUXEMBOURG: STRUCTURE, SUPPORT, AND CHALLENGES TO OLD AGE

A. Ramos, *INSIDE, University of Luxembourg, Luxembourg City, Luxembourg*

Studies on social relations have shown the importance of categories such as class, gender, and health in the composition of the social networks of older people. Although ethnicity has been taken into account (Ajrouch, 2007, 2008), we still know very little about if and how migration influences the development of older migrants’ networks, and if and how it shapes the exchange of emotional and practical support. The present qualitative study sheds light on this question, by analysing the egocentric social support networks

(Kahn & Antonucci, 1980) of 35 individuals aged 65+, who migrated to Luxembourg in early adulthood, coming from Italy, Portugal, Germany, Belgium, and France. The results show that although older migrants have transnational and spread networks, their interpersonal interactions are mainly with co-nationals, with whom they share the same language and cultural background. The exchange of support is challenged by economic restrictions in interacting at distance, by the return of close friends after retirement, and by their low mobility when becoming very old and fragile. The study goes beyond the discussion on transnational care delivered by migrant family members (Baldassar & Merla, 2014), giving visibility to the support provided by non-kin, as neighbours and friends.

WHOSE CAREGIVER IS AT HIGH RISK? PREDICTING HELP WITH ACTIVITIES OF DAILY LIVING FROM CLAIMS DATA

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Unpaid caregivers make substantial contributions toward the well-being of family members with physical and cognitive disability. One estimate places the value of these contributions at \$470 billion annually in the US. Many caregivers are unprepared for the physical and emotional stress, potentially impacting their own health and psychological well-being. Caring for someone with higher levels of disability increases the risk. While there are proven programs and interventions to support caregivers, the healthcare system faces a problem: by its very nature, their work is not visible, and is not part of the medical record, making it nearly impossible to target them prospectively. We sought to develop a method for identifying caregivers that could be implemented by a health system or health insurer as part of an outreach effort. Using data from the 2011 Medicare Current Beneficiary Survey, we identified community dwelling people age 65 and older. We compared the predictive power of three models. Basic demographic characteristics alone correctly classified 67.2% of cases as having a helper that provides support with either basic or instrumental activities of daily living. Adding claims for durable medical equipment correctly classified 68.7% of cases and adding diagnostic information correctly classified 70.6%; positive predictive value 72.8%. A second series of models was estimated to predict ‘high risk’ caregiving (e.g., two or more activities of daily living). Using this approach, outbound telephone calls could be targeted to identify people who could benefit from supportive programs. Future research will validate this predictive model as a screening tool.

SOCIAL NETWORKS ASSOCIATED WITH COGNITIVE FUNCTION AMONG CHINESE ELDERS: A ONE-YEAR FOLLOW-UP STUDY

Y. Cai, D. Cui, *Nursing, Wuhan University, Wuhan, Hubei, China*

This study aims to examine social networks of Chinese elders and explore their influences on cognitive function and the risk for elders having mild cognitive impairment (MCI). A longitudinal database of elderly Chinese from urban China during 2014–2015 was analyzed. A sample of 1295 elders

was investigated in 2014 and a total of 614 (47.4%) were followed up in 2015. Two types of regression models were used to explore influences of social networks on cognitive function status (a change in the MoCA score) and the risk for having MCI (MoCA score < 26) among these urban elders. The approximate age of this group was 74 years and they had on average one chronic disease. More than half (57%) were at-risk of having MCI. The most important component of their social networks was family (100%) with the majority having face-to-face contact (91.3%). More complex and stable social networks were statistically significant in association with better cognitive function status. The findings imply that developing various types of social ties at an earlier age is beneficial to maintaining cognitive function over time. This study suggests that social interventions and services can provide opportunities for Chinese elders to keep or rebuild connections with old friends, classmates, colleagues, relatives, and acquaintances, which may be more helpful in maintaining cognitive function.

FEE-FOR-SERVICE OR MANAGED CARE? INVESTIGATING DUAL ELIGIBLE CONSUMER PREFERENCES FOR HEALTH CARE

K.G. Kietzman¹, K. McBride¹, M. Moon², A. Bacigalupo², A. Benjamin¹, A. Reynoso¹, S.P. Wallace¹, A. Bacong¹, 1. *UCLA Center for Health Policy Research, Los Angeles, California*, 2. *Westside Center for Independent Living, Los Angeles, California*

The CHOICE study investigated the preferences and decision-making behaviors of dual eligible health care consumers (i.e., those eligible for both Medicare and Medi-Cal) in Los Angeles California. Between April 2014 and March 2015, eligible consumers were enrolled into a managed care demonstration program called Cal MediConnect unless they actively opted out. Cal MediConnect is designed to integrate the financing and delivery of Medicare and Medi-Cal benefits and provide vulnerable consumers with better coordinated care. Yet uptake and retention of Cal MediConnect has fallen far below expectations. We conducted 48 in-depth interviews with consumers who either “opted out” or were enrolled in a Cal MediConnect plan. Using constant comparison analysis, we identified a complex set of factors that influenced consumer decision-making including: relationships with and access to providers; anxiety and confusion about health care options; and perceptions of health care quality. While consumers acknowledged that extra benefits offered through Cal MediConnect were attractive, many were willing to forgo these advantages in order to retain an existing and trusted network of care. Many who “opted out” also preferred to direct their own care and generally disliked the restrictions they associated with managed care. Case studies illustrate how consumers evaluated the options available to them and highlight differences by age, race/ethnicity, and level of disability. Understanding how individuals make health care decisions will help inform strategies for effectively communicating with and responding to the preferences of a diverse group of dual eligible health consumers and practices that better support health-related consumer decision making.

SESSION 3000 (SYMPOSIUM)

DISRUPTING AGING: CHANGING PARADIGMS OF REACHING OLDER ADULTS IN UNDERSERVED COMMUNITIES

Chair: A. Chodos, *University of California, San Francisco, San Francisco, California*

Co-Chair: E. Tan, *AARP, Washington, District of Columbia*

Medical, social and mental health services for older adults are often poorly integrated in underserved communities. This leads to missed opportunities to support and improve the wellbeing of vulnerable older adults. This symposium will first engage the audience in understanding how cultural and psychological factors shape the experience of aging, and then it will explore how innovative programs incorporate this knowledge to address the needs of the most vulnerable older adults. This session is brought to you by AARP and the University of California, San Francisco's *Optimize Aging Collaborative*.

Specifically, this symposium will show how expectations of aging differ among minority older adults and how the impact of negative stereotypes of aging can lead to poor health, and then focus on programs that disrupt the current paradigm of aging. These include an example from Japan where the postal service, working with IBM and Apple, delivers iPads to millions of older adults who can then connect with services, their community and their families and the One City, One Strategy program in San Francisco that through successful collaborations reaches some of the most underserved older adults - such as those in minority communities, those living alone, and adults with dementia. The intended audience for this symposium is broad and includes healthcare providers, educators, city planners, and community-based services and agencies.

ETHNICITY DIFFERENCES IN EXPECTATIONS REGARDING AGING AMONG MINORITY SENIORS

J. Menkin¹, D. Araiza¹, C. Reyes¹, L. Trejo², S. Choi¹, P. Willis³, H. McCreath¹, C.A. Sarkisian¹, 1. *University of California, Los Angeles, Los Angeles, California*, 2. *City of Los Angeles, Los Angeles, California*, 3. *Watts Labor Community Action Committee, Los Angeles, California*

Although there are accumulating, international studies on expectations regarding aging, few have examined ethnicity differences in expectations within the United States (and have only compared Caucasian, African American, and Latino older adults). Asian societies are hypothesized to have higher esteem for older adults than western societies; however, the empirical literature is mixed. We examined differences in expectations regarding aging across 240 African American, Latino, Chinese, and Korean older adults in the Los Angeles area. Contrary to the typical East/West hypotheses, Chinese and Korean older adults had significantly lower expectations regarding aging than African American and Latino participants, even after controlling for other sociodemographic factors. Ethnicity accounted for more variance in expectations about social and emotional changes than in expectations about physical or cognitive function, indicating greater cultural differences in older adults' social roles than in their

expected physical and cognitive changes. Implications for interventions targeting aging expectations will be discussed.

INTERVENING TO REDUCE THE NEGATIVE IMPACT OF STEREOTYPE THREAT ON OLDER ADULTS' MEMORY PERFORMANCE

S. Barber, S. Ching Tan, J. Seliger, S. Niblett, *San Francisco State University, San Francisco, California*

Stereotype threat occurs when people know that poor performance on their part will confirm a negative, self-relevant, stereotype. In response to this people often underperform compared to their potential and inadvertently confirm the stereotype. This in turn has important clinical implications. In one study, stereotype threat more than doubled the number of older adults who fell below a clinical threshold for cognitive impairment on a brief cognitive status examination. The goal of the current research was to test whether affirming personal and cultural values would reduce stereotype threat in English and Chinese-speaking older adults. Although value affirmations are effective for younger adults, there was mixed support with older adults. This adds to other research showing that factors modulating stereotype threat effects in younger adults do not always hold when examining older adults. It also highlights the need to identify interventions that effectively eliminate stereotype threat effects specifically in older adults.

PROVIDING INTEGRATED DIGITAL SERVICES TO ISOLATED OLDER ADULTS—INTERNATIONAL RESEARCH AT IBM

N. Palmarini¹, L. Myers², *1. IBM, Cambridge, Massachusetts, 2. IBM, Orlando, Florida*

IBM Research, which developed an answering computer called Watson, is now being applied to Aging-in-Place support for isolated seniors in Japan and Italy, two countries that are leading the demographic transition of an aging world. Cognitive 'assistants' designed to understand and interact, along with aging-accessible mobile technologies are examples that will be presented in a case study from Bolzano, Italy where IBM is implementing an optimized aging in place solution to support caregivers to make informed decisions and enhance both quality of life and safety. In a second case study from Japan, IBM research will demonstrate how pioneering text analytics and accessibility technologies (such as natural language analysis and tracking) have been used to connect rural older adults to health services through Japan Post. We will report the results of the expansion of these large-scale demonstrations of how technology device-based services can preserve personal dignity and independence.

PARTNERING TO BETTER SERVE VULNERABLE OLDER ADULTS: THE OPTIMIZE AGING COLLABORATIVE

A. Chodos, A. Neumann, J. Rivera, J. Myers, R. Frazier, L. Walter, *University of California, San Francisco, San Francisco, California*

All U.S. communities are facing the demographic imperative of serving increasing social and medical needs of older adults. Despite this, there is poor integration of social and medical services, and most professionals working with older adults do not have formal training in key knowledge

areas related to the care of older adults. In San Francisco, we formed a partnership of public, private and academic groups engaged in aging services, called the *Optimize Aging Collaborative*, with the goal of training all professionals in the skills needed to be competent in responding to the needs of all older adults. We included a specific focus on particularly vulnerable older adults- those who live alone, who are lesbian, gay, bisexual or transgender, or who have dementia. We will demonstrate how our collaborative has increased knowledge and commitment to improve the well being of older adults and which elements of this partnership contribute to its success.

SESSION 3005 (SYMPOSIUM)

CREATING CARING COMMUNITIES: SOCIAL CAPITAL FORMATION AND AGING IN PLACE

Chair: A.E. Scharlach, *University of California, Berkeley, California*

Discussant: T. Scharf, *Newcastle University, United Kingdom*

Communities throughout the world are seeing the emergence of new types of consumer-driven support structures to promote aging in place, driven in part by global transformations in traditional family and societal supports. Of particular interest are grassroots community-based efforts that not only provide needed assistance, but also promote social connection, meaningful activity, civic engagement, and an increased sense of communal trust and solidarity. This symposium examines existing evidence regarding four of these initiatives: the Village model (US, Netherlands, Australia), Supportive Communities (Israel), Active Caring Communities (Belgium), and civil society voluntary care networks (Sweden). In the Village model, older community members create their own elder-led support organizations, assuming primary responsibility for operations, financing, and peer support. In Supportive Communities, a retired community member serves as a convener and key source of social and instrumental support, with administrative and financial assistance from the government. Active Caring Communities involve a neighborhood-organized model of care that supports frail older people to age in place in deteriorated neighborhoods. Finally, Swedish data examine the growth of peer and cross-generational informal assistance networks in the context of declining societal supports for older adults. Leading scholars will critically examine existing knowledge regarding each of these approaches, with particular attention to the ways in which they contribute to individual well-being, community social capital, and the ability to age in place.

FOSTERING SOCIAL CAPITAL THROUGH THE VILLAGE MODEL

A.E. Scharlach, C.L. Graham, *Social Welfare, University of California, Berkeley, California*

The Village model is an innovative approach to aging in place through social capital development, reflecting Villages' unique combination of community development, consumer direction, social engagement, civic engagement, and collective bargaining for services. This paper reports findings from a 3-year longitudinal study of 191 members of seven

US Villages regarding social impacts of Village membership. During their first 36 months as Village members, respondents experienced significant increases ($p < .05$) in the amount of interpersonal contact, group participation, ability to get help with routine tasks, ability to get places when needed, and feeling of belonging to a community. Earlier qualitative data revealed that the benefits of Village membership reported most frequently were the security of knowing that help was available when needed, social activities, and the sense of being part of a community. These findings are discussed regarding their relevance for social capital development in emerging models of community-based support.

AGING IN PLACE IN A SUPPORTIVE COMMUNITY

S.Y. Hantman¹, I. Hemel², 1. Tel-Hai College, Tel Hai, Israel, 2. Upper Galilee Municipality, Upper Galilee, Israel

This presentation describes the Supportive Community Program in a rural community in the north of Israel. The current demographic, social and economic changes the modern Kibbutz is undergoing in the last two decades created a renewed look at the services for the aged. One answer to these phenomena is the Supportive Community Program that underscores the role of the older adult as an equal partner in planning and creating a working community that will be accessible, suitable and flexible encouraging aging in place. This program, instigated by JDC - Eshel, is a package of services provided to older adults living in a designated geographic community. It reduces the need for the older adults to move out of their homes into institutional facilities as they age and their functional abilities decline, and allows them to remain at home in their communities by delivering the necessary services to them.

CARE CONVOYS WITHIN AN ACTIVE CARING COMMUNITY

D. Lambotte, L. De Donder, A. Smetcoren, T. Kardol, B. Team, *Vrije Universiteit Brussel, Brussels, Belgium*

This study aims to provide insights into the dynamic, diverse and multilayered characteristics of older persons' care networks. Longitudinal data used were gathered during three interview periods (2014, 2015, 2016) from the "Active Caring Community" project. The project is one of the six Care Living Labs in Belgium. 12 focus groups ($N = 98$) and 11 individual interviews with older people living in Antwerp and in 2 neighborhoods in Brussels are analyzed. Results indicate that care networks of older people are very diverse including a complex interplay between family, neighbors, social networks, semi-professionals and formal caregivers. Care networks are multidimensional whereby informal and formal caregivers differ in positioning according to the structure, function and adequacy of the provided care. Furthermore, turnover moments during the life course demonstrate the dynamic aspect of care convoys. Several policy recommendations to support care convoys within an Active Caring Community will be discussed.

CIVIC INVOLVEMENT AMONG CITIZENS AGE 75+ IN SWEDEN: PROFILES AND PATTERNS OF CHANGE

M. Jegermalm^{1,2}, E. Jeppsson-Grassman³, 1. Social Sciences, Ersta Sköndal UC, Huddinge, Huddinge, Sweden, 2. Dalarna University, Falun, Sweden, 3. Institute for the Study

of Ageing and Later Life (NISAL) Linköping University, Department of Social and Welfare studies, Linköping, Sweden

The demographic trend with aging populations is a challenge for the welfare states, and old-old people are viewed as recipients of care and as a burden. In contrast to this view this paper discusses *volunteering in organizations* and *informal caregiving* among community-residing persons aged 75+ in Sweden. A country characterised as a 'Public-Nordic' welfare model, where one would expect civic involvement to be of less importance. The presentation will be based on a national statistical representative survey repeated five times in the period 1992–2014. The results challenge the view of seeing old-old people as mere recipients of services and care. Many people 75+ are actors in civil society – in fact they were the single age group where volunteering had increased the most over time. The findings challenge simplistic interpretations of the role of the welfare state - the public sector seemed to have an enabling function for civic involvement.

SESSION 3010 (SYMPOSIUM)

AGING AND MENTAL HEALTH: GLOBAL PERSPECTIVES

Chair: S. Cummings, *University of Tennessee*

Co-Chair: W. Li, *James Cook University, Townsville, Queensland, Australia*

Discussant: N. Kropf, *Georgia State University, Atlanta, Georgia*

Globally, the number of elders is growing at an unprecedented rate. As the older population continues its inexorable growth, so does the number of older adults with mental health disorders, such as Alzheimer's Disease, depression, anxiety, schizophrenia and substance abuse. The WHO estimates that 20% of older adults worldwide have neurological and psychological disorders (2015). The number of those with dementia is expected double to over 81 million by 2040. Late-life depressive disorders are also prevalent and are the leading cause of disability in older adults worldwide. Mental disorders lead to increased morbidity and mortality in older adults, and generate significant social and economic burdens in terms of increased strain on families and higher medical costs for societies. Mental health and well-being of older people across the globe are influenced by varying personal characteristics, cultural factors, familial constructs, and national policies and resources. This symposium will provide an understanding of issues related to ageing and mental health from a global perspective. Gerontological experts representing North American, Oceania, Europe, South Asia and East Asia will discuss the status of aging and mental health in their countries including prevalence, culture, caregiving, policies and services. With the continued global expansion of older populations, developing effective approaches to address geriatric mental health disorders is essential for the social and financial well-being of nations. The need for policies and aged care services to respond to the diversity in mental health issues for elders in socially, culturally, and geographically different settings will be discussed.

AGING AND MENTAL HEALTH: THE U.S. PERSPECTIVE

S. Cummings, S. Trecartin, *University of Tennessee, Knoxville, Tennessee*

By 2040 21% of those living in the U.S. will be 65 years of age and older. U.S. citizens come from different cultures and bring with them varying views of aging. However, the U.S. has long been a country with a primary focus on youth. Even though the U.S. population is rapidly becoming older, ageism persists. It is estimated that 20% of the older population experience mental health problems, including dementias, depression, anxiety and substance misuse. However, ageism and mental health stigma create barriers to adequate attention being focused on later-life mental health issues. National health insurance programs reimburse for mental health services for older adults, and recent federal policies have increased insurance compensation for mental health disorders. However, application of the federal policies vary by state, and service gaps still exist. Cultural and political factors impacting older adult mental health services will be considered.

MENTAL HEALTH IN LATER LIFE—AN AUSTRALASIAN EXPERIENCE

H. Park³, W. Li², 2. *James Cook University, Townsville, Queensland, Australia*, 3. *Western Sydney University, Sydney, New South Wales, Australia*

Both Australia and New Zealand are ageing societies where their populations are growing older and more diversified. As is the case in most developed nations, a significant proportion of older people experience mental health issues in their everyday lives in these nations. The prevalence of mental illness, ranging from depression to dementia, is significantly increasing among older adults across genders, cultures and ethnicities. Consequently, there is greater pressure on the health and social care system to meet the needs of older adults with mental health conditions, and such challenges will be constant in coming decades. This presentation provides an outline of 'mental health in older adults' in Australian and New Zealand contexts. It also discusses major issues associated with services and policies, alongside current programmes and practice models, in mental health care for older people in both societies. Cultural influences and caregiving realities are addressed for further discussion.

AGEING AND MENTAL HEALTH IN JAPAN, KOREA, AND INDIA

H. Kase, *School of Human Sciences, Waseda University, Tokorozawa, Saitama, Japan*

One of the most common features of ageing in Japan, Korea and India is the rapid expansion in the proportion of older adults. For example, the share of India's population aged 60 and older is projected to climb from 8 % in 2010 to 19 % in 2050. This population ageing is likely to be associated with a further increase in the number of older adults with mental health problems in these countries. The prevalence of dementia is 8~10% of aged population in Japan, 8.1%~8.9% in Korea, and has been shown to vary from 0.84% to 6.7% in Indian studies. This presentation will discuss current issues and practices related to mental health in older adults in these three nations. The presentation will also

address the importance of community-based mental health service delivery systems to meet growing needs on long-term care and mental health services, and to reduce a financial burden on medical care.

SWITZERLAND: TOWARD AN INCREASING AWARENESS OF OLD PEOPLE'S MENTAL HEALTH

E. Galleguillos, *University of Lausanne, Lausanne, Switzerland*

In Switzerland, there is strong evidence of the significant human, social, and economical consequences of mental health problems. Although the country has one of the highest life expectancies in the world, with over 17% of the Swiss population being over 65, interest in mental health in later life is lacking. Moreover, despite a performing and expensive healthcare system, the federal structure and subsidiarity characterizing the Swiss political system tend to impede the implementation of coherent mental health policies. This presentation provides data regarding the prevalence of mental disorders affecting the elderly and current key policy debates.

BEYOND TRADITIONAL VALUES: MENTAL HEALTH IN LATER LIFE IN CHINA AND HONG KONG

A. Au¹, W. Li², 1. *Hong Kong Polytechnic University, Hong Kong, China, Hong Kong*, 2. *James Cook University, Townsville, Queensland, Australia*

According to the World Bank, China has the fastest aging population in human history. Strongly influenced by filial piety, there has been a culture of honoring an older person as a 'treasure at home' However due to various factors including rapid urbanization and associated policies, empty nest households are becoming more prevalent in Mainland China. In Hong Kong, traditional values are eroding, reinforced by a decline in the social status of older adults as a result of relatively low levels of education and lack of gainful employment. Moreover, social stigma and 'face saving' are prevalent in Chinese cultures. Mental illness is considered shameful. Negative stereotypes affect intervention models. This presentation examines the development of mental health services in China as well as the unique challenges faced by the different regions, including the paucity of community services in the Mainland and the sustainability of health/ community care in Hong Kong.

SESSION 3015 (SYMPOSIUM)

USING MOBILE APP AND INTERGENERATIONAL SUPPORT TO HELP OLDER ADULTS LEARN DIABETES SELF-MANAGEMENT

Chair: S. Wu, *University of Southern California, Los Angeles, California*

Discussant: H. Ya-Hui, *Taipei Tzu Chi Hospital, New Taipei City, Taiwan*

Diabetes is a prevalent chronic disease and a major medical disability worldwide. It affects 1 in 5 older people in Taiwan. Better self-management and greater social integration are effective means to contribute to active aging. Internet and mobile technology offer great potentials to improve diabetes self-management and social integration.

Older adults, however, are less likely to use such technology. This symposium will introduce the Intergenerational Mobile Technology Opportunities Program (IMTOP) designed to motivate and train older adults to use mobile technology for diabetes self-management. The IMTOP curriculum is based on the evidence-based Chronic Disease Self-Management Program (CDSMP) combined with tablet and Internet skill training, and delivered in 8 weekly sessions of 2-hour long small group classes. Two innovative components of IMTOP are: 1) using a graphic-based aging-friendly touchscreen diabetes self-management app to activate self-monitoring and behavior change; and 2) deploying college students as volunteer teaching assistants to provide intergenerational and technological support. To understand the program effects, a wait-list control trial with 350 people age 55 and older with diabetes was conducted in Taiwan in 2 hospital outpatient settings. College students were recruited from local universities to serve either as volunteers or as pure control (140 in each group). Five presentations in the symposium will discuss the IMTOP research design, the app development and usage, the obstacles and motivations of using the diabetes app, and the preliminary outcomes between the intervention and wait-list control groups, and qualitative analysis of the young volunteers' experiences in the program.

RESEARCH DESIGN OF THE INTERGENERATIONAL MOBILE TECHNOLOGY OPPORTUNITIES PROGRAM (IMTOP) IN TAIWAN

S. Wu, H. Hsiao, I. Chi, *School of Social Work, University of Southern California, Los Angeles, California*

The IMTOP study creatively integrates group-learning activities, the CDSMP, and skill training for using mobile tablet and a home-grown diabetes app for older adults, along with intergenerational support by college students. The 16-hour training curriculum teaches older adults to use a tablet device and an app to learn about the CDSMP and to help activate their monitoring and behavior change for diabetes self-management. The program was delivered through a small group class setting with 10 older adults and 4 college students serving as volunteer assistants to teach technology use. The quasi-experimental trial recruited 350 older diabetes patients from two outpatient clinics and 280 college students in Taiwan. The older adults were assigned to immediate intervention or 4-month wait-list control group and were followed up every 4 months for 3 times. The college students were assigned to intervention or control group and were assessed using mixed-methods evaluation up to 4 months.

DEVELOPMENT OF A DIABETES SELF-MANAGEMENT APP AND ANALYSIS OF USAGE PATTERNS AMONG OLDER PATIENTS

S. Wu, H. Hsiao, I. Chi, P. Lee, *School of Social Work, University of Southern California, Los Angeles, California*

This presentation will describe how an interdisciplinary team developed a diabetes self-management App specifically taking into account older adults' engagement with technology. The IMTOP Diabetes App used a graphic-based interface to help the older adults to record their biomarkers and health behaviors for self-management of type 2 diabetes. The data, presented in the forms of daily, weekly and long-term

charts, facilitates patient self-service visual analytics and their communication with healthcare providers. The evaluation framework for mobile health applications developed by Singh et al. was applied to evaluate the app development in terms of patient engagement, quality, and safety. Using quantitative data from app usage and follow up questionnaires, the research team plots the usage pattern and compares the perception of app usefulness between high and low intensity users. Preliminary data shows regular app users significantly reduced diabetes symptoms.

ANALYSIS OF OBSTACLES AND MOTIVATIONS FOUND UTILIZING A DIABETES HEALTH APP FOR OLDER PATIENTS

M. Li², A. Hagedorn¹, T. Yi Chuan¹, L. Pan², S. Wu¹, H. Hsiao¹, I. Chi¹, *1. School of Social Work, University of Southern California, Los Angeles, California, 2. Shih Chien University, Taipei, Taiwan*

Daily health behaviors for older adults managing diabetes can be improved using mobile applications (APPs). The Intergenerational Mobile Technology Opportunities Program (IMTOP) taught 350 older adults diabetes self-management principles and tested a new application. We conducted 4 qualitative focus groups with 52 participant's ages 55–75 who were either heavily or weakly engaged participants reporting their health behaviors via the APP. We use the Task-Technology Fit model to study APP adoption issues during an 8-week diabetes management course. The main findings of obstacles include: poor disease health management behavior before participation, lack of social network with other diabetic patients, lack of friendly environment or user-friendly device available, concern the app is too complicated, and lack of technical support. The most motivated App users reported: positive attitude about disease management, strong utilization of the APP, expectation the scientific evidence would benefit them, and willingness to engage in diet control and exercise behavior.

THE EFFECTS ON HEALTH AND WELL-BEING OF OLDER DIABETES PATIENTS USING IMTOP MOBILE APP IN TAIWAN

I. Chi, S. Wu, H. Hsiao, P. Lee, *School of Social Work, University of Southern California, Los Angeles, California*

This presentation aims to understand the effects of the IMTOP participation on the disease self-management, health outcomes and quality of life among older adults with type 2 diabetes. A total of 350 older adults (aged 55 and above) with Type 2 diabetes were recruited from 2 hospitals in Taiwan and assigned to the immediate intervention group (n=165) or 4-month waitlist control group (n=185). Patients were assessed at baseline and every 4 months for up to 12 months post intervention. Health status, diabetes symptoms and self-care, social engagements, patient empowerment, use of technology, depression, and quality of life were measured repeatedly. After participating in the intervention, the pre-post changes for the intervention group were significantly better than the waitlist group at 4-month in terms of physical health status, diabetes self-care, use of mobile technology, and overall quality of life. In addition, the intervention group was less depressed compared to its counterpart.

HOW YOUNG ADULTS CHANGED ATTITUDES TOWARD AGING AND HEALTH THROUGH IMTOP VOLUNTEERING EXPERIENCE

H. Hsiao, S. Wu, I. Chi, *School of Social Work, University of Southern California, Los Angeles, California*

Providing young adults opportunities to teach older adults mobile technology may have positive impact on their attitudes towards aging and health awareness. In this presentation, the experience of 140 IMTOP college student in Taiwan who served as IMTOP volunteers for 8 weeks was analyzed qualitatively using thematic coding by 2 researchers. The volunteers received preparatory training to learn about the concepts of aging and motivational interviewing. They then provided 16-hour services to teach older adults mobile technology skills related to learning about the CDSMP and the IMTOP app. From their self-reflections, young volunteers reported that the most important things they learned from this experiences were effective communication skills with older adults and health knowledge. The intergenerational interaction broke down their stereotypes about older adults and developed their empathy and patience with better understanding of difficulties and challenges older adults encounter when using technology products. Their health awareness was also enhanced.

SESSION 3020 (SYMPOSIUM)

WHAT PIAAC TELLS US ABOUT EDUCATION AND TRAINING, COMPETENCIES AMONG OLDER ADULTS, AND LABOR MARKET

Chair: J. Soroui, *American Institutes for Research, Washington, District of Columbia*

Co-Chair: P. Cummins, *Miami University, Oxford, Ohio*

Discussant: R. Harootyan, *Senior Service America Inc, Silver Spring, Maryland*

In March 2016, the National Center for Education Statistics of the U.S. Department of Education, released results from the Program for the International Assessment of Adult Competencies (PIAAC). The 2016 report is based on data collected in 2011–2012 and in 2013–2014. Together, the two rounds of PIAAC household data collection provide a nationally representative sample of 8,670 noninstitutionalized adults ages 16–74 in the U.S.

In addition to assessing key information-processing skills -- literacy, numeracy, and digital problem solving, participants also responded to an extensive background questionnaire on their educational attainment, employment, skill use at work and at home, as well as demographic questions, and questions related to health status and preventive health.

The PIAAC results indicate a strong relationship between age and performance in all three cognitive domains. In both literacy and numeracy domains, a smaller percentage of adults ages 45–74 performed at top proficiency levels than adults ages 25–34 and 35–44, and a larger percentage of adults ages 45–74 performed at the lowest proficiency levels compared to younger adults.

The first presentation will give an overview of PIAAC and key results for older adults. The second will use PIAAC data to examine relationships between skills and variables such as participation in formal and non-formal education and

training programs and employment, as well as labor force participation and income, for adults aged 45 to 65. The third presentation will examine associations between labor force participation, health status, and cognitive skills among adults aged 66 to 74.

SKILLS OF U.S. OLDER ADULTS: PROGRAM FOR THE INTERNATIONAL ASSESSMENT OF ADULT COMPETENCIES (PIAAC)

J. Soroui, *American Institutes for Research, Washington, District of Columbia*

This presentation is based on the results of the Program for the International Assessment of Adult Competencies (PIAAC) conducted in 2012 and 2014 in the U.S. and 33 countries. In the U.S. the study administered in 2012 and 2014 to a nationally representative sample of 8,670 adults ages 16–74. As a large-scale study, PIAAC is focused on measuring adults' key cognitive skills, including literacy, numeracy and digital problem solving, and the relationships between these skills and individuals' background and demographic characteristics. This session provides an overview of the study plus a comparison of results in the U.S. and other countries by demographic characteristics including age groups, with a focus on skills gaps between the younger and older populations in the U.S. and internationally. The PIAAC results indicate that the skills gap between the older and younger generation in the U.S. is smaller than other countries which may have significant policy implications.

ASSOCIATIONS BETWEEN EMPLOYMENT STATUS AND COMPETENCIES AMONG OLDER WORKERS IN THE UNITED STATES

T. Yamashita³, P. Cummins^{2,1}, A. Arbogast¹, 1. *Scripps Gerontology Center, Miami University, Oxford, Ohio*, 2. *Scripps Gerontology Center, Oxford, Ohio*, 3. *University of Nevada Las Vegas, Las Vegas, Nevada*

Over the past two decades, there have been substantial increases in labor force participation rates for ages 65 to 74: approximately 21% of males were in the labor force in 1994 and participation is expected to increase to 34% by 2024. Increases for older women over the same period were even greater (14% to 26%). It is critical to seek systematic strategies to promote employment security or to avoid unemployment among aging workers. This study analyzed the U.S. data from the Program for the International Assessment of Adult Competencies (PIAAC) to examine the association between labor force participation, health status and a series of competency indicators (i.e., literacy, numeracy skills) among adults aged 66 to 74 years old. Results showed that greater competencies were associated with higher chance of being employed. Additionally, older adults with better self-rated health had more proficient literacy and numeracy skills.

EDUCATIONAL PROGRAMS FOR OLDER ADULTS: OUTCOME ANALYSIS AND COUNTRY COMPARISONS USING PIAAC DATA

P. Cummins^{2,1}, S.R. Kunkel^{2,1}, 1. *Scripps Gerontology Center, Miami University, Oxford, Ohio*, 2. *Scripps Gerontology Center, Oxford, Ohio*

Continuous learning over the life course is necessary to effectively compete in a knowledge-based global economy.

Shifts in the age structure of the U.S. labor force combined with increased labor force participation among older adults add to the importance of gaining a better understanding of how adult education and training (AET) influences labor market outcomes for middle-aged and older workers. This study used U.S. data from the Program for the International Assessment of Adult Competencies (PIAAC) to examine the relationship between participation in AET programs and employment, labor force participation, and income for adults aged 45 to 65. Participation in an AET program significantly improved the log odds of both employment and labor force participation and significantly improved the log odds of moving up one income quintile. We also compared outcomes of AET participation in the U.S. with those in Germany, Japan, Sweden, and the U.K.

SESSION 3025 (SYMPOSIUM)

GSA DONALD P. KENT AWARD LECTURE AND ROBERT W. KLEEMEIER AWARD LECTURE

Chair: V. Mor, *Brown University, Providence, Rhode Island*
S. Olshansky, *University of Illinois at Chicago, Chicago, Illinois*

The Donald P. Kent Award Lecture will feature an address by the 2016 Kent Award recipient, S. Jay Olshansky, PhD of University of Illinois at Chicago. The Kent Award is given annually to a member of The Gerontological Society of America who best exemplifies the highest standards of professional leadership in gerontology through teaching, service, and interpretation of gerontology to the larger society.

The Robert W. Kleemeier Award Lecture will feature an address by the 2016 Kleemeier Award recipient, Vincent Mor, PhD of Brown University. The Kleemeier Award is given annually to a member of The Gerontological Society of America in recognition for outstanding research in the field of gerontology.

AGING SCIENCE HAS COME OF AGE

S. Olshansky, *University of Illinois at Chicago, Chicago, Illinois*

The seeds of aging science were planted thousands of years ago – but visible today is a fully blossomed tree that should bear fruit in our lifetime. The tree of aging science took root in the late 19th century; sprouted in the early 20th century; become full grown during the last 50 years; and now appears ready to yield benefits that could rival the most important discoveries in public health. Here I will tell the story of one branch of aging science that has led to the modern realization that our longer lives are a wonderful gift -- but it came with a Faustian trade. The longer we live, the more important biological aging becomes as a risk factor for fatal and disabling diseases. Continued life extension using the current medical model could yield an extended period of frailty and disability – A new paradigm of public health is now warranted.

FROM CLINICAL ASSESSMENTS TO POPULATION DATA: FROM VISION TO REALITY

V. Mor, 1. *Health Services, Policy & Practice, Brown University, Providence, Rhode Island*, 2. *Providence Veterans Administration Medical Center, Providence, Rhode Island*

Sidney Katz believed that structuring clinical assessments determines the quality of information and this was reflected in the 1987 Nursing Home Reform Act, which mandated all residents be comprehensively assessed using a standardized instrument. Over the last 30 years these assessments, now computerized and linked to Medicare and Medicaid claims, have transformed our knowledge of long term care populations, services and policies. Enlightened facilities stratify risk, target treatment and conduct quality improvement interventions. Researchers link assessment and utilization data, longitudinally tracking patients and create facility, county, state and year aggregates for public use. These data facilitate policy evaluation, pharmaco-epidemiology and comparative effectiveness studies. Most recently, pragmatic cluster randomized trials of quality innovations are undertaken, rivaling research being done by hospital systems. This lecture documents a career shaping this transformation of knowledge and practice, revealing the great opportunities that remain.

SESSION 3030 (SYMPOSIUM)

EXAMINING AGING AND SOCIAL INCLUSION THROUGH DIFFERENT LENSES

Chair: P. Marier, *Concordia University, Montreal, Quebec, Canada*

Co-organised by the Centre for Research and Expertise in Social Gerontology (CREGES) and the research team dedicated to the study of aging and social exclusion (VIES), this interdisciplinary symposium studies diverse groups of older adults (immigrants, lesbians, users of health and social services, and older women) and how they experience various forms of social inclusion and exclusion in their daily lives, be it by public authorities and the community in general. The contributions also analyse how social exclusion and inclusion affect older adults.

Dr. Marier provides an analysis of the concept of autonomy, how it is used in the health and social service sector, and how its use in evaluation tools can result in diverse forms of social exclusion with marginalized groups experiencing less access to services. Ms. Beauchamp presents results of a series of interviews with lesbian older adults on their experience with agism and heterosexism. Her findings reveal a lack of social recognition and visibility, but also a willingness on their part to play a more predominant societal role. Dr. Brotman studies the lived experiences of immigrant older adults and uncover the common structural stressors that affect their well-being. She will highlight the roles of the community and of government to support older immigrants and to ensure their social inclusion. Dr. Wallach discusses the effects of Western society's beauty norms on older women and how an aging female body can lead older women to experience social exclusion, not only by others but largely by self-social exclusion.

CHALLENGING AUTONOMY: A COMPARATIVE ANALYSIS AND A VIEW FROM CANADIAN OLDER ADULTS

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This paper presents an in-depth analysis of the conceptualization of autonomy, as it pertains to older adults. The concept of autonomy plays a prominent role among health and social service professionals as it is used to measure physical and cognitive decline. However, the social gerontology literature has strongly criticized the lack of social considerations and the omnipresence of biomedical tools to address the needs of seniors. This reliance on biomedical tools can result in diverse forms of social exclusion with marginalized groups experiencing less access to services. Focus groups with older adults were conducted in their local retiree associations and in representative organizations. Preliminary findings reveal the extent to which older adults presented a different and more nuanced understanding of autonomy. Interviewees emphasized the lack of governmental support and, as a result, stress the importance of family, friends and even neighbors to ensure that aging in place is possible.

THE PERCEPTIONS OF AGING AMONG GAY AND LESBIAN OLDER ADULTS: SOCIAL EXCLUSION OR INCLUSION?

J. Beauchamp^{1,2}, L. Chamberland¹, H. Carbonneau³, 1. *Université du Québec à Montréal (UQAM), Montreal, Quebec, Canada*, 2. *Center for Research and Expertise in Social Gerontology, Montreal, Quebec, Canada*, 3. *Université du Québec à Trois-Rivières (UQTR), Trois-Rivières, Quebec, Canada*

Ageism and heterosexism as social exclusion processes can contribute to the social invisibility of gay and lesbian older adults. This contribution wishes to shed a light on the perceptions of aging and on the place of older gay and lesbian people in society, as perceived by gay and lesbian older adults. It is based on the results of semi-structured individual interviews conducted with 22 gay and lesbian older adults aged 60 and over. The participant's discourses reveal, among others, two elements: a lack of social recognition and visibility of gay and lesbian older adults in society as well as the willingness to assert themselves and take their place. The discussion will propose a reflection of the intersection between sexual orientation, age and generation to examine the dual process of social exclusion, due to ageism and heterosexism, and of social inclusion.

THE AGING FEMALE BODY, AGEIST BEAUTY NORMS, AND SOCIAL EXCLUSION: FROM INTERNALIZATION TO RESISTANCE

I. Wallach^{1,2}, L. Chamberland¹, J. Lavigne¹, J. Beauchamp^{1,2}, J. Duford¹, G. Miller¹, 1. *Université du Québec à Montréal (UQAM), Montreal, Quebec, Canada*, 2. *Center for Research and Expertise in Social Gerontology, Montreal, Quebec, Canada*

The preservation of youth is a main issue in Western societies resulting in the predominance of ageist beauty norms. Our research aims to determine whether these standards have negative effects on older women and lead them to experience social exclusion. Favouring a qualitative approach, this research is based on individual interviews with 20 women aged 64 to 83, lasting an average of 1h45, and analyzed using a thematic approach. The participant's discourses reveal the

internalization of beauty norms focussed on youth and the perceived pressure to attain these. Even though some women feel socially excluded by others due to an aging body, these ageist beauty norms mostly lead to experiences of self-social exclusion (choice of clothing, social activities that required a bare body, engagement in new intimate relationships). However, the results reveal that many are critical of these beauty standards, highlighting their agency against the exclusion of older female bodies.

EXPERIENCES OF IMMIGRANT OLDER ADULTS: STORIES OF DIVERSITY AND EXCLUSION

S. Brotman^{1,2}, I. Ferrer^{1,2}, S.D. Koehn³, M. Badger³, K. Sohng¹, A. Lang¹, K.N. Li³, S. Bukhari³, 1. *McGill University, Montreal, Quebec, Canada*, 2. *Center for Research and Expertise in Social Gerontology, Montreal, Quebec, Canada*, 3. *Simon Fraser University, Burnaby, British Columbia, Canada*

This paper presents the results of a narrative-photovoice project on the life stories of 18 older immigrants living in two Canadian provinces. The objective was to deepen our understanding of the diverse lived experiences of immigrant older adults (those who immigrated in later life and those who immigrated earlier and aged in Canada). Findings reveal factors impacting the immigrant aging experience, including language barriers, income (in)security, family and transnational relationships/obligations, work, retirement, health, social isolation, community engagement, and quality of life. Photographs provided visual documentation of significant places, objects, and people that embody the struggles and rewards of aging. Our study uncovers significant heterogeneity among immigrant older adults and common structural stressors that deserve attention from policy-makers and service providers. Results highlight the community sector as an outlet for engagement, information and social connection, and the role of government in funding services and programs to support older immigrant adults.

SESSION 3035 (SYMPOSIUM)

HEALTHCARE TRANSITIONS: CHALLENGES OF IMPLEMENTATION IN PATIENT-CENTERED RESEARCH

Chair: A.K. Hughes, *Michigan State University, East Lansing, Michigan*

Researchers from the MISTT (Michigan Stroke Transitions Trial) study will discuss the development and implementation of this patient-centered practical trial aimed at improving the transition from hospital to home for acute stroke survivors and their caregivers. Interventions in stroke rarely focus on the post-acute hospital phase and few have been patient-centered. This intervention is innovative in that it focusses on patient and caregiver psychosocial needs as well the typical physical ones. The three presentations in this symposium will provide an overview of patient-centered healthcare transition research which situates the MISTT project in the context of these two frameworks. In addition, an overview of the MISTT study development and implementation will be provided. Lastly, the challenges associated with implementation of patient-centered transition projects will

be discussed, as well as the specific challenges that this project is facing in the field. As is typical of much intervention research this team faced challenges with recruitment. The evaluation of and problem solving around those challenges will be described, as will the outcomes of changes to the recruitment process. This team also faced challenges associated with the incorporation of technology in the intervention. Lessons learned and suggestions for future research will be presented.

SETTING THE STAGE: HEALTH CARE TRANSITIONS AND PATIENT CENTERED RESEARCH

A.T. Woodward, *Michigan State University, East Lansing, Michigan*

The transition from hospital to home is a challenging period for older patients with comorbid illnesses and complex physical, psychological, and social needs. Many patients are slow to recover because of poor access to follow up care, education, and information. Caregivers report high levels of burden and stress. Rehospitalization rates for complex patients are high. While many existing transition-based intervention studies have been effective, most are not patient-centered. For example, they tend to be hospital-based despite patient and caregiver reports that they cannot fully absorb information in the hospital and do not yet know what help they will need. A patient-centered approach that engages patients and caregivers early in the process would suggest that a home-based transition intervention would be preferable. This presentation will provide an overview of patient-centered research, particularly within the context of health care transitions.

THE MISTT STUDY

A.K. Hughes, M. Reeves, M. Fritz, *School of Social Work, Michigan State University, East Lansing, Michigan*

Michigan Stroke Transitions Trial (MISTT) is a practical clinical trial that aims to improve patient and caregiver experiences of healthcare transitions after an acute stroke. Potential participants are recruited in the inpatient setting and randomized to one of three conditions- usual care, social work case management, or social work case management plus access to a curated website of stroke information and resources. The social work case management intervention was developed with input from patients and caregivers who mirrored our study population. Their input informed the four aspects of the intervention that we think characterize a "good transition": support (emotional and practical); preparedness; addressing unmet needs; and stroke prevention. The MISTT trial is funded by PCORI (Patient Centered Outcomes Research Institute) and we expect to enroll 480 participants from four sites over the course of the trial. Our primary outcome measures are changes in levels of patient activation, caregiver strain, quality of life, and depression.

MISTT: IMPLEMENTATION CHALLENGES

P. Freddolino, *Michigan State University, East Lansing, Michigan*

Many randomized control trials (RCTs) encounter implementation challenges and MISTT has been no exception. The most salient challenges have come in two areas.

Recruitment issues have included lower census of stroke patients than expected in the providing hospitals; and some

differences in perspective by hospital staff on the nature of research and the purpose of this particular project by staff on whom the project depends to initiate recruitment.

Developing the technology tool – essentially a web portal – has been more complex than anticipated. While the content was based on what survivors and caregivers in our pilot phase indicated would be important, a usability evaluation indicated the need for major revisions in the organization and presentation of content. Also, there was less interest in using the web site than expected based on pilot participant interviews.

The presentation will report on how the team became aware of these challenges, the steps developed to address them, and the results of changes made.

SESSION 3040 (SYMPOSIUM)

ORAL HEALTH IN LATER LIFE: RESEARCH CHALLENGES, OPPORTUNITIES, AND INNOVATIONS

Chair: D. Carr, *Rutgers University, New Brunswick, New Jersey*

Discussant: G.S. O'Neill, *The Gerontological Society of America*

One of the most serious yet under-researched concerns among older adults is oral health. Mounting population-based research demonstrates stark socioeconomic, ethnic, and regional disparities in service utilization, edentulism, and untreated decay. Practitioners have identified poor quality oral health among long-term care residents, due in part to lack of training among staff and family caregivers. This panel brings together population health researchers and practitioners to identify the challenges in studying and treating oral health among older adults in the U.S. and Canada. Wu and Luo describe oral health disparities in the United States. Using National Health Interview Survey data, they also reveal vast heterogeneity in the dental health of Asian Americans, and delineate the role of language and cultural factors in explaining these disparities. Zwetchkenbaum and Carr provide an overview of large longitudinal data sets in the United States that are well-suited to studying oral health and its psychosocial correlates over the life course, and recommend future data collection initiatives. Yoon and Hoben describes gaps in research and assessment of the oral health concerns of long-term care residents, and present newly developed, valid assessment tools. They present plans for the development of an oral health think tank that will address research priorities identified by key stakeholders. Agha & Lyford describes the philosophies and practices of a holistic dental clinic in the United States, and documents the efficacy of this innovative care coordination model for enhancing late-life oral health. Panelists will propose new research and practice partnerships to further address late-life oral health concerns.

DISPARITIES IN ORAL HEALTH AND DENTAL CARE AMONG OLDER ADULTS IN THE U.S. AND ABROAD

B. Wu², H. Luo³, 2. *New York University, Rory Meyers College of Nursing and NYU Aging Incubator, New York, New York*, 3. *East Carolina University, Greenville, North Carolina*

Oral health disparity reflects some of the greatest challenges in the U.S. This presentation provides an overview

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of oral health disparity in older adults across regions, race/ethnicity, socioeconomic status, and nations. Dental care and oral health are strongly correlated. This presentation also presents findings on dental care utilization among several Asian immigrant populations in the U.S. Using data from the 2013 and 2014 National Health Interview Surveys, this study examined acculturation and dental service use among 2,948 Asian immigrants in the U.S. Acculturation was measured by length of stay in the U.S., English language proficiency, and U.S. citizenship. This study found that dental service use varied across Asian immigrant groups. Controlling for socioeconomic status and health behaviors, longer length of stay was significantly associated with having a dental visit ($p < 0.05$). Compared with other adult population, older adults (age 65+) were more likely to seek dental visit.

PSYCHOSOCIAL INFLUENCES ON ORAL HEALTH AMONG OLDER ADULTS IN THE U.S.: DATA RESOURCES AND CHALLENGES

S. Zwetchkenbaum², D. Carr¹, 1. *Rutgers University, New Brunswick, New Jersey*, 2. *Rutgers School of Dental Medicine, Newark, New Jersey*

Disparities in oral health are well documented. Most studies use large cross-sectional health surveys, and document differentials in outcomes such as frequency of dentist visits, edentulism, and untreated tooth decay. However, important questions remain under-explored such as the impact of psychosocial factors shaping oral health treatment, prevention, and quality of life as individuals age. We provide an overview of large longitudinal data sets in the United States that are not widely used for studying oral health, yet have rich information on the family, psychological, and economic factors that enhance or impede oral health. We provide examples of the rich data available in studies like the Wisconsin Longitudinal Study (WLS) and Midlife in the United States (MIDUS), and recommend new data collection and analysis projects informed by the complementary knowledge and skills that social scientists and oral health practitioners bring to the study of later-life oral health.

A PROGRAM OF RESEARCH: IMPROVING ORAL HEALTH OF OLDER ADULTS LIVING IN LONG-TERM CARE

M.N. Yoon¹, M. Hoben², 1. *School of Dentistry, University of Alberta, Edmonton, Alberta, Canada*, 2. *Faculty of Nursing, University of Alberta, Edmonton, Alberta, Canada*

Oral health (OH) and OH care are neglected and substandard in long-term care. Poor OH not only compromises general health but also impacts overall quality of life. Despite existing OH care best practices, there are gaps in our ability to translate such evidence into care for frail people. This presentation will outline a program of research aimed at improving OH for older adults living in long-term care. Focus will be given to a) systematic reviews highlighting gaps in research; b) validation work on existing oral health instruments and the development of new psychometrically robust instruments; and c) an oral health think tank that identified targeted research interventions to address research priorities identified by key stakeholders.

AN INNOVATIVE MODEL OF INTEGRATED ORAL, HEALTH, AND WELLNESS CARE TO ADVANCE SUCCESSFUL AGING

Z. Agha¹, S. Lyford^{2,1}, 1. *Gary and Mary West Health Institute, La Jolla, California*, 2. *The Gary and Mary West Foundation, Solana Beach, California*

Poor oral health is a pervasive health issue for seniors and is associated with increased use of medical services, increased risk for chronic conditions and reduced quality of life. There is growing momentum for innovative holistic and integrated care delivery models to ensure comprehensive, human-centered, and sustainable healthcare that best addresses the needs of seniors. The Gary and Mary West Senior Dental Center, a unique community dental clinic in San Diego, opened in 2016 to provide high-quality oral healthcare coordinated with overall health and wellness services. This clinic integrates over 30 community nonprofits at the Gary and Mary West Senior Wellness Center to provide dental, health, housing services, nutritious meals and critical social and support services, together under one roof. Participants will discuss the development and implementation of the clinic, and will share initial research findings focused on improving health outcomes.

SESSION 3045 (SYMPOSIUM)

AN INTERNATIONAL PERSPECTIVE ON THE ENGAGEMENT OF OLDER ADULTS IN PHYSICAL AND DAILY ACTIVITIES

Chair: J. de Man-van Ginkel, *University Medical Center Utrecht, Utrecht, Netherlands*

Co-Chair: S. Metzelthin, *Maastricht University, Maastricht, Netherlands*

Discussant: G. Meyer, *Universitat Witten/Herdecke*

Impaired mobility and functional decline are often the consequence of body changes due to normal ageing or disabling conditions such as a stroke. A need for acute or long-term care is often the consequence. However, professionals tend to focus on completion of care tasks rather than engaging older adults in daily and physical activities. Poor rehabilitation, further deconditioning and functional decline are common consequences of this inactivity. By contrast, professionals should encourage older adults to actively engage in physical and daily activities. These activities need to match with the capabilities and preferences of older adults as well as the care situation, setting and culture. This symposium addresses different studies, which are related to this topic. In the first presentation, an overview will be given of the most promising interventions for maintaining and restoring optimal physical functioning of patients who are in need for care.

The second presentation provides insight into the phenomenon physical activity in German hospitals according to nurses and patients. The third presenter from the US talks about the role of Function Focused Care regarding the prevention and management of sarcopenia. The fourth presenter from Denmark reports about the preliminary results of a randomized controlled trial evaluating a rehabilitation service model. The last presentation will be about the 'Stay Active Home' program, which is recently developed and pilot-tested in the Netherlands.

ENHANCEMENT OF PHYSICAL FUNCTIONING IN THE DAILY NURSING CARE: A SYSTEMATIC REVIEW OF INTERVENTIONS

C. Verstraten¹, J. de Man-van Ginkel¹, S. Metzelthin², M. Schuurmans¹, 1. *Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht, Netherlands*, 2. *Maastricht University, Maastricht, Netherlands*

Impaired physical functioning in daily activities are often the consequence of body changes due to normal ageing or disabling conditions. Therefore, nursing care should focus on maintaining and restoring physical functioning of their patients. Although nurses consider initiating and monitoring interventions to be parts of their role, little is known about the interventions they can use in their daily care.

A systematic review was conducted using the Cochrane method and the PRISMA-P guideline, focusing on interventions suitable for daily nursing care. The first search resulted in 2348 hits. Of the finally selected studies, the methodological quality of the studies, the level of evidence of the findings of these studies, and the effectiveness of the interventions will be presented. This will result in an overview of the most promising interventions for maintaining and restoring optimal physical functioning of patients who are in need for nursing care.

PHYSICAL ACTIVITY IN OLDER PATIENTS IN GERMAN HOSPITALS—A QUALITATIVE STUDY

I.T. Schneider, G. Ayerle, G. Meyer, *Martin Luther University Halle-Wittenberg, Halle/Saale, Germany*

Physical activation of older patients is mandatory to avoid loss of independence. A literature review suggests insufficient options for patients' mobility but potential for promotion of physical activity. In 2015/16 a qualitative study in two German hospitals was conducted aimed to describe mobility patterns during typical nursing situations. A phenomenological-hermeneutic approach was used to gain insight into the promotion of mobility in nursing and the meaning of mobility perceived by patients and nurses. Informed consent was obtained by nurses and patients. N= 37 interactions (bathing/dressing, transfer, eating) were observed using non-participating observations followed by focused interviews (nurses n=9, patients n=6). Data were analyzed in order to arrive at a thick description. Results indicate inflexible organizational structures and working processes, time constraints, nurse/patient attitudes, substitution of mobility by related activities carried out by nurses. The study is a first step towards a mobility enhancing nursing climate in hospitals for older patients.

PREVENTING SARCOPENIA: OPTIMIZING FUNCTION AND PHYSICAL ACTIVITY USING FUNCTION-FOCUSED CARE

B. Resnick, E. Galik, *University of Maryland School of Nursing, Ellicott City, Maryland*

Sarcopenia is the age-associated loss of skeletal muscle mass and function. The loss of skeletal muscle mass associated with sarcopenia results in a loss of strength, rate of force development and muscle power. Sarcopenia contributes to functional deficits in mobility and overall functional capacity. To overcome sarcopenia, behavior change that focuses on optimizing protein intake and increasing time spent in

function and physical activity are needed. We developed the Function Focused Care approach to help prevent and manage sarcopenia among older adults. Function Focused Care (FFC), involves teaching and motivating nurses, patients, and other members of the health care team to focus on and optimizing dietary intake and function and physical activity during all care interactions with patients. In this session, we provide the theoretical support for FFC and the successful ways in which to implement Function Focused Care in a variety of clinical settings to prevent and manage sarcopenia.

REABLEMENT IN DENMARK—BETTER HELP, BETTER QUALITY OF LIFE?

T. Rostgaard, L. Graff, KORA - *Danish Institute for Local and Regional Government Research, Copenhagen, Denmark*

Reablement in long-term care for older people is introduced by law in Denmark. Reablement provides a short-term, goal-oriented and multi-disciplinary intervention with the aim of strengthening functional ability in IADL and ADL in community-dwelling older adults. All municipalities must since January 2015 assess the potential for reablement and provide the necessary services. Only if the older person is believed not to have the potential for reablement, is traditional compensatory home help services given. Services are provided by multi-disciplinary teams of social care workers and physio- and occupational therapists, working close together with dieticians, nurses etc. This study presents preliminary results from the first RCT trial of reablement, reporting on changes in quality of life (ASCOT), health related quality of life (EQ-5D), loneliness (UCLA) and physical ability (Barthel) for 540 persons 65+. The study applies a control group design comparing results with persons of the same age receiving traditional compensatory home help.

DOING WITH... RATHER THAN DOING FOR... OLDER ADULTS: THE STAY ACTIVE AT HOME PROGRAM

S. Metzelthin¹, G. Zijlstra¹, J. de Man-van Ginkel², E. van Rossum^{3,1}, G. Kempen¹, 1. *Department of Health Services Research, CAPHRI Care and Public Health Research Institute, Maastricht University, Maastricht, Netherlands*, 2. *Nursing Science Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, Utrecht, Netherlands*, 3. *Research Centre for Community Care, Faculty of Health, Zuyd University of Applied Sciences, Heerlen, Netherlands*

In the Netherlands, 95% of older adults (≥65 years) are community-dwelling with 20% of them receiving homecare services. The 'Stay Active at Home' program focuses on doing self-care and domestic tasks *with* older adults rather than *for* them. The training program for professionals was pilot-tested using a mixed-methods design. Out of 33 professionals, who were invited to participate in the pilot, 20 attended the kick-off meeting of whom 18 agreed to participate in the study; 94% were female with an average age of 43.7 years. Face-to-face interviews showed that professionals particularly valued the practical examples to stimulate active engagement in daily and physical activities and the possibility to exchange experiences with their colleagues. Furthermore, the weekly newsletter with tips & tricks is perceived as useful to remain aware of the needed behavioral change. Overall, a

trend towards better scores for knowledge, self-efficacy and outcome expectation were found.

SESSION 3050 (PAPER)

POPULATION-BASED EPIDEMIOLOGICAL STUDIES

RACIAL DIFFERENCES IN MORTALITY RISK IN THE HEALTH, AGING, AND BODY COMPOSITION (HEALTH ABC) STUDY

M.M. Marron¹, D.G. Ives¹, D.C. Bauer², R. Boudreau¹, T. Harris³, S. Satterfield⁴, R.I. Shorr⁵, A. Newman¹, 1. *Epidemiology, University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *Division of General Internal Medicine, University of California, San Francisco, California*, 3. *Laboratory of Epidemiology and Population Sciences, Intramural Research Program, National Institute on Aging, Bethesda, Maryland*, 4. *Department of Preventive Medicine, University of Tennessee Health Science Center, Memphis, Tennessee*, 5. *Veterans Affairs Medical Center, Gainesville, Florida*

U.S. blacks have a higher risk of death than whites. This varies by cause of death; stroke, kidney disease and some cancers are higher in blacks. We evaluated cause-specific mortality risk factors in Health ABC to determine whether specific risk factors are more important for these causes of death in blacks than whites. Potential risk factors included: demographics, smoking, body mass index, chronic disease, physical function, and cognition. Among N=3075 participants ages 70–79 (41.7% black), average follow-up was 11.9 years. Underlying cause of death was adjudicated by committee and categorized as: cardiovascular disease, stroke, cancer, dementia, pulmonary, infection, kidney, and other cause. Median survival (95% confidence interval) among black men, white men, black women, and white women was 10.6 (10.0, 11.5), 12.8 (12.4, 13.4), 13.4 (12.6, 14.6), and 15.3 (14.8, 16.2) years, respectively. Adjusting for age and sex, blacks had higher risks of dying from: any cause (hazard ratio=1.32 (1.21, 1.44)), kidney disease (HR=2.10 (1.17, 3.78)), cancer (HR=1.35 (1.13, 1.62)), and stroke (HR=1.32 (0.97, 1.75)). Higher all-cause mortality risk among blacks was attenuated by further adjustment for gait speed (black race adjusted HR=1.06 (0.95, 1.17)) or digit symbol substitution test (black race adjusted HR=1.01 (0.91, 1.12)), but minimally by prevalent diseases (black race adjusted HR=1.25 (1.13, 1.38)). Gait speed also attenuated higher risk of kidney and stroke deaths among blacks, but not cancer deaths. Factors contributing to poorer physical and cognitive function in similarly aged community-dwelling ambulatory black men and women could be targets to reduce disparity and excess mortality.

LOW LUNG FUNCTION IS A PREDICTOR OF MORTALITY ALSO ADJUSTED FOR SARCOPENIA.

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Cardiovascular and Metabolic Research, Institute of Medicine, University of Gothenburg, Gothenburg, Sweden, 3. *Department of Public Health and Caring Sciences/Clinical Nutrition and Metabolism, Uppsala University, Uppsala, Sweden*

Low lung function has been related to functional aging, chronic bronchitis and cardiovascular disease. However, low lung function has also been associated to muscle function and body size. The purpose of this study was to examine if low lung function is an independent predictor of 10 year mortality (379 died). We examined lung function with spirometry in 1010 men, age 69–80 years in the Gothenburg part of the Swedish MrOS-study. Both forced expiratory volume 1.0 (FEV1.0) and vital capacity (VC) decreased with age, and the age corrected HR for 10 year mortality per SD decrease in FEV1.0 was 1.39 (CI 1.25–1.54) and for VC 1.38 (CI 1.24–1.53). Bone mineral density (BMD) and body composition (including appendicular lean mass) was measured with Hologic 4500 A. Hand grip strength was measured with a Jamar dynamometer. FEV1.0 associated with hand grip strength ($r=0.36$, $p<0001$). Sarcopenia was defined according to EuroWorkGroup in grip strength, gait speed and appendicular lean mass. A multivariate Cox model with mortality as dependent variable and age, sarcopenia-hand grip strength, gait speed, appendicular lean mass and lowest quintile of FEV1.0 revealed that only low FEV1.0 was a significant predictor HR 2.0 (CI 1.56–2.57). In a Cox model with 10 year mortality as dependent variable and with FEV1.0, hand grip strength, gait speed, hip BMD, height, BMI, diabetes, hypertension, cancer, stroke, COPD and myocardial infarction at baseline as covariates, HR per SD decrease in FEV1.0 was 1.24 (CI 1.08–1.42). We conclude that lung function is an independent predictor of all cause mortality in elderly men.

NOROVIRUS GASTROENTERITIS IS AN IMPORTANT CAUSE OF NOSOCOMIAL INFECTIONS IN GERMANY

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Noroviruses are the most important global cause of acute gastroenteritis (AGE). Testing for norovirus in patients hospitalized with AGE is incentivized in Germany because a positive diagnosis impacts reimbursement. We estimated the number of nosocomial infections overall and by age-group for norovirus gastroenteritis (NGE) using federal German databases. All hospitalizations in Germany are registered with the German Federal Statistics Office (DESTATIS). We extracted aggregate data for patients hospitalized with NGE (ICD-10 codes A08.1) as primary or non-primary diagnosis for the period 2007–2012. Cases with a non-primary diagnosis were assumed to be due to nosocomial infection.

During the six-year study period and based on our assumption, there were a total of 241,667 nosocomial NGE cases among hospitalized patients in Germany; an average of 40,278 cases per year studied (range 32,259–57,561). In any

study year the number of nosocomial NGE cases was 1.3 to 1.7-fold higher than the number of community acquired NGE hospitalizations. The average duration of hospitalization was 3.4 to 4.5-fold longer (17–18 days versus 4–5 days) when NGE was nosocomial compared to community-acquired. Adults of 85 years of age and older suffered the highest rate of nosocomial NGE (range 33.6 to 59.1/10,000 population).

We conclude that Noroviruses are an important cause of nosocomial infections among hospitalized patients in Germany. Assuming all non-primary coded NGE episodes to be nosocomial in nature may have lead to an overestimation.

DERIVATION AND VALIDATION OF A SCREENING TOOL FOR CHIKUNGUNYA VIRUS INFECTION IN THE ELDERLY

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The aim of the study was to derive a score for Chikungunya virus infection (CVI) screening in the elderly. Patients were 65+, and admitted to acute care units of Martinique University Hospitals for suspected Chikungunya virus infection (CVI). Reverse Transcription Polymerase Chain Reaction (RT-PCR) was used as gold standard testing. A point value was assigned to each independent factor according to the adjusted odds ratio of the final logistic regression model. Point values were rounded to the nearest integer and summed. The ROC curve was used to determine the best cut-off of the score that better identify confirmed positive CVI patients. Bootstrap analysis was used to evaluate the internal validity of the model and to estimate the C-statistic 95% confidence interval. In all, 687 patients were included. Mean age was 80 ± 8, 51% were women, and 68% had positive RT-PCR. By multivariable logistic regression model, four variables were found to be independently associated with positive RT-PCR (fever: 3 points; arthralgia of the ankle: 2 points; lymphopenia: 6 points; absence of neutrophil leucocytosis: 10 points). Bootstrap methods showed good internal validity of the final model. The score ranged from 0 to 21, with an average of 14 ± 6. The C-statistics was 0.86 (95% CI: 0.83–0.89). A score greater or equal 12 was considered as the best cut-off to identify positive RT-PCR patients (Sensitivity: 87%; 95% CI: 83%–90%; Specificity: 70%; 95% CI: 63%–76%). This score has good performances and good internal validation. It could be a helpful tool to screen elderly people with CVI.

PREDICTORS OF CRASHES AND MOVING VIOLATIONS IN A DIVERSE SAMPLE OF OLDER WOMEN: THE WHIMS STUDIES

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The US population is aging and licensure rates are increasing among older drivers. The factors associated with crashes and moving violations among older women are not well characterized. Our aim was to determine the predictors of crashes

and moving violations among participants in the Women's Health Initiative (WHI) Memory Study-Epidemiology of Cognitive Health Outcomes (WHIMS-ECHO) and the WHI Memory Study of Young Women (WHIMS-Y), comprised of geographically diverse cohorts of older US women. Participants were enrolled in the WHI hormone therapy trial at ages 50–54 (WHIMS-Y) and 65–79 (WHIMS-ECHO). A telephone questionnaire assessing driving status, self-reported crashes, and moving violations in the previous year was administered to surviving WHIMS-ECHO and WHIMS-Y participants from September 2013 to June 2015. Given the age differences between participants in the two groups, we evaluated the cohorts separately: N=1029 respondents in WHIMS-Y (mean age 70.6 ± SD 1.7) and N=1716 in WHIMS-ECHO (86.0 ± 3.4 years). Results showed that self-reported crashes were more common in the older WHIMS-ECHO cohort (105.32 v. 80/1000 person-years), but moving violations more common in WHIMS-Y (35.56 v. 9.2/1000 person years). Predictors of a combined measure of all adverse driving outcomes were: older age (p=0.03 WHIMS-Y, p<0.001 WHIMS-ECHO) and less social support in both cohorts (p=0.02, p=0.009), while lower cognitive scores predicted more events in WHIMS-ECHO (p=0.004). Future analyses will further explore the predictors of adverse driving events and aim to identify interventions.

SESSION 3055 (SYMPOSIUM)

WHAT WORKS, WHAT DOESN'T, AND WHY: LEARNINGS FROM THE WORLD'S LARGEST HOSPITAL FALLS PREVENTION TRIAL

Chair: A.L. Barker, *Monash University, Melbourne, Victoria, Australia*

Co-Chair: J. van der Velde, *Academic Medical Center, Amsterdam, Netherlands*

Discussant: J. Treml, *Queen Elizabeth Hospital, Birmingham, United Kingdom*

Patient falls remain a common cause of harm in hospitals worldwide. Recent studies suggest harm is increasing despite investment in practice guidelines and implementation of prevention programs. This symposium presents key learnings from the 6-PACK project which will be compared to the learnings of prior studies. 6-PACK is a nurse-led falls prevention program reflective of Australian hospital accreditation standards and best practice guideline recommendations. The 6-PACK project incorporated a study of falls prevention beliefs, practice, safety climate and outcomes; a cluster RCT testing effectiveness of the 6-PACK, including economic and program evaluations; and an assessment of sustainability of practice and outcomes. It collected information from 540 staff and 50,150 patients from 24 wards across six Australian hospitals. This symposium includes four presentations. In the first, the 6-PACK RCT results will be presented including impacts on practice, falls and fall injuries; and implementation fidelity of the 6-PACK during the trial. The second reviews known barriers and enablers to the implementation of falls prevention programs and compares these to those experienced in the 6-PACK. The third presents findings of a cost of falls study conducted alongside the RCT. The final

presentation summarizes evidence relating to patient safety climate and falls, including measurement tools and climate in the wards participating in 6-PACK. The symposium will conclude by discussing novel solutions to hospital falls by the discussant, who will review the presented findings in terms of impact and clinical implications; and also compare to UK and European activities including NICE guidelines and FallSafe.

THE 6-PACK PROGRAM TO DECREASE FALL INJURIES IN HOSPITALS: THE WORLDS LARGEST FALLS PREVENTION TRIAL

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The nurse-led 6-PACK falls prevention program includes a fall-risk tool and individualised use of 'falls alert' signs; supervising patients in the bathroom; ensuring walking aids are within reach; a toileting regime; low-low beds; and bed/chair alarms. This RCT evaluated the effect of the 6-PACK on falls and fall injuries in 24 acute wards from six Australian hospitals compared to usual care over 12-months. Positive changes in falls prevention practice occurred following the introduction of the 6-PACK. During the RCT, there were 46,245 patient admissions, 1831 falls and 613 fall injuries. The rate of falls (IRR=1.04, 95% CI, 0.78 to 1.37) and fall injuries (IRR=0.96, 95% CI, 0.72 to 1.27) were similar in intervention and control wards. The findings are in accordance with previous studies, which together provide increasing evidence of no effect for falls prevention interventions in acute wards. Novel solutions to the issue of in-hospital falls are required.

BARRIERS AND ENABLERS TO EFFECTIVE FALLS PREVENTION IN ACUTE HOSPITALS

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Knowledge from hospital staff may assist us with implementing effective falls prevention programs. This study aimed to assess nurse and senior management perceptions of barriers and enablers of effective falls prevention in acute public hospitals to inform implementation of the 6 PACK program. Data was obtained via focus groups with nurses (n=12 with 96 nurses); interviews with senior hospital staff (n=24); and nurse surveys (n=420). Analysis was thematic and guided by the Theoretical Domains Framework and COM-B framework developed by Michie and colleagues. Barriers included a lack of time, skills, effective strategies and resources. Patient complexity, environmental factors and belief that falls were inevitable were also identified as barriers. Enablers included face-to-face education; leadership; and use of audit, reminders, feedback and benchmarking. These results inform that future implementation of falls prevention

programs should include promotion of executive and ward leadership; on-ward face-to-face education; and improved access to falls prevention resources.

FALLS NOT FALL INJURIES: THE REAL DRIVERS OF HOSPITAL COST-ANALYSES OF IN-HOSPITAL FALLS

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In-hospital falls are clearly associated with increased hospital costs. Given the lack of comprehensive and contemporary data on the cost of falls, this prospective cohort study – conducted alongside the 6-PACK trial – aimed to quantify the additional length of stay (LOS) and costs associated with falls in acute hospitals in Australia. We identified 1,330 falls and 418 fall injuries from 27,026 hospital admissions. Patients with an in-hospital fall had a mean increase in LOS of 8 days (P<0.001) compared with non-fallers, and incurred mean additional hospital costs of \$6669 (P<0.001). Patients with a fall-related injury had a mean increase in LOS of 4 days (P=0.001) compared with fallers without injury, and incurred mean additional hospital costs of \$4727 (P=0.080). Findings from this study provide contemporary costs associated with an in-hospital fall and associated injury. Programs need to target the prevention of all falls, not just the reduction of harm.

MEASURING SAFETY CLIMATE IN AUSTRALIAN HOSPITALS: POTENTIAL TO MAKE CHANGES AND IMPROVE SAFETY

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There is a growing body of evidence linking adverse events such as falls with poor patient safety climate. This study explored nurse perceptions of safety climate to guide the implementation of the 6-PACK falls prevention program. The Safety Attitudes Questionnaire (SAQ) was used to quantify safety climate. 420 nurses from 24 acute wards across 6 Australian hospitals responded to the questionnaire (response rate 59.8%). On average, 53.5% of nurses held positive attitudes towards job satisfaction followed by team-work climate (50.5%). There was variability in SAQ domain scores across hospitals as well as across wards within a hospital. Findings from this study provide an insight into possible targets for strategies to improve safety climate. Implications of the association between safety climate and falls will also help to tailor patient safety programs keeping in mind that wards may have their own safety 'sub-culture' distinct to the overall hospital culture.

SESSION 3060 (SYMPOSIUM)

GETTING PATIENTS UP: DESIGNING AND IMPLEMENTING GLOBAL INTERVENTIONS TO PROMOTE PATIENT AMBULATION

Chair: B. King, *University of Wisconsin Madison, Madison, Wisconsin*

Co-Chair: C. Brown, *The University of Alabama at Birmingham*

Discussant: C. Brown, *The University of Alabama at Birmingham*

Loss of independent ambulation in older adults during hospitalization is a worldwide phenomenon. Investigators from multiple countries have identified limited ambulation of older adults in the hospital setting to be independently associated with functional decline and loss of mobility at hospital discharge. Hospital settings are complex, thus engaging patients in ambulation is riddled with barriers that prevent hospital staff from walking patients. Therefore, designing and testing interventions to improve patient ambulation in the hospital setting will require innovative approaches. The aim of this symposium will be to highlight studies to improve patient ambulation conducted in four countries. Presenters will describe novel design approaches, study results and dissemination of a model of ambulation care.

The first presentation will discuss the impact of knowledge, attitudes and behaviors of multiple healthcare providers on whether or not patients are ambulated. The second presentation will describe the use of a human factors engineering model to design a multilevel intervention (MOVIN) and strategies to engage stakeholders in launching a complex design. The third presentation will describe the use of a simple strength-training program (STAND-Cph), initiated during the hospital stay and continued post discharge for 6-months. The fourth presentation will describe dissemination of a multilevel intervention study, MOVE ON, identifying components that impact sustainability. Loss of independent ambulation in hospitalized older adults is a global health concern. Due to the complexity of hospital systems and unique care needs of older adults, pioneering approaches to overcome barriers and create sustainable models of ambulation care are needed.

BARRIERS AND FACILITATORS TOWARD IN-HOSPITAL PATIENTS' MOBILITY: THE WALK-FOR STUDY

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Although mobility during hospitalization prevents functional decline, medical teams' knowledge, attitudes and behaviors may pose barriers toward its promotion. To describe these barriers and facilitators toward in-hospital mobility among physicians, nurses, physical-therapists (PT), and nurse assistants (NA) we conducted 10 in-depth interviews, and administered surveys among 90 medical team

members of two internal medical units in Israel. Mixed methods analyses reveal a complex, multi-faceted and paradoxical picture of organizational and personal factors: fear of falls overshadowed every positive attitude toward mobility. Nonetheless, PTs and NAs express the most positive attitudes toward mobility compared with physicians and nurses. Moreover, while family members were not considered as potential collaborators in mobility assistance, NAs demonstrated desire to learn and take more responsibilities toward patients' mobility. To conclude, identifying barriers and facilitators toward mobility may help in designing and adopting effective interventions to promote patients' mobility.

DESIGNING AND IMPLEMENTING MOBILIZING OLDER ADULT PATIENTS VIA A NURSE-DRIVEN INTERVENTION (MOVIN)

B. King, L. Steege, *School of Nursing, University of Wisconsin Madison, Madison, Wisconsin*

Up to 65% of older adults (aged 65 or older) experience functional decline or loss of independent ambulation during hospitalization. Limited ambulation during the hospital stay is an independent predictor of these adverse outcomes. Registered nurses (RNs) are responsible for promoting patient ambulation. But multiple system barriers prevent nurse-initiated patient ambulation. Systems Engineering Initiative for Patient Safety (SEIPS), a human factors engineering model, offers a critical understanding of how system components (people, tools and technology; physical environment; and organizational culture) impact nurse-initiated patient ambulation. This presentation will describe using human factors engineering for work system redesign, mapping our prior findings on barriers to patient ambulation onto SEIPS to create Mobilizing Older adult patients' Via a Nurse-driven intervention (MOVIN), and strategies to engage stakeholders in a multilevel intervention. Patient ambulation in hospitals is a complex process. A systems based approach to overcome barriers is necessary to improve patient ambulation.

SUSTAINABILITY AND SPREAD OF MOVE ON: A MOBILIZATION INITIATIVE TWO YEARS AFTER IMPLEMENTATION

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Mobilization of older patients in hospitals is a clinical care priority that can reduce functional decline, delirium and length of stay. The Mobilization of Vulnerable Elders in Ontario (MOVE ON) initiative promoted 3 core messages: Mobilization should occur at least 3 times daily, mobilization should be progressive and scaled, assessment should take place within 24 hours of admission. Coordinated centrally, MOVE ON included 14,540 patients in 14 hospitals, mean age 79.9 years. In interrupted time series analysis, 10.56% more patients mobilized compared to pre-intervention. Using mixed methods, including 212 staff surveys, we identified success factors for spread and sustainability. Success factors for sustainability included contextualized education, cultural shift, implementation of formal procedures (policies, role revision, and documentation), visible corporate support, collaborative resource sharing and alignment with

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system priorities. The spread of MOVE ON continues, being adapted in over 40 hospitals in Ontario, and to other provinces and countries.

MOBILITY DURING AND AFTER HOSPITALIZATION IN OLDER MEDICAL PATIENTS: THE STAND-CPH TRIAL

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During hospitalization, older adults spend most of their time being physically inactive or bedridden with a risk of losing independence. In addition, it seems that in older adults, episodes of bed rest are associated with a subsequent decline in physical activity creating a possible vicious circle of inactivity. Therefore, in a randomized-controlled trial in 80 older medical patients (>65 years) we evaluated whether a simple, minimally time-consuming supervised strength training program, consisting of two lower extremity exercises, initiated during hospitalization and continued at home after discharge, was superior to usual care on mobility during and after hospitalization. The intervention consisted of training daily during hospitalization and 3 times weekly at home for 4 weeks after discharge. We assessed 24-h mobility (time spent sitting/lying, standing and walking) throughout hospitalization and for three one week periods after discharge (immediately after discharge, after 4 weeks and after 6 months).

SESSION 3065 (PAPER)

EPIDEMIOLOGICAL STUDIES: OBESITY, GRIP STRENGTH AND BODY COMPOSITION IN OLDER ADULTS

MODERATE OBESITY IN LATER LIFE: IS IT REALLY PROTECTIVE FOR HEALTHY AGING?

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There is very contradictory evidence on whether being overweight or moderately obese (BMI 30 to 35) is protective

or risky in later life for both survival and ageing well. With the increasing prevalence of obesity world-wide, there is a need to clarify this so-called obesity paradox of later life, including addressing suggested confounders and measurement errors. We aimed to extend the current evidence using very large-scale electronic medical record data and volunteer cohort data, plus improved measures of adiposity, co-morbidity and confounding. We also aimed to quantify trajectories of BMI change in the years before death, to clarify the effect of reverse causation.

We used Clinical Practice Research Datalink (England) linked primary care, hospital and death certificate electronic medical record data on nearly 1 million patients aged ≥60 years in England from 1 January 2000 onwards. Cox survival models for each age-subgroup were adjusted for age, gender, alcohol use, smoking, calendar year, and socioeconomic status. We also used data from the UK Biobank, a volunteer study of 500,000 people aged 40 to 69, followed for up to 8 years.

Our program of work has shown that 1) In the 14 years before death there are progressive declines in BMI over the entire period, which accelerate in the last 2 years of life. 2) After accounting for the decline in BMI before death, smoking and major disease, most of the BMI risk paradoxes with mortality and cardiovascular disease (CVD) incidence in the ≥60s disappear or reverse. 3. Misclassification of central adiposity in later life by the conventional BMI measures explains more of the risk paradox. Measures combining BMI and Waist Hip ratio are associated with major excess risks for mortality and CVD incidence from both being overweight or moderately obese in otherwise healthy 60 to 69 year olds. 4. Accounting for the above issues, levels of exercise and muscle strength remain important independent predictors but do not interact with risks due to adiposity. In conclusion, when adiposity is measured appropriately, being overweight or obese is predictive of substantially worse outcomes in older people who do not have confounding conditions. Calls for changing policies on obesity prevention because of the claimed risk paradoxes are misplaced.

MYOSTATIN IN OLDER ADULTS: THE HEALTH, AGING, AND BODY COMPOSITION (HEALTH ABC) STUDY

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Myostatin (also known as GDF8) is a negative regulator of muscle development and size. We tested the hypothesis that higher myostatin levels are associated with reduced lean mass, decreased muscle density, lower strength and slower walking speed in older adults.

We used data from 399 randomly selected men and women (mean±SD age: 78.3±2.8 years) participating in the Year 6 visit of Health ABC Study. Myostatin was detected in previously frozen serum using a validated sandwich ELISA with proprietary antibodies specific to myostatin (Eli Lilly). Muscle and function variables included appendicular lean mass assessed by whole body DXA; thigh cross-sectional

area and muscle density by QCT; walking speed by usual pace over 6 meters; and grip strength by Jamar dynamometers. Ordinary least squares regression models (adjusted for age, BMI, race, sex and self-rated health) were used to calculate adjusted mean levels of the muscle and function variables across quartiles of myostatin. We tested for interactions between myostatin and sex, and myostatin and race using linear regression.

In adjusted models, mean muscle density values increased as myostatin quartile increased (p for trend <0.001 , ~3% difference between Q1 vs Q4). No other associations between myostatin and the muscle and function variables were statistically significant. (p for trend >0.10 for all). There was no evidence for any interaction tested (p for interaction >0.10 for all).

In conclusion, myostatin levels were unrelated to measures of muscle size and physical function; the association between myostatin levels and muscle density was modest and opposite of the hypothesized direction.

GRIP STRENGTH AND LOW BODY MASS INDEX PREDICT MORTALITY: FINDINGS FROM THE LONGITUDINAL SABE STUDY

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Background: Some studies showed that grip strength predicts mortality. Both muscle mass and muscle strength decline with age, but it is not clear yet how body composition acts in the process. This article investigates the relationship between grip strength, body composition and mortality of inhabitants of São Paulo, Brazil, aged 60 and plus in 2006. **Methods:** 1423 participants were interviewed during the second wave (2006) of the SABE study. Handgrip strength was collected at baseline along with data on body mass index, (BMI) number of comorbidities, income and schooling. At the end of follow-up a Poisson regression was used to evaluate mortality rate ratios (IRR), adjusted for age and sex. **Results:** After 5.9 years there were 1080 survivors, 268 deaths and 65 (4.6%) lost to follow up. Death rate was 30.3 per 1000 person-years; death rates by Hand Grip Strength in men were 23.0 (normal strength) and 78.6 (reduced strength) - a rate ratio of 3.4. In women: 15.3 (normal) and 56.7 (reduced) a ratio of 3.7. Poisson regression showed that schooling, income and number of comorbidities had no significant IRRs. Low BMI proved different from Normal (IRR = 2.1), women differed from men (0.7); ages 75+ differed from ages 60–75 (IRR = 2.4). Reduced Hand Grip strength showed a mortality rate 2.3 greater than normal strength. **Conclusions:** This study showed that Hand Grip Strength is an important tool for prognostic of survival along with low category of BMI, independent of age, sex, income, education and number of comorbidities.

DISABILITY RISK IN OLDER ADULTS WITH MUSCLE WEAKNESS: RESULTS FROM THE HEALTH AND RETIREMENT STUDY

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Background: Muscle weakness, as determined by hand-grip dynamometry, is a robust indicator of disability, chronic disease and mortality. While we recently proposed sex/race-specific cutpoints for clinical muscle weakness in a diverse, nationally representative sample of older Americans, the extent to which these cutpoints predict subsequent physical disability remains unknown.

Objective: To examine whether sub-group specific muscle weakness cutpoints predict physical disability status in a nationally representative of Americans aged 65+.

Methods: We used data from the 2008–2012 Health and Retirement Study. Fully-adjusted, weighted multinomial logistic regression models were used to quantify the odds of experiencing an onset or progression in one's activities of daily living (ADL) status among weak versus non-weak individuals over a 4-year period.

Results: In this nationally representative sample, 44% of individuals were classified as weak at baseline. Twenty-six percent of individuals had difficulty with 1+ ADL at follow-up. The odds of experiencing an onset of physical disability were 36% higher among weak individuals at baseline compared to non-weak individuals (OR= 1.37, 95% CI= 1.36, 1.37). Additionally, the odds of experiencing a progression in physical disability were substantially higher among those who were weak at baseline compared to non-weak individuals (OR= 2.23, 95% CI= 2.22, 2.24).

Conclusions: Using cut-points derived from a nationally representative sample of older Americans, we have shown for the first time that weakness is associated with greater risk of experiencing physical disability in later life. Results underscore the importance of using population-specific cutpoints to identify individuals at greatest risk for adverse health outcomes.

ASSOCIATION OF SARCOPENIC OBESITY WITH MORTALITY: DATA FROM NHANES 1999–2004

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Background: The Foundation for the NIH Sarcopenia Project validated cutpoints for appendicular lean mass (ALM). Individuals with sarcopenia (SP) and obesity are thought to be at higher risk of adverse events. We ascertained the relationship between SP obesity and mortality and identified predictors in this subgroup.

Methods: 4,984 subjects ≥ 60 years old were identified from the cross-sectional National Health and Nutrition Examination Survey 1999–2004. Mortality data from the National Death Index was linked to this dataset. SP was defined using two definitions: a) reduced ALM (men <19.75 ; females <15.02 kg); b) ALM divided by body mass index (BMI) (ALM/BMI: <0.789 ; <0.512 , respectively). Obesity was defined using dual-energy X-ray absorptiometry body fat (males $\geq 25\%$; females $\geq 35\%$). SP obesity was defined using criteria for both SP and obesity. Proportional hazard models determined the risk of death (referent=no SP obesity).

Results: Mean age was 71.1 ± 0.19 years (56.5% female). Median follow-up was 102 months (IQR: 78,124) with

1,901 deaths (35.0%). Using ALM, prevalence of sarcopenic obesity was 33.5% in females, and 12.6% in males. Risk of overall death was HR 1.31 [95%CI:1.11–1.55] and 1.59 [1.17–2.15] in males and females, respectively for those with SP obesity. Using ALM/BMI, prevalence was 27.3% and 19.1%, and risk of death was 1.14 [0.99,1.32] and 1.17 [0.98,1.39], respectively. Diabetes, cancer, kidney disease, and presence of physical limitations were associated with greater risk of death using both SP definitions.

Conclusions: Risk of death in Sarcopenic obesity is definition-dependent becoming non-significant when using the ALM/BMI definition. Having diabetes, cancer and renal disease predict a worse prognosis in both classifications.

SESSION 3070 (PAPER)

CARE PREFERENCES AT END OF LIFE

IMPACT OF ADVANCE CARE PLANNING SELF-EFFICACY AND BELIEFS ON PROFESSIONAL JUDGMENTS

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We examined the impact of advance care planning (ACP) self-efficacy and beliefs in predicting skilled nursing facility (SNF) provider judgments about initiating ACP conversations. This multi-site study of 353 nurses and social workers within 29 SNFs used a factorial survey approach in which providers judged vignettes with assigned features of a typical SNF resident. Mixed models were used to test hypotheses about vignette responses. At the vignette level, residents at high risk for hospitalization, with rapidly declining health, a diagnosis of cancer vs. diabetes, and those needing more assistance with activities of daily living were rated in more need of ACP ($p < .001$ for each variable). In addition, these disease trajectory variables also were significantly associated with providers feeling responsible for ensuring ACP conversations took place ($p < .001$ for each variable). At the provider level, providers who had more negative beliefs about ACP were less likely to judge residents in need of ACP by -0.68 points (based on a 1–9 scale, with standard deviation=2.21, and CI -1.05, -0.32, $p < .001$) and to feel responsible (-0.79 same scale with standard deviation=2.34, CI -1.24, -0.34, $p = .001$). Self-efficacy did not have a significant impact on judgments of need (estimate=0.28, CI -0.08, 0.65, $p = .13$), but did significantly impact judgments of responsibility (estimate=0.80, CI 0.38, 1.23, $p < .001$). In conclusion, both negative beliefs about ACP and confidence in one's ability to conduct ACP discussions were associated with professional judgments regarding ACP. The findings illustrate the importance of addressing negative beliefs and increasing provider ACP self-efficacy through education and policies.

PROGNOSIS COMMUNICATION IN LATE-LIFE DISABILITY

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For older adults with late-life disability, learning their long-term prognosis, or life expectancy, can inform clinical and personal decisions, but many clinicians worry that telling patients their prognosis may harm them. We therefore conducted a study to explore the safety and reactions to prognosis communication in late-life disability. We recruited community-dwelling older adults age 70+ with at least one disability in activities of daily living from the San Francisco Bay Area. We conducted qualitative in-person interviews in English, Spanish, or Mandarin. Participants were asked to estimate their own life expectancy and then were presented their calculated life expectancy using the Lee index from ePrognosis.org. Psychological and behavioral outcomes were assessed using metric measures. Outcomes were re-assessed by telephone 2–4 weeks later. The sample included 35 older adults with a mean age of 79 (56% female, 74% white, 3% black, 14% Latino, 6% Chinese). 85% responded “Not at all” or “A little bit” to statements about feeling anxious or depressed after knowing their calculated life expectancy. An overarching theme of *fitting life expectancy into one's narrative* emerged from the data. Participants interpreted the calculated prognosis based on how they understood their health conditions, life history, and factors that influence health. For example, if participants saw themselves as healthy or had long-lived family members, they often dismissed a shorter prognostic estimate. In conclusion, communicating long-term life expectancy does not appear harmful in this sample. However, many may not accept the estimated life expectancy if it does not align with their life narrative.

PREFERENCE OF DISCLOSING TERMINAL ILLNESS AMONG KOREAN OLDER ADULTS

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The disclosure of a terminal illness is a significant issue in terms of protecting the patient's autonomy and right to know at the end of life. However, in Korea, families are informed of the patient's condition instead of the patients, and they make medical decisions for the patients as their proxies. Therefore, it is vital to know patients' preferences regarding the disclosure of terminal illness.

Method: Disclosure preferences regarding terminal illnesses and factors related to disclosure preferences among the older adults were investigated utilizing survey. The participants were 183 community-dwelling older adults in Seoul, South Korea. Disclosure preference regarding terminal illness was measured by a questionnaire specifically developed for this study. The questionnaires also incorporated the Family APGAR score and the Information Seeking Preference Index.

Finding: One hundred one participants (58.4%) would want to be told of their terminal illness, whereas 72 participants (42.6%) would not want to be told. Older age and higher education were significantly associated with the

disclosure of terminal illness. Higher Family APGAR score and a higher Information Seeking Preference Index score were also significantly related to the disclosure. A logistic regression analysis revealed that the Information Seeking Preference Index score was a significant predictor after controlling for age, education, and the Family APGAR score ($R^2 = .352$, $p < .001$).

Conclusion: Health care providers should assess their patients' preferences to be told medical information and should provide appropriate information based on each patient's individual preference.

SPEAKING FROM THE HEART: THE CHANGING GOALS OF HEART FAILURE PATIENTS IN THE LAST YEARS OF LIFE

S. Schellinger, E.W. Anderson, M. Frazer, S. Curran, K. Fernstrom, *Allina Health, Minneapolis, Minnesota*

Heart failure is the most common admission diagnosis for older adults, with a one-month mortality rate of 11% and a 30% readmission rate. It is a condition that afflicts the whole person and burdens families over years. Knowing the goals and wishes of persons with serious illness is essential for individualizing care. This study aims to understand the evolution of medical and nonmedical serious illness goals by asking advanced heart failure patients to describe what is most important to them. As part of LifeCourse, patients received monthly in-person visits by a lay health care worker, called a care guide. Care guides promoted whole-person, family-oriented care using assessment tools, whole-person and goals of care questions, and advance care planning discussions. Patients' self-defined goals were documented in the medical record. We examined the medical records of 30 heart failure patients who received supportive care up to 920 days before death. A qualitative analysis of the medical record data affirmed goals evolved over the illness experience. Goals that originally focused on physical (66%) acquired psycho-social, emotional, and spiritual facets as patients came closer to end of life. Non-medical goals (27%) occurred in the middle of the illness experience. An emotional or psychological element was often (80%) attached to goals. Family/caregiver goals (26%) and aspirational goal statements (13%) appeared consistently throughout the study period. The dynamic nature of serious illness requires ongoing goals of care discussions to promote collaborative decision making that allows for individualized care and a whole person experience.

THE RELATIONSHIP BETWEEN DISEASE BURDEN, CARE SETTING, AND LIFE-SUSTAINING TREATMENT CHOICES

E. Chen¹, C.T. Pu², J. Ragland², J. Schwartz², M. Fairbanks², J.E. Mutchler¹, 1. *University of Massachusetts, Boston, Massachusetts*, 2. *Partners HealthCare, Boston, Massachusetts*

Over 70% of the U.S. population is expected to die from advanced chronic illness. We hypothesized that high illness burden, measured by the number and severity of comorbidities and patient age (Charlson Score), leads to low odds for choosing aggressive life-sustaining treatments.

Life-sustaining treatment preferences were collected from 593 Physician (or Medical) Orders for Life-Sustaining

Treatment forms (MOLST) at three hospitals. Logistic regression models were used to estimate the odds for choosing All Treatment (aggressive) vs. Limitations to Life-sustaining Treatments for patients with Charlson >5 (vs. ≤ 5), controlling for decision-maker (patient/proxy), care setting (with/without a palliative care practice; MD/PA/NP), and patient demographics.

Over one-third (36%) chose All Treatment. Mean Charlson Score was 8 (SD=3). Proxy decision-makers signed 43% of the forms. Mean patient age was 71 (SD=15); 49% were male; and 83% were non-Hispanic White. Palliative care clinicians administered 50%, and both non-palliative and palliative MDs administered 52% of the MOLSTs.

Patients with Charlson >5 were 70% (OR=0.31; $p \leq 0.001$) less likely to choose All Treatment than those with Charlson ≤ 5 , when controlling for only patient characteristics (pseudo $R^2=0.148$; $p \leq 0.001$). Adding care-setting variables showed that Charlson >5 still reduced the odds for choosing All Treatment. However, the participation of palliative care clinicians attenuated the magnitude of the relationship between illness burden and life-sustaining treatment preferences (OR=0.54; $p \leq 0.10$) (pseudo $R^2=0.431$; $p \leq 0.001$).

These results support our hypothesis that high illness burden is negatively associated with preferences for All Life-sustaining Treatments, but results also point to the strong influence of palliative care clinicians in these decisions.

SESSION 3075 (SYMPOSIUM)

UNREGULATED CARE PROVIDERS (CARE AIDES) IN NURSING HOMES—A RESOURCE FOR QUALITY OF CARE

Chair: M. Hoben, *University of Alberta*

Co-Chair: J. Holroyd-Leduc, *University of Calgary*

Translating Research in Elder Care (TREC) is a longitudinal program (2007–2022) of applied research, involving >40 investigators and decision makers from across Canada. TREC's aims are to find practical solutions that contribute to sustainable improvements in quality of care and life of frail older nursing home residents, and quality of worklife of their paid care providers. Unregulated care providers with little formal training (are aides) provide up to 80% of direct care in nursing homes, and are therefore a critical resource for quality of care. However, little research has focused on this provider group, and our understanding of their situation and how to best use this largely untapped resource to make improvements is limited. Therefore, care aides are an important research focus in TREC. In this symposium we will first give an overview of the TREC research program. We will specifically present findings on care aides' quality of worklife and best practice use, and the association of care aides' work environment (i.e., care unit work context) with these outcomes. We will then present specific findings on care aides' physical and mental health. The third presentation will focus on pain in nursing home residents. Furthermore, we will present two ongoing cluster randomized intervention studies, in which care aides and their leaders are systematically targeted in order to improve quality of care, life and worklife on nursing home care units.

THE TRANSLATING RESEARCH IN ELDER CARE (TREC) PROGRAM: AN INTRODUCTION

P.G. Norton², M. Doupe³, M. Hoben¹, J. Holroyd-Leduc², J.A. Knopp-Sihota⁴, A. Wagg¹, C.A. Estabrooks¹,

1. *University of Alberta, Edmonton, Alberta, Canada*, 2. *University of Calgary, Calgary, Alberta, Canada*, 3. *University of Manitoba, Winnipeg, Manitoba, Canada*, 4. *Athabasca University, Athabasca, Alberta, Canada*

The core of the TREC research program is the TREC Measurement System (TMS): a longitudinal, representative study in urban nursing homes in Western Canada, using staff surveys and resident data (RAI-MDS 2.0) to monitor, examine and modify factors influencing organizational context, staff health/well-being, and care quality. TMS data provides outcome data for TREC implementation studies: two randomized trials (both of which will be presented in this symposium), a Social Network Analysis (SNA) to identify advice seeking networks among nursing homes in the eight Western and Atlantic provinces and the three Northern Territories, System Projects addressing stakeholder needs at various levels related to care of residents, and trainee projects. Important findings of TREC are that 1) work context influences provider and resident outcomes, 2) the care unit is a critical level at which to monitor data over time and target interventions, and 3) care aides are key to performance improvement.

PHYSICAL AND MENTAL HEALTH STATUS OF CANADIAN NURSING HOME CARE AIDES

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Care aides work long hours providing care to an increasingly complex nursing home population. Because of related stresses, workers are at greater risk for health problems (e.g., burnout). The SF-8™, an abbreviated version of the original SF-36™, is a psychometrically sound self-report survey used to evaluate physical and mental health status.

This observational study utilized data collected in 2009/2010 in the TREC Measurement System (TMS) survey to describe the health status of 1,367 care aides within a representative sample of 30 urban nursing homes. The majority of care aides were middle aged and female. When compared to the general US and Canadian population, care aides reported on average similar mental and physical health status. This is the first study reporting normative SF-8 data for Canadian health care providers. Normative data are fundamental when comparing group or individual scores and can be used in other studies.

END-OF-LIFE PAIN FOR NURSING HOME RESIDENTS: THE ROLE OF HEALTHCARE AIDES AND CONTEXTUAL FACTORS

M. Doupe¹, G. Thompson¹, C. Reid², J. Baumbusch², J.A. Knopp-Sihota³, 1. *University of Manitoba, Winnipeg, Manitoba, Canada*, 2. *University of British Columbia, Kelowna, British Columbia, Canada*, 3. *Athabasca University, Edmonton, Alberta, Canada*

Pain management is a hallmark of quality end-of-life care. This presentation will define pain trajectories in nursing home (NH) residents' last six months of life, and show how these trajectories are influenced by health care aides (HCAs) and their working environment.

This observational study utilizes the RAI-Minimum Data Set (MDS) linked to the TREC Measurement System (TMS) survey. MDS provides resident-level longitudinal data on pain plus various clinical measures. TMS captures point-in-time metrics on HCA supply, their characteristics (e.g., time rushed, feelings of empowerment) and their working environment (e.g., team leadership, care culture). Data are available on a representative sample of NHs from Western Canada.

Data were analyzed on 982 residents in their last six months of life. Pain levels were negligible for 60.6% of residents during this time, and increased substantially or remained high for 34.4%. The effect of HCAs and contextual factors on these pain trajectories is discussed.

SAFER CARE FOR OLDER PERSONS IN RESIDENTIAL ENVIRONMENTS (SCOPE)

A. Wagg¹, J.A. Knopp-Sihota¹, P.G. Norton¹, M. Doupe², C.A. Estabrooks¹, 1. *University of Alberta, Edmonton, Alberta, Canada*, 2. *University of Manitoba, Winnipeg, Manitoba, Canada*

The majority of direct care in Canadian nursing homes is provided by care aides. This body of unregulated, variably trained staff is rarely encouraged to lead in quality improvement initiatives. SCOPE is a controlled, cluster randomised study which examines the effect of engaging and empowering care aide led teams to effect system change at the clinical unit level. This report presents the barriers and facilitators to successful operation of the intervention in the first seven intervention sites in a fully powered study. Pitfalls in fidelity monitoring will be discussed with regard to unit, leader, quality improvement team and researcher experiences.

IMPROVING NURSING HOME CARE THROUGH FEEDBACK ON PERFORMANCE DATA (INFORM)

M. Hoben¹, L.R. Ginsburg², P.G. Norton³, A. Wagg¹, C.A. Estabrooks¹, 1. *University of Alberta, Edmonton, Alberta, Canada*, 2. *York University, Toronto, Ontario, Canada*, 3. *University of Calgary, Calgary, Alberta, Canada*

INFORM is a 3.5-year pragmatic, cluster-randomized trial to systematically evaluate the effectiveness of three feedback strategies (standard feedback, and two assisted, goal-directed strategies) for improving performance within nursing home care units. Methods and results of international audit/feedback studies are heterogeneous. They have been criticized for a lack of systematic use of theory, and a lack of head-to-head comparisons of different feedback strategies. INFORM is based on theory (audit/feedback, goal setting, complex adaptive systems). Interventions target care unit managerial teams. We randomized 67 Western Canadian nursing homes with 203 care units to the three study arms: Primary outcome is the increased number of Formal Interactions (e.g., resident rounds or family conferences) involving care aides. We will present methods of INFORM and results of the initial Goal Setting Workshops. Participants were able to set performance goals and tailor improvement strategies to

identified barriers/facilitators, and participants found attending the workshops beneficial.

SESSION 3080 (SYMPOSIUM)

INTERNATIONAL, PRAGMATIC, AND MULTISITE TRIALS: DESIGN, IMPLEMENTATION AND ETHICAL CONSIDERATIONS

Chair: T. Trivison, *Beth Israel Deaconess Medical Center, Boston, Massachusetts*

Co-Chair: H. Allore, *Yale University, New Haven, Connecticut*

Discussant: M. Tai-Seale, *Palo Alto Medical Foundation Research Institute, Palo Alto, California*

Recent work drawing a clearer distinction between explanatory clinical trials (concerned with the estimation of causal effects) and pragmatic trials (focused on selection between therapeutic strategies) illuminates the interplay between internal validity and the generalizability of quantitative results. In gerontology and geriatrics, these tensions present a particular challenge, as there is often a dramatic contrast between those individuals eligible to enroll in intervention trials and the more diverse older patient populations to which conclusions would ideally apply.

In practice, large multisite trials are often designed with both explanatory and pragmatic considerations in mind. Therefore, flexible methodologies are required to insure valid design while bolstering the generalizability of results. In this symposium, we provide a series of international perspectives on modern approaches to participant recruitment and retention, randomization, statistical analysis, and research ethics in the context of complex sampling populations and flexible research designs. We focus in particular on scenarios in which clustered sampling of older participants is necessary, either because of the nature of the intervention (e.g. a change in clinical practices) or the population under study (e.g. where patient subgroups are nested within geographic regions). We then consider the ethical implications of enrollment of older subjects in complex trials with pragmatic foci, for which foundational principles may differ from those of conventional explanatory trials. Finally, we discuss a framework guiding the interplay between trial design, best statistical practices, and the ethical conduct of interventional research, and consider the application of these designs to research within differing healthcare systems.

RECRUITING OLDER PEOPLE AT NUTRITIONAL RISK FOR CLINICAL TRIALS: WHAT HAVE WE LEARNED?

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There is limited information about effective ways to screen and recruit older people into trials, and the reasons for their reluctance to enroll. This presentation examines recruitment efforts for a community-based randomized clinical trial that targeted undernourished men and women, aged ≥ 65 years in three Australian cities. Participants were allocated to either

oral testosterone and high calorie oral nutritional supplement or placebo medication and low calorie oral nutritional supplementation. 4023 potential participants were identified and 767 were screened by a variety of methods: hospital note screening, referrals from geriatric health services, advertising and media segments/appearances. 53 participants (7% of total screened) were recruited. The majority of potentially eligible participants declined participation in the trial after reading the information sheet. Media was the more successful method of recruiting, whereas contacting people identified by screening a large number of hospital records was not successful in recruiting any participants.

PARTICIPANT RANDOMIZATION IN COMPLEX TRIAL DESIGNS

T. Trivison¹, D. Esserman³, E. Greene³, H. Allore², 1. *Beth Israel Deaconess Medical Center, Boston, Massachusetts*, 2. *Yale School of Medicine, New Haven, Connecticut*, 3. *Yale School of Public Health, New Haven, Connecticut*

Clinical trial design entails specific challenges when the intervention is applied to groups of individuals, requiring them to be randomized together (as a cluster). Although the number of participants may be high, there may be few clusters, and thus simple randomization may lead to imbalances between the randomized groups. To insure statistical power and validity, one must consider the potential for these imbalances, as well as the between-cluster variation in number of eligible participants and the intra-cluster correlation in outcomes. Some of these cannot be known at design time. Where additional complexities are inherent to the sampling frame (e.g. multi-level correlation in nested samples) or the experimental design (e.g. crossover in the stepped wedge), randomization entails additional corresponding challenges. This presentation will detail implications for participant allocation of trials of cluster-level interventions for older adults, review existing and novel computational and software tools that facilitate design of complex multisite trials.

ANALYSIS OF TRIALS WITH MULTI-LEVEL CLUSTERING, RECURRENT EVENTS AND COMPETING RISKS

H. Allore¹, T. Jung², D. Esserman², P.N. Peduzzi², 1. *Yale School of Medicine, New Haven, Connecticut*, 2. *Yale School of Public Health, New Haven, Connecticut*

Oftentimes participants in randomized trials are clustered at multiple levels. For instance, they may be grouped in practices, which in turn are grouped within hospitals within healthcare systems. The complex hierarchical relationships introduced within resulting data structures must be acknowledged in data analyses to insure valid estimation of treatment effects.

When such trials are conducted among older individuals, additional complexities may present themselves, as in the case when death or other competing risks preclude observation of clinical endpoints. When the outcome of interest is a potentially recurrent event, such as fall or hospitalization, there may be interest in understanding the rates of both incidence and recurrence, but existing methods are inadequate to estimate them in this setting. In this presentation, we propose a novel analytic approach for estimation of treatment effects for time-to-event endpoints in the presence of multilevel clustering and competing risks.

PRAGMATIC COMPARATIVE EFFECTIVENESS TRIALS: INTERPLAY BETWEEN DESIGN AND ETHICS

M. Taljaard, *University of Ottawa, Ottawa, Ontario, Canada*

Pragmatic RCTs comparing effectiveness of treatments integrated in usual care can reduce variations in care, improve uptake of evidence-based practice, reduce costs and improve patient outcomes. Novel designs such as cluster crossover and stepped wedge cluster RCTs can detect small but important differences at population-level. However, these trials raise important methodological and ethical issues. Existing ethical frameworks were developed primarily for trials focusing on efficacy of experimental treatments for marketing approval. Common elements include tightly controlled conditions with individual patient recruitment, randomization and follow-up. This talk will address the importance of pragmatic comparative effectiveness trials as a tool to support decision-making by patients, clinicians and policymakers. Using a case study of a cluster RCT allocating nursing homes to high dose versus standard dose influenza vaccine, it will address the interplay between ethics and statistical design by reviewing alternative design choices and their implications for trial feasibility, generalizability, and validity.

ETHICAL CHALLENGES IN PRAGMATIC COMPARATIVE EFFECTIVENESS TRIALS

C. Weijer, *University of Western Ontario, London, Ontario, Canada*

Pragmatic RCTs raise ethical issues that have not yet been adequately addressed. Consider a trial allocating nursing homes to high dose versus standard dose influenza vaccine: if designed as an individual patient RCT, informed consent would need to be sought for randomization, intervention and outcome assessment; but if treatments are implemented institution-wide as a policy intervention, is it acceptable to proceed without patient consent? Do patients need to be informed about the trial and if so, how? Some reject the research-practice distinction by advocating that low or no-risk pragmatic RCTs do not require more stringent oversight than clinical practice. Modifications to traditional consent models have been proposed, but it is unclear if they adequately protect patients' rights. The lack of adequate ethical guidance for pragmatic RCTs presents a practical threat to the conduct of socially valuable research. If important research is to proceed, novel guidance is required.

SESSION 3085 (PAPER)

FACTORS AFFECTING DEMENTIA RISK AND BEHAVIORAL SYMPTOMS

MALNUTRITION A RISK FACTOR OF MORTALITY IN HOSPITALIZED ADULTS WITH DEMENTIA IN THE UNITED STATES

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Background: As people live longer, the prevalence of chronic illness including dementia has become a public health concern. Although studies have found persons with dementia (PWD) are at risk for malnutrition little is known about the mortality risk among hospitalized PWD. This study examined the relationship between malnutrition and mortality among PWD.

Methods: Data are from the 2010 Nationwide Inpatient Sample (NIS), a nationally representative sample of discharges from community hospitals in the United States. The sample was restricted to inpatients ≥ 65 years with a primary or secondary diagnosis of dementia. Logistic regression was used to calculate d unadjusted and adjusted odds ratios (OR) and 95% confidence intervals (CI).

Results: Among PWD, the mean age was 83.2 (SE=0.06) years, 62.8% female, and 76% white. The majority of PWD were admitted from their homes. The prevalence of malnutrition was 12.2% (95% CI: 11.7–12.7) and in-hospital mortality was 4.8% (95% CI: 4.6–5.0). When stratified by malnutrition, mortality was 7.8% (95% CI: 7.4–8.2) for patients malnutrition versus 4.4% (95% CI: 4.2–4.5) for patient without malnutrition. Unadjusted results showed malnutrition to be significantly associated with in-hospital mortality (OR=1.86, 95%CI:1.77–1.96). After adjusting for demographics, point of origin, chronic conditions and comorbidities, and receipt of parenteral or enteral nutrition, the likelihood of mortality for PWD was 39% greater for those with a malnutrition compared to those without malnutrition.

Conclusions: The findings highlight the need to recognize nutritional risk for PWD living at home. PWD diagnosed with malnutrition are at risk of mortality.

SLEEP EARLIER IN LIFE AND LATE-LIFE DEMENTIA: MULTI-CENTER POPULATION DATA FROM SWEDEN AND FINLAND

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Sleep disturbances commonly follow the onset of dementia. However, few longitudinal studies have assessed how sleep disturbances can increase dementia risk. The current study examines the association between sleep disturbances and dementia using population-based data.

In three population-based studies (two Swedish, one Finnish), general questions were administered about sleep quality, reduced sleep hours and terminal insomnia. The short-term follow-up analyses (9–10 years follow-up time) used all three studies (N=1446). Mean baseline ages in the three datasets were 70, 70, and 84 years. The long follow-up analyses used the Finnish dataset with 22 and 32 years follow-up (N=759) and mean age was 50 years.

We performed binary logistic and hazard regressions for the associations between sleep and dementia. The following potential baseline confounders were adjusted for: Data material, follow-up time, baseline age, sex, years of education (linear), alcohol consumption (linear), presently smoking, physically active, cohabitation, cardiovascular conditions, hypnotics (yes/no), APOE4 allele (for short follow-up data) and hopelessness.

Short follow-up results showed significant associations in all models between terminal insomnia and a higher likelihood of dementia (fully adjusted model using all covariates, (odds ratio (OR)=1.94, $p=0.027$). No associations were found between reduced sleep and dementia (OR=0.99). Long follow-up results (Finnish data) showed that insomnia was associated with a higher risk for dementia (fully adjusted hazard ratio=1.24 $p=0.030$).

In conclusion, more severe insomnia earlier in life is associated with a higher risk of late-life dementia. Individuals with sleep disturbances may benefit from interventions to improve sleep.

PAIN INTERFERENCE AND DEPRESSIVE SYMPTOMS IN ALZHEIMER'S DISEASE: A PILOT STUDY

J. Wang¹, M.S. Dietrich^{1,2}, S.F. Simmons³, R.L. Cowan^{2,4}, T. Monroe^{1,2,4}, 1. *Vanderbilt University School of Nursing, Nashville, Tennessee*, 2. *Vanderbilt University School of Medicine, Nashville, Tennessee*, 3. *Center for Quality Aging, Vanderbilt University Medical Center, Nashville, Tennessee*, 4. *Department of Psychiatry and Behavioral Sciences, Vanderbilt University School of Medicine, Nashville, Tennessee*

There were five million older adults in the U.S. with AD in 2015; 43–86% of those with AD report regular pain. Yet, little is known about the degree to which pain interferes with everyday activities in this population. We conducted a cross-sectional, secondary analysis of data from 52 older (≥ 65) communicative adults with AD who were free from chronic pain. Instruments included the Mini Mental State Exam (MMSE, cognitive function), Brief Pain Inventory Short Form (BPI-SF, pain interference score) and the Geriatric Depressive Scale (GDS-15, depressive symptomology). Median BPI score was 0.0 with a range from 0 to 8. Reports of pain interference with specific activities included general activity (13.5%), mood (13.5%), walking ability (13.5%), normal work (11.5%), enjoyment of life (11.5%), relations with other people (9.6%), and sleep (9.6%). Average MMSE was 18.5 (SD=5.1), indicating moderate cognitive impairment. Median GDS score was 2.0 (IQR=1–6). There were statistically significant associations of pain interference with both cognitive function ($rs=0.46$, $p=0.001$) and depressive symptomology ($rs=0.45$, $p=0.001$), indicating that greater perceived pain interference was related to better cognitive function and more depressive symptoms. Our findings showed that the association of pain interference with cognitive impairment and depression may place older adults at risk for under-management and unnecessary suffering. Due to the disabling impact of pain interference on everyday activities, assessment of pain interference should be incorporated into routine clinical practice to better manage pain.

Accurate assessment of pain interference can also help identify older adults at high-risk for depression.

SESSION 3090 (SYMPOSIUM)

A BIOBEHAVIORAL APPROACH TO HEALTH IN MIDLIFE AND OLDER AGES

Chair: H.R. Collins-Farmer, *Pennsylvania State University*

Co-Chair: A. Thierry, *The Pennsylvania State University*

Discussant: L.A. Wray, *Pennsylvania State University*

This symposium is intended to incorporate a biobehavioral approach to understanding the biological mechanisms that may underlie patterns of health in midlife and older ages. Psychosocial and behavioral factors are related to health status, but less is known about the biological manifestations of these factors and how they are linked to the development of health problems. Current research suggests that they may lead to physiological dysregulation, a precursor to morbidity and mortality. The research presented in this symposium will focus on the associations among biological mechanisms, health status, social status, and psychosocial experience using data from the nationally representative Health and Retirement Study. First, Amy Thierry will discuss the links between the development of different measures of physical disability and telomere length, a biomarker associated with biological aging. The next two talks will examine the link between social status, health and C-reactive protein (CRP), which is an indicator of systemic inflammation. CRP has been linked to cardiometabolic problems and mortality. Heather Collins-Farmer will illustrate the complex relationships of race and all-cause mortality, by focusing on the ways that education, everyday discrimination, and CRP explain racial disparities in mortality. Finally, Marina Armendariz will explore the Hispanic paradox and test whether Mexican-Americans and those who were foreign-born have lower circulating CRP levels compared to their U.S.-born counterparts. After attending this session, participants will have a greater understanding of the roles that social status, behavior, and health status can influence physiological functioning, and thus, morbidity and mortality, in midlife and older ages.

IS TELOMERE LENGTH ASSOCIATED WITH PHYSICAL DISABILITY IN U.S. MIDLIFE AND OLDER ADULTS?

A. Thierry, I. Shalev, L.A. Wray, *The Pennsylvania State University, University Park, Pennsylvania*

Telomere length, a biomarker of accumulated cellular damage and physiological dysregulation, is negatively associated with risk of developing disabling conditions in older age. However, little is known about the telomere length-physical disability relationship. Using Health and Retirement Study data collected in 2008–2014, linear regression models tested the association between baseline telomere length and change in number of functional limitations, activities of daily living (ADLs), and instrumental activities of daily living (IADLs) in a diverse, nationally representative sample of US adults >50 years of age ($n=4,085$). In participants ≥ 65 ($n=2,602$), those with shorter telomeres accumulated more disabilities

over time, even after including demographic, socioeconomic, and health status variables ($b = -1.314$, $SE = 0.50$, $p < 0.05$). This relationship was driven by accumulation of functional limitations, and not ADLs or IADLs, in this age group. Because telomere length was associated with disability development, future research should further examine biobehavioral mechanisms implicated in this complex process.

AN EXAMINATION OF THE BIOPSYCHOSOCIAL MECHANISMS LINKING RACE TO ALL-CAUSE MORTALITY

H.R. Collins-Farmer, L.A. Wray, *Pennsylvania State University, University Park, Pennsylvania*

The protective and negative experiences of education and discrimination may contribute to Blacks' elevated mortality rates. C-reactive protein (CRP), linked to chronic stress and mortality, may explain this disparity. Core, biomarker, and leave-behind data from 2006 and 2008 were pooled from the Health and Retirement Study, a nationally representative sample of middle-aged and older adults, and Cox proportional hazard models were used to examine the relationship between race, education, everyday discrimination, CRP, and mortality in 2014. In the sample of 9,168 respondents, 11.30% died at follow-up. Race was associated with increased mortality ($HR = 1.45$, $p \leq .001$), and was reduced to non-significance after controlling for education, everyday discrimination, and CRP. Everyday discrimination explained 8% of the association between race and mortality, CRP explained 5%, and education reduced the association to non-significance. The relationship between race and mortality is complex: inequalities in social status and stress exposure may drive mortality.

EXAMINING THE HISPANIC PARADOX IN C-REACTIVE PROTEIN (CRP) IN MIDDLE-AGED AND OLDER AMERICANS

M. Armendariz, H.R. Collins-Farmer, A. Thierry, L.A. Wray, *Biobehavioral Health, Pennsylvania State University, University Park, Pennsylvania*

Although the Hispanic Paradox indicates that Hispanics' health is comparable to non-Hispanic Whites, empirical data suggest this paradox may not exist in biological health profiles. This study examines the Hispanic Paradox in C-reactive protein (CRP), a biological indicator of inflammation. Data were pooled from the 2006 and 2008 core and biomarker waves of the Health and Retirement Study, a nationally representative study of middle-aged and older Americans. Multiple regression analyses tested the relationship between adults of Mexican origin ($n = 727$) and CRP, net of the effects of immigrant status and survey language preference. Mexican Americans had higher CRP levels than Whites, controlling for age and sex ($\beta = .06$, $p < .01$); however, when both immigration status and language preference were controlled, the association between being Mexican American and CRP was reduced to non-significance ($\beta = .04$, $p > .05$). Future research should fully investigate how biological, social and behavioral factors link Mexican origin to higher CRP.

SESSION 3095 (PAPER)

PHYSICAL ACTIVITY AND HEALTH

ACUTE EFFECT OF DIFFERENT TYPES OF EXERCISE ON BLOOD PRESSURE OF HYPERTENSIVE OLDER WOMEN

G.O. Campos, R.F. Bertani, J.C. Moriguti, E. Ferriolli, N.K. Lima, *Ribeirão Preto Medical School - University of São Paulo, Ribeirão Preto, São Paulo, Brazil*

Heart disease is the leading cause of deaths worldwide. Systemic arterial hypertension contributes to raising the risk of cardiovascular events. In older women the incidence of hypertension is higher compared to men. The role of exercise in the prevention and treatment of hypertension is undeniable, however, the best mode has not been set. The present study investigated the hemodynamic responses of systolic blood pressure (BP) of 30 elderly hypertensive women under drug therapy, subjected to continuous aerobic exercise (CAE), interval aerobic exercise (IAE), resistance exercise (RE) and control (C) with a minimum interval of 7 days, in random order, with the same intensity. Systolic BP measurements were obtained before and immediately after the sessions by the oscillometric method, and 24-hour ambulatory blood pressure monitoring (24-h ABPM) was performed in 4 groups. The data were analyzed by mixed-effects model. It was observed a decrease in systolic BP in the CAE (123 ± 17 mmHg to 116 ± 19 mmHg, $p < 0.001$), in the IAE (122 ± 16 to 112 ± 16 mmHg, $p < 0.001$), with no immediate change in ER. In the 24-h ABPM was observed lower systolic BP in IAE than in CAE (< 0.001). The hypotensive effect of IAE session is larger and longer than CAE session, suggesting that the change in intensity over time of exercise can influence the magnitude of the systolic BP fall in hypertensive older women.

EFFECT OF KINECT TAI CHI ON OVERALL HEALTH OF DEMENTIA CLIENTS: A FEASIBILITY AND USABILITY STUDY

N. Neubauer, V. Fernandez, L. Liu, E. Stroulia, *University of Alberta, Edmonton, Alberta, Canada*

The prevalence of dementia is increasing worldwide. Dementia clients experience an increased risk for depression and physical inactivity. Tai Chi can enhance the physical and mental health of healthy older adults, including persons with dementia. However, programs tailored for dementia clients are scarce and barriers, such as transportation and accessibility, further limit participation in Tai Chi. The purpose of this pilot study was to evaluate the usability of a home Kinect-based Tai Chi system (K-TaiChi), and to determine its effect on perceived physical and mental health of dementia clients in preparation for a large-scale study. Using a serious-games methodology, K-TaiChi was developed to guide dementia clients through postures and movements, recognize features of their movement, and provide visual feedback and rewards when movements are performed well. Ten community dwelling individuals with mild to moderate dementia used K-TaiChi in their homes three times per week, for six weeks.

Focus groups with dementia clients and their caregivers were conducted to evaluate our system's feasibility and usability. The Cornell Scale for Depression in Dementia was administered pre and post intervention to evaluate its effectiveness on mental health. The majority of participants successfully used K-TaiChi. Results revealed improvements in depression and physical activity levels of those that completed all 18 sessions. Because of its user-friendliness and its effects on activity levels, depression, and perceived health, K-TaiChi holds promise for community-residing mild to moderate persons with dementia who are unable to participate in traditional Tai Chi programs.

TENACIOUS GOAL PURSUIT AND LIFE-SPACE MOBILITY AMONG OLDER PEOPLE WITH WALKING DIFFICULTIES

M. Saajanaho, K. Kokko, M. Rantakokko, E. Portegijs, J. Eronen, T. Poranen-Clark, T. Rantanen, *Health Sciences, University of Jyväskylä, Muurame, Finland*

Life-space mobility, defined as the spatial extent of movement in daily life, is strongly dependent on functional ability. However, active striving to reach one's goals might inspire older people to move in a larger life-space regardless of their physical abilities. We aimed to study whether tenacious goal pursuit differs according to walking difficulties and whether it is associated with life-space mobility in old age.

The participants were 186 community-dwelling older people between 79 and 93 years of age from the Life-Space Mobility and Active Aging study. Life-space mobility was assessed with the Life-Space Assessment. The Tenacious Goal Pursuit (TGP) scale was used to assess the tendency to be persistent in goal pursuit (range 1–5, higher scores indicate higher tenaciousness). Linear regression model adjusted for age, sex, years of education and self-rated health was used in the analysis. The analysis was stratified based on reporting vs. not reporting at least minor difficulties in walking two kilometers.

Participants who reported walking difficulties were less tenacious in goal pursuit compared to those who did not report such difficulties (Mean TGP score=3.45, SD=0.80 vs. M=3.71, SD=0.66; $p=.018$). Furthermore, tenacious goal pursuit was associated with higher life-space mobility only among those with walking difficulties ($B=5.47$, SE 2.6, $p=.040$).

This study indicated that tenacious goal pursuit may serve as a striving force for older people with walking difficulties to move in a larger life-space. Therefore, tenaciousness may be a key factor in counteracting the negative influences of functional decline in old age.

HELPING ELDERS LIVING WITH PAIN (HELP): A RANDOMIZED CONTROLLED PILOT STUDY

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Accumulating evidence supports that chronic pain is associated with poorer cognitive function and mobility, and fall risk in older adults. This study investigated the feasibility of a

randomized controlled trial of a Tai Chi intervention in older adults with multisite pain who are at risk for falls. Adults aged ≥ 65 y with multisite pain (≥ 2 sites) who reported falling in the past year or using a cane or walker were recruited from the Boston area communities through mailed invitations, community flyers, local newspaper and TV ads, and social media. Participants were randomized to either a light physical exercise (stretching, walking and weight training) program or a mind-body exercise (Tai Chi) program, offered twice weekly for 12 weeks. The primary outcomes were feasibility, acceptability and efficacy of the Tai Chi intervention. Of the 176 adults screened, 85 were eligible, and 54 enrolled (average age=75 $\pm$ 8y; 96% white; 76% female). The drop-out rate was 15% (12% for light physical exercise and 18% for Tai Chi). For those completing the study, exercise class attendance rate was 79% (82% for light physical exercise and 76% for Tai Chi). The main reasons for dropouts and absences included family obligations, transportation challenges, difficulty performing Tai Chi movements, musculoskeletal pain, falls, and other health complications. This study demonstrated the feasibility and acceptability of conducting a larger randomized controlled Tai Chi trial in older adults with multisite pain and at risk for falls. Data collected and challenges encountered will inform future research. (Supported by NIH Grant R21 AG043883)

AEROBIC EXERCISE PROMOTES EXECUTIVE FUNCTIONING AND ASSOCIATED FUNCTIONAL NEUROPLASTICITY

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Vascular cognitive ischaemia (VCI) is the second most common type of cognitive dysfunction worldwide and is due to cerebrovascular disease. While targeted aerobic exercise is a promising approach to delay the progression of VCI by reducing cardiometabolic risk factors, few randomized controlled trials to date have specifically assessed the efficacy of aerobic exercise on cognitive and brain outcomes in this high-risk group. Thus, the goal of this secondary analysis study was to examine the effect of moderate-intensity aerobic exercise training on executive functions and functional neural plasticity among older adults with mild subcortical ischaemic vascular cognitive impairment (SIVCI). Seventy-one older adults with mild SIVCI were randomly assigned to: 1) a 6-month, 3x/week aerobic training (AT; $n=36$) or usual care (CON; $n=35$). This secondary analysis included 21 (mean age 71.5 years) participants; 10 from AT group and 11 from CON group. All 21 participants completed functional magnetic resonance imaging (fMRI) sessions at baseline and trial-completion. During the fMRI sessions, performance on the Eriksen flanker task and task-evoked neural activity were assessed. At trial completion, after

adjusting for baseline MoCA, baseline total white matter lesion volume, and baseline performance, compared with the CON group, the AT group significantly improved flanker task performance. Moreover, compared with the CON, the AT group demonstrated reduced activation in the left lateral occipital cortex and right superior temporal gyrus. Reduced activity in these brain regions was significantly associated with improved (i.e., faster) flanker task performance at trial completion, suggesting aerobic training increased neural efficiency. Thus, aerobic training among older adults with mild SIVCI can improve executive functions and neural efficiency of associated brain areas.

SESSION 3100 (SYMPOSIUM)

RELOCATION DECISION MAKING: FACTORS ASSOCIATED WITH DISPLACEMENT

Chair: K. DiazMoore, *University of Utah, Salt Lake City, Utah*

One of the more complex dimensions of the aging experience is associated with environmental relocation. Not all relocation is equivalent, but rather the decision-making process is often quite nuanced. Conceptualizing relocation decision-making in a coherent yet parsimonious manner would guide not only future research in this important gerontological topic, but also inform a constellation of interventions to ease place integration. The first presentation extends Antonucci's Convoy Model of Social Support to the role material objects in social support and discusses the difficulties associated therein with relocation and downsizing. The second presentation addresses the confound of disability and the impact its trajectory has upon relocation decision-making as found in Sweden. This is followed by a presentation that applies the theory of planned behaviour to understanding the appraisals of home modifications by older adults in the Netherlands. The final presentation explores the role that connectivity plays in relocation decisions through the lens of the theory of residential normalcy. The symposium as a whole illustrates the multidimensional nature of the environmental decision-making at the time of relocation/displacement and illuminates the critical role the environment plays as a barrier or prosthetic. It enlightens the differences found in third age versus fourth age moves and how the increasing awareness of the role urban design plays in health outcomes are likely to increasingly influence decision-making patterns – and it does so involving a variety of international perspectives.

MOVING THE MATERIAL CONVOY

D.J. Ekerdt, *University of Kansas, Lawrence, Kansas*

Moving residence calls the question on the entirety of one's possessions, putting up for evaluation the status and placement of every object from the all of the home's recesses. Because elders typically move to smaller quarters, the material convoy will need pruning, setting in motion the physical, cognitive, social and emotional tasks of divestment. Interviews with 100+ American households within a year of relocation indicate that moving and downsizing play out in three basic ways. First, de-accumulation prudently spans months or years in advance of a move (not the likely course).

Second, downsizing occurs proximate to a move; for good reasons this is the usual course, but stressful. Third, one moves and then empties the household afterward, a solution only if elders can bear the expense of two homes. In practice downsizing and moving are temporally intertwined, one preceding the other, precipitating the other, awaiting the other, interrupting the other.

RESIDENTIAL REASONING IN THE LIGHT OF DISABILITY IN OLD AGE: HOUSING ADAPTATIONS CLIENTS IN SWEDEN

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Housing preferences and residential reasoning in later life are closely related to older people's present health care needs and thoughts of the future. For community-living older people with disabilities in Sweden tax-based housing adaptations (HA) are offered as a strategy to enable aging-in-place. However, it is not known how the residential reasoning process changes for older people undergoing adaptations to their home. The aim was to explore how thoughts on relocation and aging in place changes over time for housing adaptation clients in Sweden. Longitudinal qualitative data from 17 HA clients and 9 partners were utilized. The results show that the residential reasoning changed during the housing adaptation process but were to a large extent influenced by the couple's changing health than the alteration of the home. The findings contribute to empirical knowledge on HA as well as to the theoretical development on relocation decision-making in later life.

OLDER HOME OWNERS' AWARENESS AND APPRAISAL OF RESIDENTIAL ENVIRONMENTAL MODIFICATIONS

D. Lager, A. Brouwer, G. de Kam, E. Kibele, *Economic Geography, University of Groningen, Groningen, Netherlands*

Ageing-in-place policies have been implemented by many Western governments in order to delay and decrease the reliance on expensive institutionalised care. While such policies, as well as a large body of research, support the idea that ageing-in-place contributes to the wellbeing of older adults, ageing-in-place also has its downsides. Health problems and physical limitations can pose hazards within residential environments, such as falling or house fires. One way of dealing with incongruences between older persons and their housing situation is the physical adaptation of the residential environment; either through home modifications or relocation. The Dutch government wants older adults to anticipate on incongruences in the residential environment by making timely changes in order to prevent incidents from happening. However, insight is lacking in older adults' awareness and perception of such modifications as a strategy to age safely in place and how they view 'timeliness' in this respect. The objective of this paper is to understand Dutch older home owners' appraisal of residential environmental modifications. The results of this research are based on a survey and semi-structured interviews with nine older home owners (aged 55 and above). We use Ajzen's theory of planned behaviour as

an interpretative framework for the analysis of the results. The insights provided by this study can provide input for policy makers and professionals in designing interventions to raise awareness amongst older adults about the possibilities for and benefits of timely residential environmental modifications.

AGING IN THE RIGHT PLACE COPING REPERTOIRES: THE SUBSTITUTABILITY OF CONNECTIVITY ALTERNATIVES

S.M. Golant, *Geography, University of Florida, Gainesville, Florida*

Older people often feel incompetent and out of control when they cannot easily reach destinations to achieve their shopping, social, recreational, and health care needs. Consequently, they have more difficulty aging in place when they lack easy-to-use transportation options. However, the availability of traditional auto and transit modes of transportation is becoming a less predictive residential relocation influence. Rather, the coping repertoires of older people now include alternative connectivity options such as demand-responsive auto services like Uber, home-delivered products and services, elder villages, new urbanism communities, housing with services, and telemedicine, smart home, and robotic information and communication technologies. Driverless cars will be available in the near future. This paper's theoretical analysis considers the psychological, social, economic, and political benefits and costs of substituting these connectivity options. Explaining the future aging in the right place behaviors of older people will require a greater understanding of these tradeoffs.

SESSION 3105 (SYMPOSIUM)

THE MOLECULAR AND ORGANISMAL BASIS OF RESILIENCE AND FRAILTY

Chair: J.D. Walston, *Johns Hopkins University School of Medicine, Baltimore, Maryland*

Co-Chair: M. Fain, *University of Arizona*

A major goal of global aging research is to prevent frailty and promote resilience in aging in older adults around the world. Key to this effort is the identification of physiological and molecular etiologies that impact the health and well-being of older adults. Over the past two decades, increasing evidence suggests that age and environment related impaired stress response systems such as the innate immune system and the renin-angiotensin system, as well as neuroendocrine and endocrine system changes help to drive organismal frailty and related vulnerability to chronic diseases and adverse health outcomes. Maintenance of these same systems promotes resiliency and robustness. Specific age-related molecular changes are thought to drive these declines, including the development of senescent cell populations, mitochondrial dysfunction, and altered autophagy. In this symposium, speakers will 1) describe the conceptualization of frailty and resiliency with aging and provide an overview of the physiological systems thought to be most influential to these processes, 2) describe the endocrine changes and how they influence mitochondrial, autophagy, and mTOR pathways, 3) describe the role of cellular senescence to these processes,

4) review the animal models used for biological discovery in this area, and 5) outline the novel biological discoveries from the European FRAILOMICS consortium. At the end of this symposium, the audience will be able to describe age-related frailty and resiliency, their biological and physiological underpinnings, and the use of animal models and omic strategies that will further that biological understanding.

CONCEPTUALIZING FRAILTY AND RESILIENCY AND THEIR PHYSIOLOGICAL BASIS

J.D. Walston, *Medicine/Geriatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland*

The prevention of age-related frailty and the promotion of resiliency will depend on more basic biological etiologic discovery. The biology that underlies both frailty and resiliency in older adults is complex and multisystemic and linked to physiological stress response systems. This session will provide a brief overview of the conceptualization of physical frailty and resiliency in both clinical and in research models and how they have been used for biological discovery. Examples of how the innate immune system, the hypothalamic pituitary adrenal axis, and the renin-angiotensin system drive frailty and multisystem decline will be provided. A conceptual model of how age-related biological changes in cells and tissues sets the stage for subsequent physiological change will also be described. This will set the stage for a subsequent series of talks that will connect age-related cellular and molecular changes back to these physiological systems and to biologic discovery around frailty and resiliency.

HORMONAL IMPACT ON MEASURES OF FRAILTY AND RESILIENCE

H.M. Brown-Borg, *University of North Dakota School of Medicine & Health Sciences, Grand Forks, North Dakota*

The factors that regulate aging processes are poorly understood however, the endocrine system has been shown to be a major regulator of aging, age-related disease and lifespan. The mammalian hormonal system is highly integrated and impacts metabolism, protein synthesis, stress resistance, and reproduction among other major physiological processes. Animals with altered endocrine profiles have been shown to resist musculoskeletal frailty, cognitive decline, accumulation of senescent cells, insulin resistance and cancer. The underlying molecular mechanisms responsible for susceptibility or resistance to this array of aging-related dysfunctional outcomes will be discussed such as mitochondrial function, signaling through mTOR and autophagy. The positive news is that genetic, dietary and drug interventions have been shown to affect these systems and extend health span.

THE POWER OF ANIMAL MODELS TO DISCOVER THE BIOLOGY OF FRAILTY

L.V. Thompson, *Boston University, Boston, Massachusetts*

Fighting frailty requires insight into the biological connections between aging, physiological system changes, and disease states, as well as an understanding of the molecular and cellular processes underlying each of these contributing factors. In order to study these processes and connections, the frailty researchers began developing animal models over the past decade. The most studied mouse model is the IL-10(tm/tm) mouse, a model with mild activation of inflammation,

which mimics frail humans. Frailty has also been modelled in naturally aging mice (C57BL/6) using a frailty-phenotype score, graded by a broad range of performance measures such as grip strength, walking speed, activity levels, endurance, and body weight. This presentation highlights how these and other relevant models are forging biological discoveries in the field of frailty.

CONTRIBUTION OF THE FRAILOMIC INITIATIVE TO THE BIOLOGICAL UNDERSTANDING OF FRAILTY AND RESILIENCY

L. Rodríguez-Mañas, *Hospital Universitario de Getafe, Getafe, Spain*

Frailty is complex in its pathophysiological basis but also in terms of the prognostic and diagnostic clues it provides us with. Traditionally, clinical and anthropological characteristics have been used to provide a diagnosis of frailty and an assessment of a patient's overall prognosis. Little attention has been given to the use of laboratory parameters as biomarkers that might improve on the discriminative power and accuracy of the current frailty criteria. Clinical studies have tended to focus on the association between isolated systems and/or single biomarkers with frailty scores. This approach overlooks the complex nature of a syndrome that involves the concomitant participation of several impaired systems. FRAILOMIC adopts a unique clinical approach to the study of frailty. Not only does our study assess the role of 'sets' of biomarkers that span several systems but it also includes assessment of the involvement of novel 'omics' (genomics, proteomics and metabolomics) indicators.

SESSION 3110 (SYMPOSIUM)

AGEING IN CHINA AND AUSTRALIA: SOCIAL, ECONOMIC, AND HEALTH IMPLICATIONS

Chair: J. Byles, *The University of Newcastle, Newcastle, New South Wales, Australia*

Co-Chair: V. Yiengprugsawan, *The Australian National University*

Discussant: M. Silverstein, *Syracuse University, Syracuse, New York*

Population ageing in China and Australia are presenting significant challenges and opportunities in both countries in planning for and adjusting proactively to social and policy change. Led by a multi-disciplinary team of cross-national researchers, this Symposium will present comparative findings on determinants of health, productivity, and wellbeing in the context of each country's cultural and social structural context, drawing from a range of large scale studies from China and Australia, followed by discussion on policy implications within these contexts.

The panel themes consist of quantitative results and policy discussion. Based on the Household Income and Labour Dynamics in Australia (HILDA) survey and the China Health, Ageing, and Retirement Survey (CHARLS), Kendig and Gong will present findings on the pattern of caregiving, living standards, and life satisfaction; and Nazroo, Gong, and Kendig will discuss their comparative results on workforce engagement in later life between the two countries. Yiengprugsawan, D'Este, and Byles will investigate

socio-geographical variations on health and wellbeing based on the China component of the World Health Organization's Study on global AGEing and adult health (WHO-SAGE). Browning, Thomas, Chapman and their Chinese colleagues including Yang and Zeqi will discuss primary health care reform in China and the links to Australian approaches with a specific emphasis on the management of chronic illnesses in older people.

The Symposium is supported by the Australian Research Council Centre of Research Excellence in Population Ageing Research and Shenzhen International Institute for Primary Health Care Research.

COMPARATIVE STUDY OF CAREGIVING IN CHINA AND AUSTRALIA

H.L. Kendig^{1,2}, C. Hong Gong^{1,2}, M. Silverstein^{3,2}, 1. *Centre for Research on Ageing, Health and Wellbeing, Australian National University, Canberra, ACT, Canberra, Australian Capital Territory, Australia*, 2. *ARC Centre of Excellence in Population Ageing Research (CEPAR), Canberra, Australian Capital Territory, Australia*, 3. *Aging Studies Institute, Syracuse University, Syracuse, New York*

Drawing on the nationally representative CHARLS and HILDA 2013, we examined patterns of caregiving by men and women aged 45 and over in both China and Australia. Caregiving is defined as ongoing care for a household or non-household member with health conditions or frailty in Australia; and care for parents or grandchildren under 16 in China.

Ageing Chinese are contributing more caregiving to parents (9%) or grandchildren (30%) although they rarely care for non-family members or do voluntary work and care rates varied significantly by age, gender and residence. In Australia only 13% provided ongoing caregiving (average 18 hours per week) while 34% did voluntary work. In contrast to Australia, overall no significant negative impacts of caregiving were identified for caregivers' health, living standards and life satisfaction in China.

The implications will be discussed for China in developing its sustainable workforce and aged care systems in contrast to Australia.

PAID WORK IN LATER LIFE IN CHINA AND AUSTRALIA: EVIDENCE FROM CHARLS AND HILDA

J. Nazroo^{1,3}, C. Hong Gong^{2,3}, H.L. Kendig^{2,3}, 1. *Cathie Marsh Institute and Sociology, School of Social Sciences, The University of Manchester, Manchester, United Kingdom*, 2. *Centre for Research on Ageing, Health and Wellbeing, The Australian National University, Canberra, Australian Capital Territory, Australia*, 3. *ARC Centre of Excellence in Population Ageing Research (CEPAR), Canberra, Australian Capital Territory, Australia*

Drawing on the nationally representative CHARLS 2013 and HILDA 2011 data, we examined patterns of paid work (including agricultural work) by men and women aged 45 to 64 in both China and Australia.

When compared to Australians, mature aged Chinese had a slightly smaller proportion in paid work while more also were informal caregivers. About 68% of the Chinese were in paid work with significant variation by age, gender, residence and health. The average working hours for those still

working was 45 hours per week. Only 11% of the mature age Chinese with health conditions were still working. In Australia 71% of the mature age population were working, dropping to 47% among those with health conditions.

The discussion will consider the varying socio-economic influences on workforce participation in the two countries; workplace flexibility and policy directions, and the consequences of paid work on wellbeing and living standards.

GEOGRAPHICAL VARIATIONS IN HEALTH, DISABILITY, AND ACTIVITIES OF DAILY LIVING AMONG OLDER CHINESE

V. Yiengprugsawan^{1,2}, C. D'este³, J. Byles^{2,4}, 1. *Centre for Research on Ageing, Health and Wellbeing, Australian National University, Canberra, Australian Capital Territory, Australia*, 2. *ARC Centre of Excellence in Population Ageing Research (CEPAR), Canberra, Australian Capital Territory, Australia*, 3. *National Centre for Epidemiology and Population Health, The Australian National University, Canberra, Australian Capital Territory, Australia*, 4. *Research Centre for Generational Health and Ageing, The University of Newcastle, Newcastle, New South Wales, Australia*

The proportion of population ageing in China will grow significantly in the next few decades but the pace of population ageing and social change vary considerably across regions. For example, eastern coastal areas are economically more advanced compared to the western region. These economic disparities could result in differing impacts on health.

This presentation will investigate geographical variations in self-rated health, disability, and limitations in activities of daily living among national representative samples of Chinese aged 50 years and older ($n = 13,396$) based on the WHO Study on global AGEing and adult health (WHO SAGE). Study areas include Guangdong, Hubei, Jilin, Shaanxi, Shandong, Shanghai, Yunnan, and Zhejiang. Findings highlight patterns of adverse health outcomes among older Chinese, especially in economically disadvantaged areas.

Empirical evidence on such health patterns by socioeconomic development of geographical areas could help inform policy development and national investment to improve equity in population health.

PRIMARY HEALTH CARE IN CHINA: ADDRESSING CHRONIC ILLNESS MANAGEMENT IN OLDER PEOPLE

C. Browning^{1,2,3}, S. Thomas^{2,3}, H. Yang^{2,3}, Q. Zeqi⁴, A. Chapman^{1,2}, 1. *RDNS Institute, St Kilda, Victoria, Australia*, 2. *School of Primary Health Care, Monash University, Clayton, Victoria, Australia*, 3. *Shenzhen International Primary Health Care Research Institute, Shenzhen, China*, 4. *Center for China Sociological Research and Development Studies, Peking University, Beijing, China*

Over the last decade there has been significant focus on reforming the primary health care system in China to imbed a stepped care approach whereby patients can be treated in the community with appropriate referral to services to match their medical needs.

China's health policies now strongly promote the implementation of this approach particularly in response to the increasing burden of chronic disease and population ageing.

Affordable and accessible primary health care services are critical to promote healthy ageing and the health of the Chinese community more broadly.

This presentation will discuss the implications of recent aged care and health policy reforms in China and their potential impact on the health of older people. The presentation draws on analysis of key policy documents and interviews with informants including government officials, health professionals and older consumers and data from a major chronic illness management trial implemented in Beijing.

SESSION 3115 (SYMPOSIUM)

CAREGIVER ADJUSTMENT, INVOLVEMENT, AND SUPPORT

Chair: K. Pfeiffer, *Robert Bosch Hospital, Stuttgart, Germany*

Co-Chair: G. Wilz, *Friedrich Schiller University Jena, Jena, Germany*

Most health systems are based on the premise that families will assume responsibilities for day-to-day care to persons with chronic or disabling conditions. The past three decades of research in this field have been focused on understanding caregivers' adjustment, consequences of providing protracted care as well as on developing and testing interventions. In contrast to our recent knowledge about effective strategies to support families and diminish the burdens only very few programs have been translated for delivery in service contexts. Two presentations (Wilz, Pfeiffer) of the symposium address this gap. In two randomized trials registered psychotherapists and care counselors from long-term care insurances were trained and supervised in a telephone-based cognitive-behavioral intervention (Tele.TAnDem study) or problem-solving (PLiP study). Both randomized studies evaluated the effects of the interventions on family caregivers. The data are compared with the results of previous efficacy studies. A further aspect that is covered in this symposium is the lacking empirical-based theoretical foundation of caregiver resilience concepts. Using data from a national longitudinal study, personality prototypes are extracted and compared between caregivers and non-caregivers (Elliott). Finally, qualitative data on beneficial and limiting factors affecting the inclusion of family caregivers and nursing home residents with dementia in shared-decision making are presented (Vernooij-Dassen).

CBT-BASED TELEPHONE INTERVENTION FOR FAMILY CAREGIVERS OF PEOPLE WITH DEMENTIA

G. Wilz, *Institute of Psychology, Friedrich-Schiller-Universität Jena, Jena, Germany*

To prevent caregivers from the development of stress related health impairments, effective interventions are still needed. This presentation focused on the evaluation of a telephone intervention for family caregivers of people with dementia in Germany. The individual intervention (12 sessions in 6 months, each 50 minutes) uses cognitive-behavioural therapy adapted to specific problems of the caregivers. The intervention aims to improve well-being, quality of life and to reduce body complaints and depressive symptoms. A randomized controlled trial ($N = 322$ primary family

caregivers) was conducted and the intervention was implemented by cognitive-behavioural therapists. Compared with caregivers in the control condition, caregivers who received Tele.TAnDem demonstrated significantly greater improvements in well-being, depressive symptoms (CES-D), body complaints (GBB-24) and quality of life (WHO-Qol-Bref) at post treatment measurement. Regarding the achievement of caregivers individual goals, results showed that 77% achieved complete goal attainment. Findings support the acceptability and effectiveness of the Tele.TAnDem intervention.

PROBLEM-SOLVING IN CAREGIVER-COUNSELLING (PLIP STUDY): A CLUSTER RANDOMIZED PRAGMATIC TRIAL

K. Pfeiffer¹, D. Albrecht¹, A. Pendergrass², C. Becker¹, M. Hautzinger³, 1. *Clinic of Geriatric Rehabilitation, Robert-Bosch Hospital, Stuttgart, Germany*, 2. *University of Erlangen, Erlangen, Germany*, 3. *University of Tübingen, Tübingen, Germany*

Despite the evaluation of more than 200 dementia caregiver interventions over the past three decades, only very few programs have been translated to delivery in service contexts. In this study (05/2013–10/2016) we evaluated if structured problem-solving is feasible to implement in a routine setting and effective compared to statutory care counseling of German long term care insurances (www.isrctn.com/ISRCTN86289718). Fifty-six care counselors were randomized (with district offices as clusters) from three long term care insurances with 9 million assured members. The intervention group was trained in an initial two-day workshop, a follow-up day after 4 months, and individual bi-weekly telephone supervision contacts over six months. The impact of this additional problem-solving counseling component on depressive symptoms (main endpoint) of burdened caregivers (N=138) was measured at baseline, after 3, and 6 months. Study results are presented and challenges in implementing the trial are discussed.

THE RESILIENT CAREGIVER: PERSONALITY PROTOTYPES AND DIFFERENTIAL PATTERNS OF ADJUSTMENT

T.R. Elliott, M. Walsh, *Educational Psychology, Texas A&M University, College Station, Texas*

Despite the popularity of resilience in studies of caregivers, many measures of resilience lack theoretical models with testable hypotheses or meaningful recommendations for psychological interventions. Studies guided by the Block model of the resilient personality reveal consistent differences between resilient individuals and those with overcontrolled or undercontrolled prototypes. Moreover, individuals who are not resilient lack social and psychological resources that could be addressed with empirically-based interventions. We examined the existence of the three personality prototypes in the most recent phase of the Midlife in the United States project (MIDUS; conducted 2013–2014) in the United States. “Big Five” factor scores were cluster analyzed. Consistent with prior work, the three prototypes were evident in the sample with useable data (N = 2715). Of the 333 individuals in caregiving roles, 52.3% were in the resilient prototype. We will report the different patterns of adjustment observed between these prototypes and between caregivers and non-caregivers.

SHARED DECISION MAKING IN DEMENTIA CARE PLANNING: INVOLVING FAMILY CAREGIVERS

M. Vernooij-Dassen¹, E. Mariani², Y. Engels¹, R. Chattat², 1. *IQ Healthcare, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands*, 2. *University Bologna, Bologna, Italy*

Shared decision-making (SDM) allows people with dementia to participate in making choices. Including families and dementia residents in SDM can be challenging for nursing home staff. The objective of this study was to identify barriers and facilitators regarding the implementation of an SDM framework for care planning in an Italian and Dutch nursing home. Focus group interviews were conducted with professional caregivers who applied the SDM framework. Content analysis was used to analyze the data. This study is part of a controlled trial. The results of focus group interviews (n=10 in Italy; n=10 in the Netherlands) revealed 6 overarching themes and 16 categories. Within these themes, facilitators as well as barriers were identified. Communication skills training for professionals, training of family caregivers and involvement of the management level in the implementation process, seem to be crucial factors to implement SDM in nursing homes.

SESSION 3120 (SYMPOSIUM)

SELF-NEGLECT: BUILDING EVIDENCE AND LEARNING TO INFLUENCE POLICY AND PRACTICE

Chair: M. Day, *University College Cork*

Globally self-neglect is a significant international public health issue that is associated with serious adverse outcome. Approximately one million cases arise each year in the United States; in England the recent inclusion of self-neglect within adult protection has resulted in heightened concern and awareness. The focus of this symposium is an international perspective on interdisciplinary responses to self-neglect. The objective is to bring together experts from Ireland, United States, Israel and England, and illustrate how research evidence can inform learning and changes to policy and practice. Self-neglect creates a myriad of challenges daily for health and social care practitioners. It also exposes flaws in how professions and organizations work together, and requires careful attention to building an organizational and interagency infrastructure that supports collaboration. As a phenomenon that is severely under studied, this symposium provides an unique opportunity to discuss empirical evidence and interventions in the context of legislative and policy contexts that differ across jurisdictions. The four presentations within this symposium will provide the backdrop for the critical examination and discussion on self-neglect. Discussions will focus on the fine balance from the initial assessment to diagnosis, responses and management of self-neglect (Day et al., Ireland); home care nurses observations and views of self-neglect (Johnson, United States), practice wisdom used by social workers in the encounter and choice of intervention with self-neglect phenomenon (Ban-Winterstein et al., Israel), and the organizational learning that emerges from reviews of serious cases (Braye et al., England).

SELF-NEGLECT: A FINE BALANCE FOR PROFESSIONALS

P. Leahy-Warren, H. Mulcahy, G. McCarthy Haslam, M. Day, *School of Nursing & Midwifery, University College Cork, Cork, Ireland*

Self-neglect (SN) is a serious public health issue that is largely hidden. Ageing demography will

increases the significance of self-neglect for community professionals. The aim of this qualitative study was to explore perceptions of self-neglect among Community Nurses (CNs), Public Health Nurses (PHNs), and Social Workers (SWs). Open-ended questions, reported here were part of a large quantitative cross-sectional descriptive study. From overall sample of 566, recruited from community health organisation in Ireland, 25.6% (n=87) of participants responded. The framework method was used for analysing the cross-sectional descriptive data. Findings revealed one overarching theme: 'Fine Balance' and four subthemes: Complexity of self-neglect; Personal Health Care Professionals response to SN; Challenges in Managing the case; and, Recommendations for Practice. An effective approach to self-neglect was perceived by participants to be a fine balance from initial assessment to diagnosis, responses and management. Needs of the person were central to intervening effectively.

PRACTICE WISDOM: PROFESSIONAL RESPONSES TO SELF-NEGLECT IN ISRAEL

T. Band-Winterstein¹, I. Doron¹, S. Naim², 1. *University of Haifa, Haifa, Israel*, 2. *Ben Gurion University of the Negev, Be'er Sheva, Israel*

Self-neglect amongst older adults is a social and health phenomenon that is attracting increased research interest in recent years. Very little empirical attention has been devoted to evaluating intervention programmes in this field. The aim of this qualitative study was to explore the meaning attributed to elder self-neglect by social workers (n=16) in their encounters with self-neglecting elders professionals (n=16) using a "practice wisdom" model. Data collected via in-depth semi-structured interviews, which were later transcribed and content was analyzed. Four key scenarios emerged: Immediate threat to life; potential future threat to life; avoiding deterioration in the absence of imminent risk and addressing environmental nuisance. In order to provide appropriate intervention, the social workers developed intervention strategies based on the tension and the need for balance between preserving autonomy, protecting human rights and respecting the older persons' wishes versus paternalism and client safety.

PROMOTING ORGANIZATIONAL LEARNING IN SELF-NEGLECT: EVIDENCE FROM REVIEWS OF SERIOUS CASES

S. Braye¹, D. Orr¹, M. Preston-Shoot², 1. *Social Work, University of Sussex, Haywards Heath, United Kingdom*, 2. *University of Bedfordshire, Luton, United Kingdom*

When an adult experiencing abuse or neglect dies, English statute requires the Safeguarding Adults Board (the inter-agency adult protection committee) to conduct a case review establishing what went wrong, and to ensure that learning is applied to how organizations and professions work together. Over 60 review reports were analysed. Initial analysis of each

case (characteristics, recommendations and themes) was followed by cross-case analysis to construct a systemic learning framework. Emergent learning themes related to four domains: the adult, the interprofessional team around the adult, the organisations surrounding the team, and the adult protection committee coordinating those organisations. Effective practice requires alignment between all domains, ensuring organizational support for trust-based relationships with individuals, strong legal literacy, detailed staff guidance and training, mechanisms for resolving differences, and arrangements for coordinating intervention. Reviews provide important learning for policy and practice development, adding to the evidence base on achieving positive outcomes in self-neglect work.

SESSION 3125 (SYMPOSIUM)

INNOVATIVE USES OF TECHNOLOGY IN ASSESSING PHYSICAL PERFORMANCE OF OLDER PERSONS

Chair: C.C. Quinn, *University of Maryland School of Medicine, Baltimore, Maryland*

The purpose of this symposium is to present use of technology to translate the assessment of physical functioning in older adults to clinical practice. Previous studies confirm the relationship of physical performance measures to disability onset, hospitalization, nursing home admission, falls, mortality and other outcomes. While performance measures are being used more frequently in aging research, their uptake in clinical practice has been slow, in part because of the added burden in clinical care of geriatric patients. Using technology to improve the simplicity and efficiency of these measures could have a major impact on their use in clinical practice.

In this symposium Dr. Charlene Quinn, will provide an overview of the translation of technology to clinical care.

Dr. Jack Guralnik will describe the development of a smart phone app for the administration of the Short Physical Performance Battery, a widely used assessment of gait, strength and balance.

Dr. W. Jack Rejeski will present the mobility assessment tool-short form (MAT-sf) which uses video animations to improve accuracy and precision measurement of mobility.

Dr. Miriam Morey will discuss walking speed in the 6th Vital Sign research project to establish community population walking speed norms and promote walking speed as a vital sign.

Dr. Lisa Barry will discuss use of an RFID (small electronic chip) device to measure gait speed in the clinic setting.

Dr. Antoine Piau will present the RESPECT study of a shoe insole to monitor frailty, assessing gait characteristics and transmit data for the use of patients and physicians.

A SMARTPHONE APP FOR THE SHORT PHYSICAL PERFORMANCE BATTERY

J.M. Guralnik¹, D. Rooks², T. Webb³, 1. *University of Maryland School of Medicine, Chevy Chase, Maryland*, 2. *Novartis Institutes of Biomedical Research, Cambridge, Massachusetts*, 3. *GE Healthcare - Lunar, Madison, Wisconsin*

The Short Physical Performance Battery (SPPB) is a standardized assessment of lower extremity physical performance.

It has undergone extensive methodological testing, has been used throughout the world and in high profile observational studies and clinical trials in aging research. Testing takes about 10 minutes, requires the use of paper, pencil and a stopwatch, and requires that results be transcribed into a database or clinical record. A newly developed smart phone app contains the text of the instructions read to the subject, has skip patterns built in, uses the phone as the stopwatch and records and transmits results. This makes administration much easier and quicker, helps retain standardized administration over long periods of time and eliminates errors in recording and transferring results. Results of pilot work with this app will be presented. It is expected that this technology will greatly expand the use of this battery in research and clinical practice.

ANIMATED VIDEO TECHNOLOGY: ADVANCING THE ASSESSMENT OF MOBILITY

W. Rejeski, A. Marsh, R. Barnard, J. Fanning, E. Ip, *Wake Forest University, Winston-Salem, North Carolina*

Within the past 10 years, our research group has used Animated Video Technology as a means of enriching assessment stimuli when evaluating various aspects of physical function. This session focuses on the mobility assessment tool-short form (MAT-sf) and also briefly illustrates how we have applied this methodology to a virtual assessment of the SPPB and in evaluating physical activity behavior. The MAT-sf has excellent content validity and reliability—an ICC = 0.93. Within the LIFE study, we recently showed that rates of 24-month major mobility disability were 51% for those within the lowest quartile of the MAT-sf and just 10% for those with the highest quartile. Furthermore, the MAT-sf has been found to be predictive of post-surgical complications including length of hospital stay and rates of nursing home placement.

THE 6TH VITAL SIGN: A MOBILE APP FOR POPULATION HEALTH SURVEILLANCE OF WALKING SPEED

M.C. Morey¹, S. Ryan², J. Kelly², C. Liu², K. Hawkins², K. Schwartz², J. Prvu Bettger², *1. Medicine, VAMC and Duke Medical Centers, Durham, North Carolina, 2. Duke University Medical Center, Durham, North Carolina*

Smartphone applications (apps) are a novel technique to directly reach people for research and health promotion. The 6th Vital Sign is an iPhone app designed using Apple's Researchkit to enroll and consent adults in a study that measures a 2-minute walk test using the phone's accelerometer, self-reported health, and demographics. On April 11, 2016 the app was uploaded into the iTunes store and was viewed in iTunes by 1,111 people during the first 50 days. There were 771 downloads, with 398 adults consenting to participate; 90.7% completed the walk test and 63.1% completed the health assessment. Median age of participants was 54 years, 25% were over 65 years, 58% were female, 89.2% White, and 76.1% were living with a chronic health condition. Participants spanned 27 states. This early phase of the 6th Vital Sign study demonstrates the feasibility of designing and disseminating a smartphone-based app to assess population health.

TESTING A GAIT VELOCITY DETECTION DEVICE IN A REAL -WORLD CLINICAL SETTING

L.C. Barry¹, L. Hatchman², Z. Fan³, R. Gao⁴, G. Kuchel¹, *1. University of Connecticut Center on Aging, Farmington, Connecticut, 2. UConn School of Medicine, Farmington, Connecticut, 3. UConn School of Engineering, Storrs, Connecticut, 4. Case School of Engineering, Cleveland, Ohio*

Routine, objective, and unobtrusive measurement of gait velocity in clinical settings is required to translate this research measure into practice. Our multidisciplinary team developed a wearable radio-frequency identification device (RFID) for measuring gait velocity in a typical outpatient clinical setting. A RFID reader/antenna installed on the wall of a UCONN Geriatrics Clinic walkway assesses gait velocity as patients walk to exam rooms. On July 11, 2016, we began recruiting patients for validity and feasibility testing (target population N=50 clinic patients). In the first 2 days, we recruited 8 participants (6 female; mean age 78.63 years) and compared gait velocity measured via RFID with stopwatch measurements. Staff noted device acceptance, participants either agreed (n=5) or strongly agreed (n=3) that they felt comfortable wearing the device, and 7 participants would like their medical providers to track walking speed over time. Routine gait velocity assessments could provide more personalized guidance for clinical decision-making.

SESSION 3130 (PAPER)

HEALTH PROMOTION AND PREVENTION IN AGING

A STATEWIDE COMMUNITY-BASED PROGRAM FOR IMPROVING SENIOR HEALTH: OKLAHOMA HEALTHY AGING INITIATIVE

A.N. Dentino, C. Dowers, L.Z. Rubenstein, *Geriatric Medicine, University of Oklahoma, Oklahoma City, Oklahoma*

The Oklahoma Healthy Aging Initiative (OHAI) is a senior health improvement program sponsored by the Donald W. Reynolds Department of Geriatric Medicine at University of Oklahoma. Established in 2011, OHAI has regional education centers and senior health clinics across the state for improving access to geriatric care, increasing health literacy, promoting healthy lifestyles and preventive practices, and training both family and paraprofessional caregivers. An underlying goal is to improve health and aging policy, particularly focusing on rural settings and American Indian populations. This symposium will highlight several OHAI components that demonstrate program vitality and effectiveness. These components include the caregiver training program, the telemedicine network of rural hospitals, and several evidence-based senior education and health promotion activities. A statewide needs assessment provided a framework for program planning and evaluation and documented crucial deficits that OHAI is working to improve.

SCALING AN EVIDENCE-BASED DIABETES PREVENTION PROGRAM TO ADDRESS THE NEEDS OF AN AGING POPULATION

H. Hodge, K.H. Hohman, M. Longjohn, *Membership & Programs, YMCA of the USA, Chicago, Illinois*

In an effort to bridge science into practice, the Y is leveraging its vast network to deliver the Diabetes Prevention Program to those individuals at risk for type 2 diabetes. The original NIH trial of the DPP lifestyle intervention reduced the number of new cases of type 2 diabetes among adults aged 60 years or older by 71%. These results prompted the Y to undertake a concerted effort to test the intervention with Medicare beneficiaries with a goal of improving care and health outcomes while lowering costs.

To date the Y has served 19,141 adults ages 60 or older. Participants aged 60 or greater on average attend 1 more core instructional session than those participants who are younger than 60 years old (82% of core sessions vs 76%, $p < 0.001$). Similarity, older participants lose on average 1% more of their body weight than younger participants (5.1% vs 4.2%, $p < 0.001$).

Beyond older participants experiencing positive results from participating in the Diabetes Prevention Program, collectively the Y's national network gained incredible knowledge in how to best deliver the program to older adults. Learnings from this concerted effort to serve older adults have included the need to bridge the clinic to community gap, identifying engagement methods that produce the greatest yield of participants, removing cost as a barrier to participation, and tailoring messages to attract participants.

THE ORAL HEALTH STATUS OF OLDER PATIENTS IN THE ACUTE CARE HOSPITAL SETTING: A PILOT STUDY

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Oral health is known to be of low priority to older people with many people not seeking care until they are in pain. The acute hospital setting provides a unique opportunity to conduct a comprehensive dental assessment and develop discharge oral care plans for patients who may otherwise not seek dental care.

This cross-sectional study was implemented over a 12-month period at the Queen Elizabeth Hospital (TQEH), Adelaide. Patients were recruited from the Fracture Ward and Geriatric Evaluation and Management Unit (GEMU). General health data was collected from patient interviews

and medical records and a comprehensive dental assessment was conducted.

Seventy-five patients aged 84.2 ± 6.7 (mean $\pm$ SD) years agreed to participate. Fifty-five (71%) female Twenty-two (29%) experienced a hip fracture, the remaining were admitted for worsening of their general health. Patients had 6.25 ± 2.9 medical comorbidities and were taking 8.6 ± 4.4 medications. Twenty-four (32%) patients wore full dentures, 21 (28%) had natural teeth. One quarter ($n=19$) reported difficulty chewing and swallowing their food. Over half of the patients had not seen a dentist for more than two years yet 55 (73%) patients were considered in need of referral.

It is evident from this pilot work, that older people have significant dental problems and are not seeking regular dental care. It appears prudent to consider the inclusion of a dental health assessment as part of general inpatient care. The results of this study also indicate the need for intervention studies that incorporate preventive and restorative management of oral health prior to discharge.

ELDERLY WITH NATURAL TEETH REPORTED LESS FRAILTY AND BETTER QOL WHEN COMPARED TO EDENTULOUS ELDERLY

A.R. Hoeksema^{1,2}, S.S. Spoorenberg^{1,2}, L.L. Peters^{1,2}, H.J. Meijer^{1,2}, G.M. Raghoebar^{1,2}, A. Vissink^{1,2}, K. Wynia^{1,2}, A. Visser^{1,2}, 1. *University Medical Center Groningen, the Netherlands*, 2. *University of Groningen, Groningen, Netherlands*

Background: Poor oral health influences food intake, social wellbeing and general health.

Objectives: To assess oral status and self-reported oral health in home-dwelling elderly (=non institutionalized) (≥ 75 years of age) and to associate findings with reported frailty, general health status and quality of life (QoL).

Methods: Oral status, oral health/dental care, frailty (Groningen Frailty Index), activity daily living (ADL)(Katz-15), complexity of care needs (IM-E-SA), general health and Quality of Life (QoL) (EQ5D) were assessed. Oral status (viz, remaining teeth, implant supported overdentures, and edentulous) and case complexity (viz, complex care needs, frail, or robust) were determined and associated.

Results: In total 1026 (77%) elderly persons (median age 80 years, IQR 77–84 years) were included in the analysis: 39% had remaining teeth, 51% was edentulous and 10% had an implant-supported overdenture. Elderly with complex care needs and frail elderly were more often edentulous and had more oral problems than robust elderly. Elderly persons with remaining teeth reported more oral health problems but less frailty, better QoL, better ADL, and used less medicines than edentulous elderly. Next they continued to visit the dentist more often when compared to edentulous elderly (90% versus 20% resp).

Conclusions: Elderly with complex care needs and frail elderly experienced more oral health problems and are more often edentulous than robust elderly. Elderly with remaining teeth and implant-supported overdentures reported less frailty, better QoL and used less medicines when compared with edentulous elderly and better QoL.

SESSION 3135 (SYMPOSIUM)

AGEING, DEMENTIA, AND THE SOCIAL MIND

Chair: P. Higgs, *University College London, London, United Kingdom*

Co-Chair: C.J. Gilleard, *University College London, United Kingdom*

The sociology of dementia has been a relatively neglected but increasingly important topic in studies of health and illness. The theme of dementia, its diagnosis and its cultural role intersects with a number of important concerns within sociology and aligned disciplines. The symposium addresses gaps in our sociological knowledge of dementia and provides a forum for the development of new themes and perspectives within social gerontology. All of the papers presented locate dementia within the context of ageing societies. The papers range in scope from an overview of the classed nature of dementia, its diagnosis and treatment to a study of embodied citizenship in long term care. The underlying theme is to integrate concepts such as class, citizenship and social exclusion with the specific effects of dementia and societal responses to what the American Psychiatric Association's Diagnostic and Statistical Manual (DSM) now calls 'major neuro-cognitive disorder'.

The first paper is concerned with the complex relationship between dementia and social class found in both epidemiology and social gerontology. This is followed by a paper examining whether issues surrounding dementia might better be understood in terms of the concept of precariousness. The third presentation engages with the contemporary debate about the relationship between embodiment and citizenship in long term care. The concluding contribution focusses on the social location of personhood within debates occurring in dementia care policy and practice. Taken together these papers map out key dimensions in the sociology of dementia

DEMENTIA, CLASS, AND SOCIAL RELATIONS

I.R. Jones, *WISERD, Cardiff University, Cardiff, United Kingdom*

Studies have shown higher risk of dementia in those with lower Socio-economic status. But socio-economic status is used and defined in different ways and it is difficult to untangle effects and causal properties. This paper discusses how the relationship between social class and dementia may be problematic in epidemiological terms but goes on to argue that social relations underpin the diagnosis, care pathways and experience of dementia and that sociological research still has an important role to play in interrogating how class and class relations influence the everyday experiences of people with dementia.

PRECARITY IN LATE LIFE: RETHINKING DEMENTIA AS A FRAILED OLD AGE

A.M. Grenier¹, C. Phillipson², E. Lloyd³, 1. *McMaster University, Hamilton, Ontario, Canada*, 2. *The University of Manchester, Manchester, United Kingdom*, 3. *University of Bristol, Bristol, United Kingdom*

This paper analyses the extent to which frailty and dementia are better understood in the context of new forms of insecurity affecting the life course. Approaches to ageing that

are organized around productivity, success, and active late life have contributed to views of dementia as an unsuccessful, failed or 'frail' old age. Operating through dominant frameworks, socio-cultural constructs and organizational practices, the 'frailties' of the body and mind are often used to mark the boundaries of health and illness in late life, and shape responses accordingly. Our concern is that whether taken for granted, or 'imagined', ideas that couple dementia and frailty can marginalize persons who occupy the locations of dementia and disablement. In this paper, we draw on the concept of 'precarity' to reconsider debates, and shift interpretations of the 'fourth age' away from age- or stage-based thinking into a recognition of the shared vulnerability and responsibilities for care. We conclude with a call to acknowledge the fragility and limitations which affect human lives, and argue that this recognition be grounded in an inclusive form of citizenship.

A RELATIONAL MODEL OF CITIZENSHIP: INSIGHTS FROM A STUDY OF ELDER-CLOWNING

P. Kontos^{1,2}, K. Miller¹, A. Kontos³, 1. *Toronto Rehabilitation Institute-University Health Network, Toronto, Ontario, Canada*, 2. *Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada*, 3. *Human Rights Law Section, Department of Justice Canada, Ottawa, Ontario, Canada*

The citizenship perspective in dementia has redressed some of the gaps inherent in personhood- and relationship-centred approaches to dementia care by contextualizing individuals in terms of their relationships with the state and its institutions. However, this perspective has yet to be influenced by the emerging theoretical subfield of embodiment, which places the body and embodied practices at the centre of dementia representations and care. We draw on findings from a study of elder-clowns in a long-term care facility to advance a model of "relational citizenship" for individuals with dementia. Relational citizenship foregrounds the reciprocal nature of engagement and the centrality of capacities, senses, and the experiences of bodies to the exercise of human agency and interconnectedness. Relational citizenship offers an important rethinking of selfhood, entitlement, and reciprocity. It also provides new ethical grounds to explore how residents' creative and sexual expression can be cultivated in the context of long-term care.

THE SOCIAL LOCATION OF PERSONHOOD IN DEMENTIA CARE, POLICY, AND PRACTICE

C.J. Gilleard, P. Higgs, *University College London, London, United Kingdom*

The use of the term personhood has become central in defining key aspects of policy and practice in dementia care. While much has been made of its philosophical status, rather less attention has been paid to sociological approaches to concepts such as 'self' and 'personhood'. The present paper argues that a return to the classical debates within sociology over self and society offers a useful avenue for rethinking the role of personhood in dementia care. Rather than essentialising the concept of personhood, we argue that a greater consideration needs to be given to the social realisation both of dementia and of dementia care.

SESSION 3140 (SYMPOSIUM)

PHYSICAL FRAILTY, A TARGET FOR THE PROMOTION OF HEALTH AND SOCIAL OUTCOMES

Chair: T. Lum, *The University of Hong Kong, Pokfulam, Hong Kong*

Co-Chair: J. Tang, *The University of Hong Kong, Hong Kong*

Physical frailty is increasingly identified as an important intervention target in older adults. The status and impact of physical frailty in Asian populations is less well known. In this symposium, Lum and colleagues surveyed the prevalence frailty status in a random sample of 1,612 community-dwelling elders residing in public rental housing estate, and explored how frailty status might relate to the older adults' ageing-in-place intention. They found that the prevalence of frailty did not change over 1 year. Pre-frail and frail elders showed greater intention of community living after the implementation of an ageing-in-place scheme. These are the first larger-scale data on frailty in Hong Kong to inform intervention design with implication on social and long-term care. Choy and colleagues further examined how different types of activities of the aging-in-place scheme affected elders' preference for aging-in-place through modifying physical frailty and other outcomes. Liu and colleagues explored the differential roles of physical frailty and chronological age in general and everyday cognition. Luo and colleagues investigated frailty in 2,380 nursing home residents using a frailty measure based on the Minimum Data Set, and show high predictive value for major adverse health outcomes over 9 years. To target this potentially modifiable risk factor significantly affecting long-term care considerations in older adults, Wong and colleagues developed an exercising habit formation protocol tailored for community-dwelling elders in Hong Kong, using an empowerment-based framework. The intervention protocol to be tested in a randomized controlled trial will provide insight on sustainable frailty intervention.

FRAILTY IN A COMMUNITY-DWELLING COHORT OF OLDER ADULTS AND THEIR PREFERENCE FOR AGEING-IN-PLACE

T. Lum^{1,2}, G. Wong^{1,2}, J. Tang¹, M. Lau¹, D. Kwok¹, 1. *Sau Po Centre on Ageing, The University of Hong Kong, Pokfulam, Hong Kong*, 2. *Department of Social Work and Social Administration, Pokfulam, Hong Kong*

Frailty is a dynamic clinical state that may influence elders' preference for aging-in-place. **Method:** The study examined the prevalence of frailty in 1,612 elders living in public housing estates, where an aging-in-place scheme was introduced. We used the FRAIL scale to classify elders into three groups: frail, pre-frail, and robust before the implementation of the Scheme and 1 year later. **Results:** The prevalence of frailty states remained the same over 1 year: robust (51.0% to 50.7%), pre-frail (37.9% to 38.1%), and frail (11.1% to 11.2%). There were 22.3% and 12.6% of frail and pre-frail elders who were contemplating moving into an elderly home, but the respective percentages dropped to 16.4% and 10.7% at 1 year, respectively. Similarly, fewer frail and pre-frail elders preferred to move should their health condition deteriorated (dropping from 28.7% to 22.6% and 30.2% to

13.4%). **Implications:** The AIP Scheme modifies ageing-in-place intention among frail elders.

DISSECTING AN AGING-IN-PLACE SCHEME: ACTIVITIES CONTRIBUTING TO POSITIVE OUTCOMES

J. Tang¹, J. Choy¹, G. Wong^{2,1}, M. Lau¹, T. Lum^{1,2}, 1. *Sau Po Centre on Ageing, The University of Hong Kong, Pokfulam, Hong Kong*, 2. *Department of Social Work and Social Administration, The University of Hong Kong, Pokfulam, Hong Kong*

This study aimed to examine of the type and intensity of activities of an ageing-in-place (AIP) Scheme that might contribute to the positive outcomes of elders. **Method:** A cohort of 2,081 elders from 11 AIP housing estates and 1 control estate were randomly selected within each age stratum: 65–74 years, 75–84 years, and 85 years. Elders were interviewed face-to-face at baseline and 1 year and their participation in the AIP Scheme activities was recorded. **Results:** Structured small group intervention and activities that improved the frailty states, mood, and cognitive function increased the likelihood of elder tenants' to age in place. **Implications:** Group activities that promote physical, psychological and cognitive outcome all contribute to the positive change in elders' preference for aging-in-place. Promotion of positive social interaction is crucial in the development of an AIP program.

DIFFERENTIAL PREDICTION OF GLOBAL AND EVERYDAY COGNITION BY PHYSICAL FRAILTY AND CHRONOLOGICAL AGE

T. Liu¹, G. Wong^{2,1}, J. Tang¹, J. Xu¹, T. Lum^{1,2}, 1. *Sau Po Centre on Ageing, The University of Hong Kong, Pokfulam, Hong Kong*, 2. *Department of Social Work and Social Administration, The University of Hong Kong, Pokfulam, Hong Kong*

The present study explores whether physical frailty and chronological age independently predicts global cognition and everyday cognitive function. Data came from 1,668 community-dwelling older adults in Hong Kong. Physical frailty was measured using the fatigue, resistance, ambulation, illness, and loss of weight and grip strength. Global and everyday cognitive function were measured by Cantonese Chinese Montreal Cognitive Assessment and 4-item short Lawton Instrumental Activities Daily Living scale, respectively. After controlling for education, chronological age explained a larger variance than physical frailty in global cognition in women. Physical frailty, in contrast, had more predictive power than chronological age in estimating everyday cognitive function in both genders. While the unmodifiable chronological age predicts global cognition, physical frailty has a greater contribution to everyday cognitive function. Our findings warrant further investigation of an integrated biocognitive model that underpins the linkage between everyday cognition and physical frailty.

PREDICTING ADVERSE HEALTH OUTCOMES IN NURSING HOME: A FRAILTY MEASURE USING MINIMUM DATA SET 2.0

H. Luo^{1,2}, T. Lum^{1,3}, G. Wong^{1,3}, J. Kwan^{1,4}, J. Tang¹, 1. *Sau Po Centre on Ageing, The University of Hong Kong*,

Pokfulam, Hong Kong, 2. Department of Sociology, Tsinghua University, Beijing, China, 3. Department of Social Work and Social Administration, The University of Hong Kong, Pokfulam, Hong Kong, 4. Department of Medicine, The University of Hong Kong, Pokfulam, Hong Kong

This study was to create a simple frailty measure for nursing home residents using the Minimum Data Set (MDS). **Method:** MDS items comparable with the FRAIL-NH scale were extracted. Frailty status was calculated based on the following eight components: fatigue, resistance, ambulation, incontinence, polypharmacy, loss of weight, nutritional approach, and help with dressing. We included 2,380 elders residing in six nursing homes in Hong Kong between 2005 and 2013 to test the predictive validity of the resulted scale against major adverse health outcomes. **Results:** The proposed frailty scale was independently predictive of incident falls, worsening function, incident hospitalization, and mortality, with hazard ratios ranging from 2.00 to 3.73, adjusting for gender, age, education, cognitive performance, and the presence of prevalent diseases. **Implications:** We provided a simple and reliable scale to identify frail persons in nursing homes and for developing effective intervention schemes.

EXERCISING HABIT FORMATION FOR FRAILTY INTERVENTION IN THE COMMUNITY

G. Wong^{1,2}, M. Shum¹, T. Lum^{1,2}, 1. Department of Social Work and Social Administration, The University of Hong Kong, Pokfulam, Hong Kong, 2. Sau Po Centre on Ageing, The University of Hong Kong, Pokfulam, Hong Kong

Physical frailty and prefrailty is common and can be intervened or prevented with structured exercise. With limited resources, however, professional exercise training programmes are of short supply. The sustainability of the benefits beyond the programme is also unclear. Nearly 80% of older adults in Hong Kong do not engage in regular exercise at moderate level or above. From an implementation science perspective, the key issue is not about providing the exercising intervention per se, but to design a programme with components that will shift health behaviour. Older adults who are more deprived and have lower education would need more help from health promotion programmes with respect to self-efficacy to engage in exercising. We have developed a programme model that targets exercise habit formation, using design elements The model is being evaluated in an 18-month randomized, single-blind, multicentre controlled trial of 390 community-dwelling older adults. We present here the pilot results.

SESSION 3145 (SYMPOSIUM)

EMERGING TRENDS IN MIDUS RESEARCH

Chair: J.E. Stokes, Boston College, Chestnut Hill, Massachusetts

Discussant: M.E. Lachman, Brandeis University

Since its inception in 1995–1996, the National Survey of Midlife Development in the United States (MIDUS) project

has developed into one of the most important and popular sources of data on mid- and later-life in the social and behavioral sciences. Now entering its third decade, the MIDUS study has greatly expanded, as well. This includes a recently released third wave of follow-up MIDUS data; daily stress and biomarker studies; and the MIDUS Refresher sample expansion. The four papers comprising this symposium use different modules of recent MIDUS data in order to investigate developmental, personality, and psychosocial aspects of adults' lives and their associations with health and well-being across the life course. Sin and colleagues use MIDUS Refresher data to examine the role age plays in adults' exposure and emotional responses to daily positive experiences. Lee and Cichy use NSDE II diary data to investigate day-to-day fluctuations of risk appraisal and negative affect, and the influence of individuals' neuroticism. Graham and Mroczek analyze three-wave longitudinal MIDUS data to track long-term trajectories of the Big Five personality traits, while Stokes and Moorman use the same three-wave data in order to examine links between age discrimination, psychosocial well-being, and physical health over a two-decade span. Lastly, Lachman – a MIDUS Investigator – will assess the various strengths, limitations, and implications of these papers, and discuss the potential contributions of these and future MIDUS projects to life course research.

AGE DIFFERENCES IN EXPOSURE AND EMOTIONAL RESPONSES TO DAILY POSITIVE EVENTS

N.L. Sin¹, T.L. Gruenewald², A.D. Ong³, D. Almeida¹, S.T. Charles⁴, 1. Center for Healthy Aging, The Pennsylvania State University, University Park, Pennsylvania, 2. University of Southern California, Los Angeles, California, 3. Cornell University, Ithaca, New York, 4. University of California, Irvine, Irvine, California

Positive events may facilitate aging-related improvements in emotional well-being. This study examined age differences in exposure and responses to daily positive events. In the MIDUS Refresher Study, 782 participants ages 26–77 completed telephone interviews about their daily experiences for 8 days. Age was associated with more frequent positive events, occurring on 67% of days among younger adults (ages 26–39), 76% of days among midlife adults (ages 40–59), and 81% of days among older adults (ages 60–77). Older adults were more likely to enjoy nature and report network events (i.e., events that happened to family/friends); there were no age differences in positive work, home, or social interaction events. Older adults rated their events as more pleasant and calm, whereas younger adults felt more surprised and close to others. Consistent with theories of emotional aging, findings suggest older adults experience more daily positive events and derive low-activation positive emotions from these events.

NEGATIVE AFFECT AND RISK APPRAISAL IN THE CONTEXT OF DAILY LIFE: THE ROLE OF NEUROTICISM

J. Lee, K.E. Cichy, Kent State University, Kent, Ohio

Prior studies have investigated the linkages between stressor appraisal and negative affect (NA), but have neglected

the dynamic aspects of risk appraisal in daily life. This study examines associations between day-to-day fluctuations in subjective risk appraisals and NA and individual differences in neuroticism. Daily risk appraisals (e.g., risk to self) and daily NA were modeled using diary data from the National Study of Daily Experiences (NSDE II), where respondents completed 8 days of interviews ($N = 1012$). Multilevel models revealed substantial within person variation in both risk appraisal including self and NA. Higher levels of neuroticism were associated with higher levels of and instability of risk appraisal and NA. In addition, the covariation between risk appraisal and NA was greater among individuals with higher neuroticism ($p < .05$). Findings add to research suggesting higher levels of neuroticism increase individuals' vulnerability to the negative effects of daily stressors through stressor appraisal.

TRAJECTORIES OF BIG FIVE PERSONALITY CHANGE IN MIDUS

D.K. Mroczek, E. Graham, *Psychology, Northwestern University, Evanston, Illinois*

We modeled long-term trajectories of the Big Five personality traits using the MIDUS data. MIDUS recently acquired a 3rd wave of data, allowing estimation of fixed effects parameters of 20-year trajectories as well as random effects for intercept and slope. The multilevel model for change was utilized, with centered (chronological) age as the time metric. With respect to the overall trajectory (fixed effects) all of the Big Five traits showed decline over the age range 25 to 100. With regard to the random effects, particularly the slope variances, only neuroticism and openness showed evidence of individual differences in rate of change (slope).

AGE DISCRIMINATION AND HEALTH: A LONGITUDINAL STUDY OF MIDLIFE AND OLDER ADULTS IN THE UNITED STATES

J.E. Stokes¹, S.M. Moorman², *1. Illinois State University, Normal, Illinois, 2. Boston College, Chestnut Hill, Massachusetts*

Unfair treatment of people based on their age, or age discrimination, limits people's access to opportunities and resources and increases their levels of stress. However, little is known about the long-term repercussions of day-to-day age discrimination for physical health. This study uses three waves of data from the National Survey of Midlife Development in the United States (MIDUS, 1995–2014) to examine whether perceived day-to-day age discrimination impacts adults' physical health via their psychological, emotional, and social well-being. Using 13,098 observations from 6,456 participants, we estimated multilevel generalized structural equation models (GSEM) to test both direct and indirect effects of age discrimination on self-rated health, chronic conditions, and IADL. Age discrimination had significant direct and indirect between-persons effects on all three health outcomes, and significant indirect within-persons effects on all three health outcomes. This suggests psychosocial well-being acts as a mechanism whereby age discrimination "gets under the skin" and harms health.

SESSION 3150 (PAPER)

AGE-FRIENDLY COMMUNITIES AND HOUSING

AGE-FRIENDLY COMMUNITIES AND DIVERSITY OF AGEING—LINKING ENVIRONMENTAL AND SOCIAL GERONTOLOGY

J. Stiel, *1. Technical University Dortmund, Dortmund, Germany, 2. FH Dortmund - University of Applied Sciences and Arts, Dortmund, Germany*

One of the major challenges in modern society is population ageing and therefore the development of age-friendly communities receives attention. Such a transdisciplinary topic requires a more holistic approach in contrast to the current models. Even within the field of gerontology, much of the research on ageing and community occurs in isolation from other subareas. Few research projects, mainly international ones, focus on developing age-friendly communities in a transdisciplinary way (e.g. WHO Age-friendly Cities Guide 2007) or linking corresponding subfields of gerontology to one another (e.g. Provencher et al. 2013 link social gerontology and social psychology). And while environmental gerontology is well established in Germany, it only seems to slowly regain interest internationally – also due to a lack of new theoretical developments.

This presentation proposes a theoretical model linking environmental and social gerontology. Environmental gerontologists like Lawton and Saup contributed greatly to our understanding of person-environment-interaction and there is also modern research in person-environmental views of aging (Wahl & Oswald 2016). Combining environmental gerontology with concepts of diversity and exclusion from social gerontology allows us to better understand which (age-friendly) environmental features may benefit certain subgroups of older adults or risk excluding others. Such an approach is in contrast to the prevailing homogenous views in German concepts and also the WHO-concept.

Identifying the distinct characteristics, interests and needs of older adults – a very heterogeneous group – in relation to their environment enables us to improve the established concepts for the development of age-friendly communities by targeting diversity as well as mainstream needs.

ENABLING ENVIRONMENTS: EFFECT OF LOCAL AREA ON PHYSICAL ACTIVITY IN THE OVER 55S IN IRELAND

S. Gibney¹, M. Ward², S. Shannon¹, *1. Department of Health, Dublin, Ireland, 2. Trinity College Dublin, Dublin, Ireland*

The Age-friendly Cities and Counties Survey (2016) was a population-representative cross-sectional survey of community-dwelling adults aged 55+ in 21 Local Authority areas. It measured individual-level positive ageing outcomes and attributes of the local built and social environment to provide a baseline estimate of spatial and socio-economic differences in positive ageing and local factors that support positive ageing.

This study examined the effect of perceptions of local area safety and accessibility of recreational spaces, on physical activity. Data was from the Age Friendly City and Counties survey, in ten counties in Ireland ($n=4,765$). A random-effects logit model was used to estimate the effect of 1) perceptions of the accessibility and availability of recreational green areas, 2) experience of crime, and 3) perceptions of safety while out and about in the local area, on the odds of meeting national physical activity guidelines (≥ 150 minutes per week). Age, sex, education, limiting illness and location (urban/rural) were adjusted for.

Difficulty accessing a recreational green space ($OR=0.74$, $p<0.01$), or the unavailability of such a space ($OR=0.80$, $p=0.04$), was associated with reduced odds of meeting physical activity guidelines. Respondents who had an experience that left them concerned about their safety ($OR=0.78$, $p<0.01$), who felt unsafe out and about during the day ($OR=0.61$, $p=0.04$) or at night ($OR=0.82$, $p=0.02$) were also less likely to meet physical activity guidelines.

Improvements to the local environment may be useful for promoting increased physical activity, in addition to individual-level behaviour change interventions.

LIVING THROUGH LANDSCAPES: DESIGNING AND EVALUATING THE IMPACT OF DEMENTIA-FRIENDLY GARDENS

H.J. Swift¹, A. Towers¹, J. Babaian¹, J. Hollyhock², 1.

University of Kent, Canterbury, United Kingdom, 2.

Learning through Landscapes, Winchester, United Kingdom

Most dementia care settings have an outside space but many are underused because they are not suitable for people living with dementia or because providers lack the confidence and resources to optimize use. The Living through Landscapes project intends to a) improve and transform the outside spaces of 30 care settings across the UK to make them dementia-friendly, and b) deliver training and resources to staff and management teams to promote the beneficial impact of regular and frequent access to the natural environment. This paper introduces the project and the research conducted by the authors to evaluate the functionality, use and impact of the re-designed spaces. Results for the first year of the project (approx. 10 settings) are presented on qualitative (interviews with people living with dementia using talking mats, focus groups with service staff) and quantitative (an adapted Sheffield Care Environment Assessment Matrix, quality of life i.e. DEMQoL and DEMQoL proxy) measures. Pre (baseline) and post assessments (after the garden redesign) reveal improvements in use and functionality of the outside spaces, which are discussed in relation to the health, wellbeing and quality of life of service users living with dementia. The theoretical, practical and policy implications of designing and evaluating the impact of dementia friendly spaces are also discussed.

SELF-MANAGED HOUSING AS A MEANS TO DECREASE LONELINESS AND INCREASE WELL-BEING IN LATER LIFE

O.H. Jolanki², O. Teittinen², 2. *University of Jyväskylä, Jyväskylä, Finland, 2. GeroCenter, Jyväskylä, Finland*

This study looks at housing and moving decisions of older people and their experiences of a new living environment.

Data come from qualitative face-to-face interviews ($N=18$) collected in Central Finland. Majority of the interviewees were 70+. The study has adopted a longitudinal approach. First interviews were conducted a month prior to moving (2014), 1st follow-up interviews 2015, 2nd follow-up interviews 2016. The interviews will be collected annually in the future. The focus of the analysis was on the participants' reasons to move to a communal type of housing and their experiences of a life in this type of self-managed housing. The reasons to move were linked to factors like health problems, feeling lonely and unsafe, impractical apartment and inaccessible environment and long distance to amenities. However, the reasons to move were also linked to the doubts about availability of informal help and public services and wishes to find a new life and new social contacts in a new living environment. The participants' experiences were largely met and the new living environment offered new social contacts and social activities, a sense of belonging and company of likeminded people and reciprocal help and support. In conclusion, while many older people value their old home they are capable and willing to leave home and settle to a new home in their quest for a better life in old age. The results call for more positive view towards relocation in later life and more flexible interpretation of ageing in place policy goal.

SESSION 3155 (SYMPOSIUM)

RELIGIOSITY, HEALTH, AND AGING IN INTERNATIONAL AND CROSS-CULTURAL PERSPECTIVES

Chair: C. Jagger, *Newcastle University*

This symposium consists of four papers that employ robust data from different countries worldwide to examine associations between religiosity and health among older persons. Globally, older persons are experiencing gains in life expectancy. Whether gains represent healthy years is in dispute. External factors such as advances in treatments contribute to healthy aging, but evidence suggests factors internal to the individual are also influential. One such, religiosity, is increasingly recognized as a potential contributor to longer and healthier lives. Although there is wide intra-country variation in the percent that report being religious, religion is a component in the lives of a great many older persons in most countries. Moreover, evidence shows older persons engage in religious activity more frequently than younger. Given the ubiquity of religiosity in lives of elders globally, we can learn much by examining associations in international and cross-cultural perspective. Chiu et al. investigate religious activity, life and active life expectancy across a number of European countries, whilst Saito et al. report similar analyses but for Singapore, a country with diverse cultural and religious populations. Cartwright reports on aging immigrants in the U.S., representing a wide range of cultural and religious traditions. Taking the discourse to the cellular level, Hill et al. examine biomarker data from the U.S., linking religiosity and telomere length, while exposing potential intervening mechanisms. Together, these papers provide a contemporary and methodologically advanced evaluation of religiosity's role in health and aging within and across national and cultural environments.

THE IMPACT OF RELIGIOUS ACTIVITY ON LIFE AND ACTIVE LIFE EXPECTANCY IN THE EUROPEAN UNION

C. Chiu¹, Z. Zimmer², C. Jagger³, M.B. Ofstedal⁴, Y. Saito⁵,
1. *Academia Sinica, Taipei, Taiwan*, 2. *Mount Saint Vincent University, Halifax, Nova Scotia, Canada*, 3. *Newcastle University, Newcastle, United Kingdom*, 4. *University of Michigan, Ann Arbor, Michigan*, 5. *Nihon University, Tokyo, Japan*

We examine whether religious activity is associated with longer life expectancy and active life expectancy in European Union countries using data from the first five waves of the Survey of Health and Retirement in Europe (SHARE, 2004–2011). Life expectancy and active life expectancy by gender, religious activity, and country were calculated from incidence-based multistate life tables that were constructed based on estimated transition probabilities. Measures of six activities of daily living (ADLs) and seven instrumental activities of daily living (IADLs) are used to define active and inactive life with inactivity defined as having difficulty or requiring help in any one of the ADLs or IADLs. Our results show that religious activity is strongly related to life expectancy and active life expectancy at age 50. Older people who take part in religious activities live longer and spend more years active than those who do not take part.

DIFFERENTIALS IN ACTIVE LIFE EXPECTANCY BY RELIGION/RELIGIOSITY AMONG OLDER ADULTS IN SINGAPORE

Y. Saito¹, A. Chan², R. Malhotra², M.B. Ofstedal³,
C. Jagger⁴, C. Chiu⁵, 1. *Nihon University, Tokyo, Japan*,
2. *Duke-NUS Medical School, Singapore, Singapore*, 3. *University of Michigan- Ann Arbor, Ann Arbor, Michigan*,
4. *Newcastle University, Newcastle, United Kingdom*, 5. *Academia Sinica, Taipei, Taiwan*

Previous studies have indicated a relationship between religiosity, various aspects of physical and mental health and mortality. This paper expands the connection by quantifying the effect of religion and religiosity on life, active life and inactive life expectancy. Data are from a nationally representative longitudinal survey of older adults conducted in Singapore in 2009, 2011 and 2015. Health status focuses on disability, specifically defined as ability or difficulty performing ADLs and IADLs. The denominational distribution at baseline indicates: Christianity (756, 16.3%), Buddhism / Taoism (2448, 56.5%), Islam (999, 11.6%), other (358, 4.8%), no religion (439, 10.8%). Frequency of attending religious services is: every week (1589, 29.9%), every month (721, 16.0%), less than once a month (1018, 22.2%), not at all (1672, 31.8%). This paper will estimate life and active life expectancy across these religious denominations, level of religious activity, and demographic covariates such as age and sex.

RELIGION AND HEALTH OF U.S. IMMIGRANT ELDERLY: ACCULTURATION, SOCIAL SUPPORT AND HEALTH BEHAVIOR BUFFERS

K. Cartwright, *University of New Mexico, Albuquerque, New Mexico*

This paper tests theoretical frames including social support, health behaviors, and acculturation to identify mechanisms through which religion affects immigrant health in the

US. Studies investigating immigration and acculturation indicate that religion serves as a bridge and a barrier to American culture. Studies also indicate that US immigrants are more religious than their native-born counterparts, although similarly to the native born population, older immigrants are more likely to be religious. This paper uses multiple waves of the New Immigrant Survey (NIS) to explore the relationship among religion, health behaviors, and health outcomes of aging immigrants. Where prior studies mainly focus on specific religious traditions and immigrant health, the NIS enables comparative analyses inclusive of religions beyond the Judeo-Christian scope. The findings confirm that religion is a social determinant of immigrant health and identify relationships between various religious traditions and health of older immigrants.

PROCESSES LINKING RELIGIOUS ATTENDANCE AND TELOMERE LENGTH

T. Hill¹, P. Vaghela², C.G. Ellison³, S. Rote⁴, 1. *University of Arizona, Tucson, Arizona*, 2. *Florida State University, Tallahassee, Florida*, 3. *University of Texas- San Antonio, San Antonio, Texas*, 4. *University of Louisville, Louisville, Kentucky*

Although numerous studies show that religious involvement is associated with favorable health outcomes, it is unclear whether this general pattern extends to cellular aging. The mechanisms linking religious involvement and indicators of cellular aging are also undefined. We employ data from the 2008 Health and Retirement Study, a national probability sample of Americans aged 50 and older, to test whether leukocyte telomere length varies according to level of religious attendance. We also test several potential mechanisms linking religious attendance with telomere length, including stressful life events, depression, and smoking. Although we find that religious attendance is not directly associated with telomere length, our mediation analyses revealed significant indirect effects through depression and smoking, but not stressful life events. Religious attendance may indirectly promote telomere length by reducing the risk of depression and smoking, but there is no evidence to support stressful life events as a mechanism of religious attendance.

SESSION 3160 (SYMPOSIUM)

EXPANDING USE OF UNIVERSAL ASSESSMENTS FOR LONG TERM SUPPORTS AND SERVICES: CHALLENGES AND BENEFITS

Chair: C. Wendel-Hummell, *University of Kansas, Lawrence, Kansas*

Co-Chair: B. Fries, *University of Michigan, Ann Arbor, Michigan*

Discussant: R.K. Chapin, *University of Kansas*

Many countries are now recognizing the need for uniform assessment instruments across populations, settings and programs. Motivated by federal recommendations as well as by knowledge of global best practices and trends, several states in the United States are adopting a uniform assessment instrument for their publicly funded long term support and services, particularly Medicaid waiver programs. A universal, standardized assessment is a critical tool for streamlining

access to care for people seeking services. A well-designed assessment instrument can be used to determine eligibility for public programs, care planning, data collection, rate setting, and quality assurance. A universal assessment can also: promote choice for customers when the assessment determines eligibility for multiple programs; reduce administrative burdens by using one assessment for multiple purposes; promote equity by using the same assessment criteria for all individuals in need of services; and capture standardized data to help policymakers do longitudinal analysis of client outcomes and program effectiveness.

Participants will overview key factors that informed selection of a base instrument in their states and outline key policy decisions regarding implementation, including level of care determinations and how outcome measures can be used to improve quality of care. Participants will also demonstrate how standardized data can be used to compare populations across states and countries, and thus inform key LTSS policy decisions. Strategies for overcoming challenges in implementing uniform assessments, which could help other states as well as international entities considering adopting universal assessment instruments, will be detailed.

CHARACTERISTICS OF PERSONS USING LONG-TERM SERVICES AND SUPPORTS: AN INTERNATIONAL PERSPECTIVE

B. Fries, M. James, M. Thomasson, *University of Michigan, Ann Arbor, Michigan*

The interRAI Home Care assessment was developed by an international consortium to inform evidence-based clinical practice and policy decisions through the collection and interpretation of standardized data about the characteristics and outcomes of persons served across a variety of settings. The Home Care tool is used by Medicaid agencies in 24 states in the United States and in more than 37 countries worldwide. In this session, we highlight the ability to compare populations across states and countries, using these data to profile the characteristics of home- and community-based ("waiver") participants in five US states and show substantial inter-state variation despite similar program objectives. When compared with participants in 11 European countries included in the Aged in Home Care (AdHOC) Study, however, the waiver populations are relatively less varied and more disabled.

CREATING AND TESTING CONNECTICUT'S UNIVERSAL ASSESSMENT TOOL ACROSS MULTIPLE POPULATIONS

N.A. Shugrue¹, D. Charles¹, C. Gruman², R. McManus², T. Tsay², C. Bredfeldt², D. Lambert³, J.T. Robison¹, 1. *University of Connecticut Center on Aging, Farmington, Connecticut*, 2. *The Lewin Group, Falls Church, Virginia*, 3. *Connecticut Department of Social Services, Hartford, Connecticut*

In order to increase access to non-institutional long-term services and supports and facilitate level-of-need determinations, Connecticut developed a Universal Assessment (UA) for use across multiple populations through an intensive, multi-stakeholder process including a cross-walk of existing assessment tools (n=10) across the domains of ADLs, IADLs, medical/psychiatric conditions, behavior, and cognition.

Additional analysis of approaches taken by other states (n=15) and other standardized tools (n=7) included item-by-item selection across domains. Screens included relevance, person-centeredness, validity, and reliability. The UA tool selected was the interRAI Home Care Assessment, modified for Connecticut's needs. An algorithm to determine level-of-need and budget allocation from UA data was developed and tested across populations, modified from the intellectual/developmental disability population (n=~10,000) and cross-applied to data for elder/disabled individuals (n=~5300) to compare 8 levels of need. Average costs lined up as expected, but variation within each level required further refinement and testing.

IMPLEMENTING KANSAS'S UNIVERSAL ASSESSMENT IN A MANAGED LONG-TERM SERVICES AND SUPPORTS ENVIRONMENT

C. Wendel-Hummell, A. Sellon, H. Kang, H. Lassmann, L. Swartzendruber, C. Holmes, D. Nary, T.A. LaPierre, *University of Kansas, Lawrence, Kansas*

The state of Kansas partnered with the University of Kansas to develop and implement a universal assessment instrument for Medicaid services in a managed LTSS environment. After consulting stakeholders and best practices, the interRAI-Home Care and interRAI-Intellectual Disability tools were selected for use with frail older adults and people with physical disabilities, traumatic brain injuries, or intellectual/developmental disabilities. InterRAI assessments are designed to contribute to both eligibility screening and care-planning. However, in a Medicaid managed LTSS environment, level-of-care (LOC) eligibility determinations must be completed by an independent assessor, whereas plans-of-care are developed by MCO care coordinators. We will discuss the process of testing the draft instrument for translating state LOC policy into the new assessment instrument and developing a state-specific LOC screen. We will also detail strategies used to overcome challenges encountered in planning the interface between conflict-free LOC determination and MCO careplanning, and successfully transitioning to a new instrument.

USING ASSESSMENT DATA TO PERFORM OUTCOME-BASED QUALITY MEASUREMENT

M. McCaffrey, *University of Massachusetts Medical School, Shrewsbury, Massachusetts*

Outcome-based measures are an essential but often missing puzzle piece for assuring the quality of home-based services. Like many states, Massachusetts found itself struggling to identify *outcome-based* measures (e.g., social isolation and decline in activities of daily living). On behalf of Massachusetts, the University of Massachusetts Center for Health Law and Economics turned to 16 validated outcome-based measures based on the Minimum Data Set Home Care assessment (MDS-HC) developed by InterRAI, an international quality measurement collaborative. The measures are readily available and published in peer-reviewed journals. Responses to fifty-six questions from assessments conducted over a two-year period were evaluated to determine data quality and completeness. Preliminary findings show the feasibility of constructing many of the measures. InterRAI's outcome-based measures can be used to create benchmarks

for participant outcomes, help service providers identify best practices, align service offerings with clients' needs, and promote advanced payment models.

USING STANDARDIZED DATA TO COMPARE ACCESS TO LONG-TERM SERVICES AND SUPPORTS IN FIVE U.S. STATES

M. Thomasson, M. James, B. Fries, *University of Michigan, Ann Arbor, Michigan*

In the United States, access to long term services and supports is restricted, rather than a universal health care "right." State governments are responsible for setting "level of care" (LOC) policy to identify the persons eligible to receive publicly-funded services. These policies can exert powerful effects on states' budgets and individuals' access to care. Standardized assessment data is now being used for LOC determinations, with the hope that objective measurement will ensure the consistent application of these criteria. We compare LOC policies across four US states that have adopted the interRAI Home Care instrument, thus permitting "head-to-head" comparisons. While states' systems have the same overall goals, individual states vary in their interpretation of LOC policy, using state-specific algorithms created from different combinations of these standardized assessment items. We will apply these several algorithms to data from a fifth state to demonstrate substantial inter-state differences in access.

SESSION 3165 (SYMPOSIUM)

LABOR FORCE AND HEALTH IN LATER LIFE FROM A CROSS-NATIONAL PERSPECTIVE

Chair: E. Calvo, *UDP / Columbia University, RM, Chile*

This symposium will feature cross-national studies on labor-force and health in later life. Drawing on current internationally harmonized data, this symposium will present papers exploring cross-national variations and group differences in labor-force participation rates and health at older ages, as well as in the relationship between the two.

LABOR FORCE PARTICIPATION RATES OVER 65: WHAT IS THE RIGHT LEVEL?

R. Finkelstein, *Robert N. Butler Columbia Aging Center, New York, New York*

An analysis of the labor force participation rates for people 65+ (LFPR65+) by country-income revealed a strong inverse relationship between participation and country's income. Globally, countries with lower income levels have much higher labor force participation in old age. In general, high income countries have lowest LFPR65+ rates, though there is variability across countries, between genders, and a generally upward trend through time. We use the International Labor Organization's definition of labor-force participation and The World Bank's classification of countries into high-income, upper middle-income, lower middle-income, and low-income in our analyses. This analysis highlights the centrality of policy, economic, and cultural context in influencing people's decisions about when to stop working. This supports the need to go beyond individual-level factors and microeconomic context

in analyzing work decisions and disrupts over-simplified calls for people to work longer since they are living longer.

DO ACTIVITY PATTERNS ACROSS TIME PREDICT COGNITIVE AGING?

Y. Yu, U.M. Staudinger, *Columbia Aging Center, Columbia University, New York, New York*

We investigated how engagement in mentally stimulating activities in the domains of work, volunteering, and leisure across time influence longitudinal change in cognitive performance during adulthood via novel information processing. Two aspects of this approach are innovative: (1) Focusing specifically on the degree to which activities require novel information processing, and (2) studying the three activity domains conjointly to ascertain their respective unique and interactive contributions. The focus on novelty allows studying the effects of mental stimulation across different levels of education rather than being confounded with it. Given that the majority of a given population will never achieve higher levels of education, this is crucial knowledge for maintaining productivity in the face of an aging population. Initial longitudinal analyses of the HRS data set including information from O*Net seem to confirm the hypothesis that at all levels of education the degree of novelty processing predicts better cognitive aging.

MARRIAGE, STRENGTH, AND MORTALITY RISK AMONG SUCCESSIVE COHORTS OF NORWEGIAN OLDER ADULTS

V. Skirbekk^{1,2}, B. Strand², *1. Columbia Aging Centre, New York, New York, 2. Norwegian Institute of Public Health, Oslo, Norway*

Low grip strength is a major health concern, but being married can offset some of the negative effects as spouses may help and support each other when one's partner does not manage alone. Growing shares of older adults are unmarried, and we aim to study how their low grip strength relates to the risk of mortality. Inequality in life expectancy at older ages have been demonstrated for both marital status and grip strength, but the joint effects have not been focused on. Our research was carried out from a population based survey and register study, including residents in the Norwegian city of Tromsø aged 59–71 in period 1994/5 to 2007/8. We found that differentials in life expectancy by marital status and strength became greater over time. Both greater strength and being married were associated with longer lives.

GENDERED LATE CAREERS IN THE UNITED STATES AND THE UNITED KINGDOM: A SEQUENCE ANALYSIS

M. van der Horst³, D. Lain⁴, I. Madero-Cabib^{2,5}, E. Calvo^{1,2}, S. Vickerstaff³, *1. Columbia University, New York, New York, 2. Universidad Diego Portales, Santiago, Chile, 3. University of Kent, Canterbury, United Kingdom, 4. University of Brighton, Brighton, United Kingdom, 5. Universidad de Chile, Santiago, Chile*

Numerous policy reforms in the 21 century have tried to extend working lives without paying enough attention to the gendered nature of late careers. Combining a life-course approach with sequence analysis techniques, this study empirically explores how gendered are late careers in the United

States and the United Kingdom. Drawing on data for the last decade from the Health and Retirement Study (HRS) and the English Longitudinal Study on Ageing (ELSA), we identify multiple types of labor force sequences. Preliminary results suggest that labor force sequences five years before and after the legal retirement age are more unstable and diverse for women in the United Kingdom. In contrast, labor force sequences for males are similarly stable and homogenous in both countries. We discuss the policy implications of these results for the financial security and health of both females and males in old age.

LATE CAREERS AND HEALTH: A PANEL STUDY IN THE UNITED STATES AND THE UNITED KINGDOM

E. Calvo^{1,2}, I. Madero-Cabib², U.M. Staudinger¹, 1. *Columbia University, New York, New York*, 2. *Universidad Diego Portales, Santiago, Chile*

Using a life course approach to look at trajectories and transitions in context, this study explores the association between late careers and health in the United States (US) and the United Kingdom (UK). We hypothesize that precarious retirement sequences are associated with worse health in old age and that this correlation is stronger in the US than in the UK. Drawing on panel data from the Health and Retirement Study (HRS) and the English Longitudinal Study on Ageing (ELSA), we use sequence analysis to construct labor force sequences five years before and after the legal retirement age. We use discrete time models with Heckman correction, survival models, and growth curve models to estimate the association with mortality as well as objective and subjective health outcomes. Preliminary results suggest that retirement sequences characterized by full-time jobs, continued employment, and late retirements are associated with better health outcomes, especially within the US.

SESSION 3170 (SYMPOSIUM)

FROM RESEARCH TO POLICY: ISSUES FOR THE BUILT ENVIRONMENT

Chair: S.M. Schmidt, *Lund University, Sweden*

Co-Chair: B. Slaug, *Lunds Universitet*

Discussant: H. Chaudhury, *Simon Fraser University, British Columbia, Canada*

The design of the built environment can enhance or impede the activities of our aging society, and a well-designed environment can help the aging population maintain a high level of well-being throughout the life course. As the built environment is highly regulated in most countries, policy change presents a path towards implementation of research results. In this symposium we will present empirical examples of research from five countries that are relevant for policy decisions in the built environment. Starting with outdoor environments, researchers from Germany (Penger et al.) will discuss the relationships among personal and environmental factors that influence out of home mobility. Colleagues from Wales (Roberts et al.) will then present a tool that can be used to identify targets to improve the age-friendliness of neighborhoods. Switching to indoor environments, researchers from Japan (Hayashi et al.) will describe how the design of nursing homes effects the health of the residents through

indoor temperature. A Swedish research team (Slaug et al.) will present a simulation that identifies the most severe environmental barriers in ordinary housing among people with different combinations of functional limitations. Finally, a joint Italian-Swedish team (Chiatti et al.) will present the implications of home monitoring technologies in ordinary housing among people with dementia. A discussant from Canada (Habib Chaudhury) will also tie the presentations into the North American context. Hence, this symposium will present a broad perspective on potential policy changes to allow the built environment to better support the WHO initiative for an Age-Friendly World.

SUMMER IN THE CITY: BEING OUT AND ABOUT IN THE FACE OF FUTURE CLIMATE CHANGE

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Western societies are facing major challenges, such as urbanization, climate and demographic change. Therefore, policy in communities has to be prepared to maintain mobility, social participation and well-being of older citizens in the future of hot summers and dense inner city districts. The aim of our study is (1) to identify personal (e.g., attitudes) and environmental (e.g., climate) determinants of daily out-of-home mobility and (2) to analyze how they may affect health and well-being of elders. We developed instruments to assess mobility-related behavioral flexibility and climate experience that are used in a survey in two climatically different districts of the city of Stuttgart, Germany. Data will be drawn from face-to-face interviews and trip diaries with 200 community-dwelling elders aged 65 years and older. Findings on out-of home mobility in relation to personal and environmental factors will be presented and furthermore be used to ensure sustainable use of urban planning measures.

DOES GEOGRAPHIC SETTLEMENT TYPE MODERATE THE ASSOCIATION BETWEEN DEPRIVATION AND AGE-FRIENDLINESS?

V. Burholt, M. Roberts, C. Musselwhite, *Centre for Innovative Ageing, Swansea University, Swansea, United Kingdom*

The Older People's External Residential Assessment Tool (OPERAT) enables the assessment of the residential environment based on what is important to older people as identified by older people themselves, providing a measure of 'age-friendliness'. OPERAT scores are derived from 17 items distributed across four domains corresponding to Natural Elements, Incivilities and Nuisance; Navigation and Mobility; and Territorial Functioning. This presentation will show that an association between OPERAT scores and broader area level deprivation scores varies according to the nature of the geographic settlement type. We conclude that although deprivation levels for a large area predict 'age-friendliness' for smaller constituent areas, this association varies by rurality and population density. These results highlight the variance in 'age-friendliness' between different types

of area, and the utility of OPERAT in identifying these differences. This information has potential application for planners, policy makers and practitioners, in correspondence to the WHO drive for age-friendly environments.

REGULATING INDOOR TEMPERATURE AND HUMIDITY: SUCCESSFUL CARE PREVENTION IN WARMER NURSING HOMES IN JAPAN

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As society has aged in Japan, residents of nursing homes are needing more advanced levels of care, which is increasing costs. Accordingly, strategies to prevent further deterioration of health are necessary. The effects of indoor air temperature on health aspects such as blood pressure and mortality have recently attracted attention. We measured indoor air temperature and assessed changes in the level of care needed among 1337 residents in 27 nursing homes during winter 2015. The nursing homes were classified into two groups (warm or cold) according to UK National Health Service guidelines regarding indoor air temperature. Cox regression analysis revealed that residents in warm nursing homes were less likely to deteriorate to a higher level of care (HR = 0.48, 95% CI 0.31 – 0.75). The result suggests that policies to regulate indoor temperature may be one ingredient to delay declines in health of nursing home residents and reduce care costs.

INVENTORY OF BARRIERS AND ACCESSIBILITY PROBLEMS IN ORDINARY HOUSING: IMPLICATIONS FOR POLICY-MAKERS

B. Slaug, M. Granbom, M. Kylberg, C. Pettersson,
S. Iwarsson, *Lunds Universitet, Lund, Sweden*

Promotion of accessible housing for senior citizens gains increased attention by policy-makers. Housing environments which make activity performance difficult and impede social participation, increase risks of isolation and higher health care needs and costs. The appropriateness of the ordinary housing stock for accommodating senior citizens is therefore important to examine from a public health perspective. Utilizing existing databases of environmental barriers in the Swedish ordinary housing stock (N=1,021), the aim was to survey environmental barriers (EB) and housing accessibility problems for senior citizens with different complexity of functional limitations. Type profiles of functional limitations prevalent in the aging population were targeted by simulated analyses. Both one-family houses and multi-dwellings had substantial proportions of EB. The EB generating the most severe accessibility problems varied depending on type profile, and the problems were considerable also for less complex profiles. Large-scale and systematic efforts are required to promote accessible housing for senior citizens.

TECHNOLOGY IN DEMENTIA HOME CARE: LEGAL, ETHICAL, AND POLICY ISSUES

S.M. Schmidt¹, A. Malmgren-Fänge¹, M.H. Nilsson¹,
G. Carlsson¹, C. Dahlgren Bergström¹, P. Olivetti²,
P. Johansson³, C. Chiatti², 1. Lund University, Lund,

Sweden, 2. Italian National Research Institute on Ageing, Ancona, Italy, 3. Region Skåne, Ängelholm, Sweden

People with dementia and their informal caregivers are at risk from other physical, psychological and social problems beyond the dementia. As society is ageing and with a push to age in place, informal caregiving is common. We are evaluating an information and communication technology (ICT) home monitoring kit to see if it can reduce caregiver burden and allow people with dementia to live more independently. We will show results from two clinical trials in Italy and Sweden (namely Up-Tech and Tech@Home), preliminary showing that caregiver burden can be reduced and that those using the ICT kits generally are satisfied with them. These devices generate large amounts of personal data, and they are potentially invasive, while those with dementia may have minimal capacity to decide if they want to have their homes monitored. Therefore, even with positive findings, we must resolve important legal, ethical, and policy questions before implementing such solutions.

SESSION 3175 (SYMPOSIUM)

CONFLICTING MEANINGS OF CARE: INSIGHTS FROM CULTURAL GERONTOLOGY AND CRITICAL THEORY

Chair: C. Kelly, *University of Manitoba, Winnipeg, Manitoba, Canada*

Multiple and conflicting meanings of 'care' circulate in an array of social sciences and humanities disciplines. In varied theorizing and empirical studies, care refers to a gendered form of labour that is socially devalued and poorly compensated. In the lively feminist ethics of care scholarship, care refers to a relational ethics that can radically transform individual moral codes, policy frameworks and even international relations in contrast to prevailing justice-based ethics systems. It is also frequently used without reflection in many healthcare contexts to refer to the material tasks of healthcare as well as an indicator of quality. Perhaps most controversially, in disability studies and activism care is regarded a complex form of oppression with roots and ongoing links to mass institutionalization, paternalism, and other systemic exclusions of differing embodiments. This symposium draws on cultural gerontology and critical theory to consider the contested terrain around 'care' in relation to aging in conceptual, policy and practices settings. In doing so, we help to both complicate and clarify 'care' to challenge theorists, practitioners and researchers to consider the weighty history and implications of terminology that often circulates without pause. Further, we call on the audience to consider what these conflicting and complex meanings of care might mean for their own practice and work.

EXPLORING DISABILITY POLITICS IN DIRECT-FUNDED HOME CARE FOR OLDER ADULTS

C. Kelly, *Community Health Sciences, University of Manitoba, Winnipeg, Manitoba, Canada*

Directly funded home care has long been connected to disability activism in North America and the United Kingdom. This model of home care provides funds to individuals to hire, train and manage workers who assist them with daily life. While sometimes critiqued for advancing a neoliberal

rhetoric of individual responsibility, direct funding programs are also seen as flexible, empowering, and culturally sensitive-- setting up a contemporary paradox. The roots of these programs can be found in disability activism, particularly in messages that reject a patronizing, charitable or medicalized concepts of 'care.' This presentation aims to uncover and trace the legacies of disability activism in a context of expanding direct funding programs more explicitly to older people in Ontario, Canada. Through presenting the results of a public domain analysis, this presentation argues disability movements have fundamentally changed the ways we understand 'care' beyond the context of physical disability.

THE POLITICS OF CARE AND AGING FOR DISABLED ONTARIANS UNDER AUSTERITY

M. Hande, *University of Toronto, Toronto, Ontario, Canada*

As Canada's population ages and public policies are increasingly structured by financialized debt and austerity, policy makers are scrambling to find innovative and "cost-effective" ways to provide care for older Canadians. Similarly, healthcare entrepreneurs are developing ways of capitalizing on the "aging market." Innovations include public-private partnership financing for healthcare infrastructure and expanded direct funding home care program for older people. Many disabled Ontarians, however, do not have the resources to access these individualized care options and so are forced to cobble together entrepreneurial and community-based survival strategies. Based on a review of current provincial policy and extensive qualitative focus group data from aging disabled Ontarians, this presentation reviews how austere public policy innovations are shaping the politics of aging and care for older disabled Ontarians. Key care strategies and political responses are analyzed thematically.

BRINGING AGING TO THE FOREFRONT IN INTERSECTIONAL DISABILITY STUDIES

K. Aubrecht, *Mount Saint Vincent University, Halifax, Nova Scotia, Canada*

Although there is impressive intersectional disability studies scholarship and activism that explores heterosexism, racialization, disablement and transinstitutionalization (e.g., Ben-Moshe, 2011), analyses which include a consideration of aging are virtually absent. Genealogical research makes the absence of aging and older adults within intersectional disability studies scholarship and activism more present. In this presentation I share findings from a genealogy of nursing homes in Nova Scotia which traces their appearance to the English Poor Laws. Documents from the Nova Scotia Archives, and secondary research that included peer-reviewed academic publications and publicly available information, were analyzed to understand the social and historical emergence of nursing homes as a form of care for older adults. This work sought to identify and understand the dominant ideologies that shape current policies and popular understandings of nursing homes, and that organize practices and perceptions of people who live in nursing home settings.

SESSION 3180 (SYMPOSIUM)

OPTIMIZING THE NURSING HOME ENVIRONMENT FOR PEOPLE LIVING WITH DEMENTIA

Chair: O.F. Jarrin, *Rutgers, The State University of New Jersey, Devon, Pennsylvania*

Co-Chair: S. Crystal, *Rutgers University, New Brunswick, New Jersey*

Discussant: V. Mor, *Brown University, Providence, Rhode Island*

This symposium explores interventions to improve care and reduce the use of antipsychotic medication for nursing home residents with dementia. Behavioral and psychological symptoms of dementia (BPSD) are the leading causes for assisted living or nursing home placement. While non-pharmacologic management of BPSD are universally recommended and antipsychotic medications carry a black-box warning for treatment of dementia, they are prescribed to more than half of patients with dementia in the United States. We begin with an overview of public policy and advocacy efforts at the state and national level to reduce antipsychotic use in nursing home residents with dementia and the effectiveness of these programs. We then describe the relationship between nursing home staffing, staff education, and resident outcomes including infections, pain, depression, and use of antipsychotic, antianxiety or hypnotic medications in long-stay residents. Next we shift the research approach from big data to stakeholder perspectives of medical directors, physicians, consulting pharmacists, and directors of nursing in facilities that have been successful in reducing antipsychotic medication prescribing patterns across the country. Finally implementation research on two different facility-level interventions to improve nursing care will be described that reframe behavioral symptoms of dementia as a form of communication. M. Powell Lawton's ecological theory of aging and environmental press model provide a lens for discussing policy and practice patterns that aim to reduce negative and maladaptive behavior of nursing home residents living with dementia. Taken together the papers in this session present a comprehensive overview of dementia intervention and evaluation efforts at the individual, interpersonal, facility, societal, and public policy level.

ANTIPSYCHOTIC USE TRENDS IN U.S. NURSING HOMES AND IMPACT OF IMPROVEMENT CAMPAIGNS

S. Crystal^{1,2}, S. Neese-Todd¹, A. Akincigil^{1,2}, 1. *Institute for Health, Health Care Policy and Aging Research, Rutgers University, New Brunswick, New Jersey*, 2. *School of Social Work, Rutgers, The State University of New Jersey, New Brunswick, New Jersey*

Use of antipsychotic medication to manage behavioral and psychological symptoms of dementia, associated with significantly increased mortality, represents an international quality and safety challenge. In the US, state and national campaigns for reduced antipsychotic use in nursing homes were launched beginning in 2012. Antipsychotic use for long-stay residents declined from 23.9% in 2011 to 17.0% in 2015 (fourth quarter), a relative decrease of 28.8%. State quality improvement strategies varied widely, some relying more on education and others on regulation. In this presentation, we will discuss the

approaches taken by several of the state initiatives, and impacts to date. We will discuss the effectiveness of different states' improvement strategies, and provide updated regression analyses on the impact of staffing and other facility characteristics on antipsychotic use and on improvement rates. Implications for effective, large-scale, sustainable quality improvement strategies, and roles of educational and regulatory components, will be discussed.

VALUING INVESTMENTS IN NURSING HOME STAFFING AND STAFF EDUCATION FOR RESIDENTS AND PAYERS

O.F. Jarrin^{2,3}, D. Francel Bautista¹, C. Cho¹, W. Tay¹, R. Hermida¹, 1. *School of Nursing, Rutgers, The State University of New Jersey, Devon, Pennsylvania*, 2. *Rutgers, The State University of New Jersey, School of Nursing, Newark, New Jersey*, 3. *University of Pennsylvania, School of Nursing, Philadelphia, Pennsylvania*

This session will describe the relationship between nursing home staffing, staff education, and resident outcomes including infections, pain, depression, and use of antipsychotic, antianxiety or hypnotic medications in long-stay residents. Staff education variables include nurse-level and facility-level credentialing programs in addition to mandatory education at the state-level. Nursing home staffing variables, facility demographic variables and primary facility-level, risk-adjusted resident outcomes are drawn from the most recent (2015) Center for Medicare and Medicaid Services (CMS) Nursing Home Compare dataset that includes 15,000 nursing homes. Economic costs and potential cost savings are estimated from Office of Inspector General (OIG) reports. The relationship between nursing home staffing, staff education, resident outcomes and costs of care will be discussed with policy recommendations.

REDUCING ANTIPSYCHOTIC USE IN NURSING HOMES: PRESCRIBER AND FACILITY PERSPECTIVES

M. Rosenthal¹, B. Angell², S. Crystal^{1,2}, J. Poling³, A. Wec³, 1. *Institute for Health, Health Care Policy and Aging Research, Rutgers University, New Brunswick, New Jersey*, 2. *School of Social Work, Rutgers, The State University of New Jersey, New Brunswick, New Jersey*, 3. *Department of Sociology, Rutgers, The State University of New Jersey, New Brunswick, New Jersey*

Since 2012, some states have reduced inappropriate prescription of APs in nursing homes (NHs) by 20–25%, while others show little change. To assist attendees in replicating quality improvement across facilities and states, case studies from the field will provide successful facility-level dementia care strategies. As part of an AHRQ-funded study, administrators and prescribers (medical directors, physicians, consulting pharmacists, and directors of nursing) are interviewed by phone at 14 NHs in 7 states. They describe the decision process for prescribing APs, and issues prescribers face including how they are affected by changes in regulations, barriers to change, and sources of improvement. Their descriptions cover a range of NHs by facility size, organizational status (for profit/not-for-profit), proportion of Medicaid-covered residents, and progress in reducing AP use. These case studies of high success vs. limited success will provide examples of

points of intervention, and effective alternative strategies for addressing dementia in NHs.

HOW NURSING HOME STAFF MANAGE CHALLENGING FEEDING BEHAVIORS IN RESIDENTS WITH DEMENTIA

M. Batchelor-Murphy¹, E.S. McConnell^{2,3}, R.A. Anderson⁶, A. Barnes¹, T. Yap¹, S. Kennerly⁴, C. Colon-Emeric^{3,5}, 1. *Duke University, School of Nursing, Durham, North Carolina*, 3. *Geriatric Research, Education and Clinical Center (GRECC) of the Department of Veterans Affairs Medical Center, Durham, North Carolina*, 4. *East Carolina University, College of Nursing, Greenville, North Carolina*, 5. *Duke Medicine, Durham, North Carolina*, 6. *University of North Carolina Chapel Hill, School of Nursing, Chapel Hill, North Carolina*

This session will describe the adaptive challenges nursing home (NH) staff experience when residents with advanced dementia exhibit feeding behaviors (e.g., turning head away) during meals. As part of a larger mixed methods study to re-design a dementia feeding skills training program, ten focus groups were conducted with NH staff (N = 52) in 8 NHs. Transcripts were analyzed using four *a priori* codes: dementia skills training, feeding behaviors, interventions, and communication. NH staff report no formal dementia feeding skills training, but did report training for dealing with aggressive behavior during other daily care activities (e.g., bathing). Transferring this training to feeding behaviors, NH staff reported their most frequent intervention is to walk away. Mealtime challenges included feeding behaviors, including behaviors perceived as aggressive. Implications of this emerging work include reframing feeding behaviors as communication, and training staff to respond appropriately to these behaviors to promote meal intake.

THE USE OF MUSICAL CUEING TO FACILITATE AND IMPROVE CARE PRACTICES IN NURSING HOMES

T. Yap¹, S. Kennerly², 1. *Duke University, School of Nursing, Durham, North Carolina*, 2. *East Carolina University, College of Nursing, Greenville, North Carolina*

This session will describe use of a musical cueing innovation to facilitate nursing staff in their implementation of care for nursing home (NH) residents observed. Staff perceptions of innovation characteristics and sustainability were collected via focus group interviews held in each of eight intervention NHs using a semi-structured interview protocol. Transcripts were analyzed using thematic content analysis, and summaries for each category were compared across groups. Responses to the musical cueing and the impact of this environmental stimulation on behaviors of staff and residents with dementia and overall nursing home culture demonstrated that cueing NH staff using music offers an environmentally friendly approach to prompting staff and resident interaction and improving care practices. Exemplars of how the innovation was tailored to fit individual NH needs, such as music choices and cueing times will be presented along with lessons learned about integrating and sustaining practice change.

SESSION 3185 (SYMPOSIUM)

GERONTECHNOLOGY ACROSS THE CONTINUUM: FROM INDEPENDENT TO ASSISTED LIVING

Co-Chair: C.R. Bolkan, *Washington State University, Oregon*

R. Fritz, *Washington State University, Vancouver, Washington*

Discussant: K.A. Hooker, *Oregon State University*

The dramatic growth in the world's older population will have a significant effect on healthcare, social services, communities, and families; it will require innovative interdisciplinary solutions. The emergence of gerontechnology may address many aging-related challenges in the continuum of care for older adults. Telehealth, combined with patient education, engages independent community-dwelling chronically ill older adults in their own care. Health-assistive smart homes assist independent and assisted-living older adults with safety and health via ambient motion sensors and machine learning algorithms that may identify and predict health events, as well as provide timely alerts to facilitate earlier interventions. Mindful implementation and evaluation of the efficacy of gerontechnologies will be needed as more technological solutions become available and are employed. A focus on personhood and an emphasis on patient-centered care will help ensure safe and ethical use of technology, which is designed by digital natives for use by a non-digital native older adult population. In this symposium, we will present research findings from four distinct studies that describe: (a) the implementation and evaluation of smart home sensors or telehealth technology for remote patient monitoring in community and institutional settings and (b) the challenges to adoption of such technologies among older adults. We will also discuss the need for health care and human service professionals to be cognizant of technological resources in order to increase adoption and implementation. Gerontechnology may improve quality of life among older adults, increase their ability to age-in-place, and decrease health care costs while maintaining function and dignity.

HEALTH-ASSISTIVE SMART HOMES WITH A CLINICIAN-IN-THE-LOOP

R. Fritz², M. Schmitter-Edgecombe¹, A. Crandall¹, D. Cook¹,
1. *Washington State University, Pullman, Washington*, 2.
Washington State University, Vancouver, Washington

Smart homes using ambient sensor monitoring and activity-aware algorithms designed to assist older adults with maintaining health and extending their independence are under development. In this ongoing 5-year pilot study, we deploy five smart homes each year to independent older adults with chronic illness and add a nurse-clinician to the motion sensor, data collection, and machine learning algorithm loop. A nurse conducts a complete medical record review, weekly telehealth assessments, and monthly in-home health assessments and compares health information alongside raw sensor data as well as data tagged by machine learning algorithms with higher-level information including resident activity. Data patterns are evaluated for their relationship to known or discovered changes in health. Findings are reported to a team of software engineers who specialize in machine learning and who train the algorithms to identify

changes in health status. Formative findings reveal algorithms may accurately detect changes in health status.

CHANGES IN ACTIVITY PATTERNS AND HEALTH OF OLDER ADULTS CAPTURED WITH IN-HOME SENSOR NETWORKS

M. Yefimova¹, D. Woods², J.C. Mentis¹, M. Rantz³, 1.
UCLA School of Nursing, Los Angeles, California, 2. *Azusa Pacific University School of Nursing, Azusa, California*, 3.
University of Missouri, Columbia, Missouri

Remote monitoring technology may enable proactive care by alerting health providers to early signs of health decline in frail older adults with multiple chronic conditions. Devices embedded in the living environment may identify prodromal symptoms based on deviations from in-home activity patterns that comprise an individual's daily routine. A retrospective multiple case study used secondary data from TigerPlace, a retirement facility that evaluates health technology. Ten participants lived in apartments equipped with networks of unobtrusive motion and bed sensors. Thirty months of continuous sensor data were analyzed in the context of clinical notes in the electronic health record. Individuals' routine activity patterns were affected by temporal and environmental factors. Adjusted for personalized baselines, changes in time spent in various apartment areas were associated with geriatric syndromes. These preliminary insights may guide further development of in-home health monitoring to support clinical decisions about timely and effective care for frail older adults.

TECHNOLOGY TO SUPPORT AGING IN PLACE: A COMMUNITY-BASED PILOT PROJECT

C.R. Bolkan, E. Kim, R.C. Hoeksel, *Washington State University, Vancouver, Washington*

Low-income older adults in poor health often require intensive in-home services and are at greater risk of morbidity and mortality. We evaluated a pilot educational program implemented by a community-based organization (Area Agency on Aging/AAA) in partnership with local clinics/hospitals. Program aims were to reduce hospital readmissions, enhance chronic illness self-management among high-risk clients, maintain aging-in-place, and improve quality of care. Fifty participants aged 60+, diagnosed with heart failure, enrolled in a Care Coordination program with AAA, and living in the community each received a Bluetooth-enabled smart scale, blood pressure cuff, electronic journal, and medication management system for six months. Daily health monitoring data were accessible to participants and their Care Coordinators in an effort to prevent health status declines. Initial results underscored challenges in implementation (e.g., partnering with health care clinics and specialty providers; training staff), but also highlighted improvements in client care and health outcomes.

PROVIDER KNOWLEDGE REGARDING ASSISTIVE TECHNOLOGIES THAT SUPPORT OLDER ADULTS' INDEPENDENCE

C.R. Van Son¹, A. Weakley², M. Schmitter-Edgecombe²,
J. Tam², 1. *Washington State University, Vancouver, Washington*, 2. *Washington State University, Pullman, Washington*

Aging Services Technologies (ASTs) can assist older adults to maintain their highest level of functioning in the least restrictive environment. However, the adoption of ASTs is poor among older adults. Healthcare providers are a trusted resource for health education and must be aware of and recommend available ASTs for their patients. Sixty-five healthcare providers completed an AST related questionnaire to assess their knowledge about ASTs. More than 60% reported that they have clients who need additional assistance with instrumental activities of daily living and at least 78% reported their clients would benefit from ASTs. However, 42% of the providers had little to no familiarity with ASTs. Only 37% were able to correctly identify up to six AST items from a 12-item visual identification tool. Additional results from this assessment demonstrates the need for interventions that promote provider knowledge of ASTs to facilitate maximum function and safety in older adults.

SESSION 3190 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: AGE-FRIENDLY ENVIRONMENTS: CRITICAL DISCUSSIONS ON PRESENT PRACTICES AND FUTURE PATHWAYS

Chair: T. Moulaert, *iUT 2 Université de Grenoble Alpes, Ramillies, Belgium*

Discussant: C. Phillipson, *The University of Manchester*

Age-Friendly Cities and Communities (AFCC) and Age-Friendly Environments (AFE) initiatives and practices offer significant potential for improving social inclusion, health and wellbeing of older people worldwide. With the support of the World Health Organization, they present an experimental landscape for municipalities to adapt physical and social environments and a platform for researchers to discuss age friendliness.

A. Scharlach presents the complexities and controversies regarding the concept of age friendliness and its implications, including potential benefits and limitations of an emphasis on individual health and functional ability, as embodied in WHO's 2015 World Report on Ageing and Health as opposed to social inclusion and community well-being.

AFCC and AFE initiatives have expanded worldwide. However, little is known about their effects, their embeddedness in existing policies and their sustainability, or how best to adapt to local needs. Meeting these challenges, S. Garon and colleagues present data from Quebec and use three theories of evaluation (experimental, logic model, participatory) adapted to distinct variable contexts. At a global level, A. Ross similarly exposes the need to critically consider such contexts as a key factor in adapting a global WHO monitoring framework and core indicators to measuring age-friendliness of places. With a focus on dementia, S. Biggs and I. Haapala offer a complementary view on the competing narratives at stake within age friendliness in Australia.

In conclusion, T. Moulaert uses comparative material from Quebec, France and Belgium to advocate for the need for theory to understand local mediations and how they are embedded in shared values, language and interests.

AGE FRIENDLINESS: A CRITICAL ANALYSIS OF ITS HISTORY AND FUTURE

A.E. Scharlach, *University of California at Berkeley, Berkeley, California*

This paper addresses complexities and controversies regarding the concept of age friendliness, and its implications for creating age-friendly environments. The presentation begins by examining current perspectives on age friendliness, and their conceptual and empirical underpinnings. It then reviews a brief history of age-friendly approaches, from segregated communities to age-integrated environments to social inclusion, accompanied by a critical examination of existing evidence regarding three types of systemic approaches for helping cities and communities become more age-friendly. The presentation concludes with an analysis of unresolved issues concerning age friendliness, including the potential benefits and limitations of an emphasis on individual health and functional ability, as embodied in WHO's 2015 *World Report on Ageing and Health*, as opposed to social inclusion and overall community well-being, as reflected in social developmental perspectives on social capital formation.

THEORIES OF EVALUATION AND THE MEANING OF A SUCCESSFUL AFCC PROGRAM

S. Garon^{1,2}, A. Veil¹, M. Paris¹, S. Vallette¹, 1. *École de travail social, Université de Sherbrooke, Sherbrooke, Quebec, Canada*, 2. *Research Centre on Aging, Sherbrooke, Quebec, Canada*

This presentation aims to describe the experience of the Age-Friendly Cities and Communities in Quebec, Canada (AFCC-QC), in order to contribute to knowledge building related to the evaluation process and to reflect on the pattern of evidence of what could mean a successful AFCC program regarding to different contexts. AFC-QC started with 7 pilot projects in 2008 and is now in implementation in 766 municipalities in 2016. It's based on a mixed methods design, which provides an important body of data. This experience raises the question of how do we evaluate an AFCC program? There are more than a dozen of affiliated programs in the WHO Global Network of Age Friendly Cities and Communities (GNAFCC). Each of them takes place in different contexts. The theory of evaluation states explicitly the importance of these contexts. Through the lens of three different types of evaluation models (experimental, logic model, participatory), we'll discuss how these models can or cannot address the different realities of AFCC.

THE SECRET OF SUCCESSFUL AGE-FRIENDLY CITIES AND COMMUNITIES: MEASUREMENT

A. Ross, *Centre for Health Development, World Health Organization, Kobe, Hyogo, Japan*

Key to garnering political and financial support for programmes to achieve age friendly cities and communities is the availability of information on the impact and cost of various interventions, access, and population inequities. The WHO Centre for Health Development (Kobe) researched, developed, tested and disseminated a Monitoring Framework and

Core Set of Indicators for cities and communities to monitor and measure their “age friendliness”. Evidence enables cities to set targets and policy, and to enhance collaboration between governments, researchers, non-profits, and other members of communities concerned about our health and well-being as we age.

The Framework and indicators are grouped into physical environment, the social environment, impact and equity. They were robustly tested in 15 cities worldwide, and are designed to be tailored to local conditions. We will discuss the indicators, examples of metrics, and the empirical results from a number of cities that have used the Guide.

COMPETING NARRATIVES ON DEMENTIA FRIENDLINESS: THE AUSTRALIAN CASE STUDY

S. Biggs^{1,2}, I. Haapala¹, 1. *University of Melbourne, Melbourne, Victoria, Australia*, 2. *The Brotherhood of St Laurence, Melbourne, Victoria, Australia*

The growing numbers of people living with dementia and a progressive trend toward age friendliness in urban neighborhoods raises the issue of how dementia is perceived in the public domain. This paper critically addresses competing narratives on dementia arising from professions and from the growing voices of consumers and dementia activists in Australia. The interconnection between narratives, public perceptions and public interventions will, it is argued have implications for policy, the co-creation of community and future conceptions of citizenship. Empirical material from Australia consequently addresses global discussion and potential relation between dementia / age friendliness.

UNLOCKING THE BLACK BOX OF AGE-FRIENDLY CITIES AND COMMUNITIES: CONTEXTUALISATION AND MEDIATION

S. Garon^{2,3}, T. Moulart¹, 1. *PACTE, iUT 2 Université de Grenoble Alpes, Ramillies, Belgium*, 2. *École de Travail Social, Université de Sherbrooke, Sherbrooke, Quebec, Canada*, 3. *Research Centre on Aging, Sherbrooke, Quebec, Canada*

Age-Friendly Cities and Communities (AFCC) practices have emerged as an appealing field for experimentations, local initiatives, and they, sometimes, received the support of social research. Today, there is a need to critically discuss their development in different parts of the world and to support more theoretical perspectives.

The *Programme d'Etude Internationale sur le Vieillessement* (PEIV) led by REIACTIS (www.reiactis.com) in 2013–2016 offers empirical observations and interviews with stakeholders from AFCC in France (N=18) and Quebec (N=29); furthermore, we observe the long-term evolution of a Walloon program on AFCC in Belgium since 2002, where we are now leading a pilot project in 6 municipalities offering stronger methodological directions.

Inspired by critical gerontology and sociology of public policies, we theoretically propose to insist on the variety of contexts and mediations between local stakeholders, including researchers, when present, to better understand how practices are deeply embedded in shared values, language and interests.

SESSION 3195 (SYMPOSIUM)

ACTIVE AGING IN ASIA: COMMUNITY CARE POLICIES AND PROGRAMS IN HONG KONG, JAPAN, KOREA, AND SINGAPORE

Chair: K.L. Braun, *University of Hawaii at Manoa, Honolulu, Hawaii*

Discussant: C. Conybeare, *University of Hawaii West Oahu, Kapolei, Hawaii*

Counties across Asia are experiencing rapid growth of the number and percent of older adults in their societies. Although several countries have looked at paying for nursing home care, Hong Kong, Japan, Korea, and Singapore have realized the creating home and community-based services will maximize independence and minimize costs. The purpose of this symposium is to share practices and policies from these four countries as they develop and test policies and programs that favor home and community services over nursing home care. Presenters are country representatives of ACAP (Active Aging Consortium Asia Pacific) who work within their countries to educate and facilitate change. The moderator (Braun, USA) will provide a brief overview of the trends that have led to rapid aging in Asia and describe ACAP's individual-family-community-social policy framework. Dr. Han (South Korea) will describe South Korea's efforts to build an active aging society, with specific examples from Busan city, as well as the national policy level. Dr. Ogawa (Japan) will introduce several initiatives from Fukuoka Prefecture, including Fukuoka City's “active aging” plan and efforts of the Asia Aging Business Center to promote a community-based comprehensive care system. Ms. Kay (Singapore) will discuss community-based initiatives in Singapore to support older adults in an inclusive “nation for all ages.” Ms. Tsien (Hong Kong) will describe Hong Kong's community-based work with older adults and policy makers to improve the age-friendliness of selected neighborhoods. Dr. Conybeare will discuss the similarities and differences in country approaches.

COMMUNITY MODEL OF CARE AND SERVICES IN SINGAPORE: A NATION FOR ALL AGES

T. Kay, *Consultant, Singapore, Singapore*

In rapidly ageing Singapore, 1 in 4 Singaporeans will be over 65 by 2030. Efforts are being taken to build an inclusive “Nation for All Ages”, and several initiatives are underway to enable older persons to age-in-place and within the community. For example, Singapore is developing age-friendly “communities of care” through integrated health and social services, home services and home visitations. Continued participation is being facilitated through senior activity centres, community clubs, senior volunteerism, lifelong learning, community kitchens, and multigenerational activities. Age-friendly environments are also fostered, especially in housing, public spaces and transport services. Innovative community-based programmes are being implemented, such as care integration in a “community model of care”, community rehabilitation (for recovery and re-ablement), dementia-friendly communities and

the Singapore Programme for Integrated Care for the Elderly (SPICE). Singapore's "Smart Nation" initiative will also leverage technology to enable older people to age actively and productively.

INTEGRATED COMMUNITY CARE IN FUKUOKA: A PARADIGM SHIFT FOR A HYPER-AGED SOCIETY

T. Ogawa, 1. *Fukuoka Asian Urban Research Center, Fukuoka, Japan*, 2. *(NPO) Asian Aging Business Center, Fukuoka, Japan*

In Japan, the demographic transition of rapid aging is considered a hindrance to economic growth. Neither public nor private sector will be able to survive using "business as usual" models in the coming future. Therefore, every sector must modify its planning framework, from forecasting to backcasting and from division of labor to collaboration. The Japanese government is now engaged in planning process to expected futures for 2025 and 2035, and working backwards to see how to best intervene to keep people healthy and independent in old age. An integrated community care system is being developed to reduce costs associated with long-term care, which has been institution based. More, less expensive options of paraprofessional and family care are being developed. Within this framework, the specific work of Fukuoka-city to enhance health and social programs as an Advancing Healthy City will be shared.

BEST PRACTICES OF ACTIVE AGING AS A COMMUNITY MODEL IN KOREA

D. Han, *Research Institute of Science for the Better Living of the Elderly, Busan, Korea (the Republic of)*

South Korea is rapidly aging society. The proportion of adults age 65+ in Korea will be 40% by 2060. To find best practices for community-based active aging in Korea, data were collected from older adults and providers affiliated with welfare centers for the elderly in Yangsan and Busan. Data on values, needs, and preferences for senior services were gathered. The result suggest the importance of the concept of "active aging" among elders and providers. Older persons overwhelmingly saw value in being active, staying healthy, and engaging in positive social participation in their older years. Program providers felt maintaining respected social roles and participation were important for older adults. The findings underscore the need for more community-based services to increase access to exercise, work opportunities, volunteer opportunities, digital literacy, health literacy, and intergenerational exchange. In Korea, community-based welfare centers for the elderly are important platforms to spread active aging.

BUILDING AN AGE-FRIENDLY HONG KONG: A BOTTOMS-UP APPROACH

T.B. Tsien, *Hong Kong Polytechnic University, Hong Kong, Hong Kong*

As many countries in Asia, Hong Kong is rapidly ageing. The Institute of Active Ageing of the Hong Kong Polytechnic University has implemented research, funded by the Hong Kong Jockey Club Charities Trust, to assess

the current age-friendliness in two districts with high proportions of older adults and to identify appropriate action. The research has shed light on three priority directions for action, namely building Hong Kong into a friendly city for people of different ages; encouraging the elderly to participate in community activities; and promoting social inclusion. Moving forward, the project team will work closely with District Councils, mass media, and community partners to develop three-year action plans with indicators to monitor progress. This paper will discuss the experience of this bottom-up and district-based approach and why it proves to be an effective way of building an age-friendly city and ensuring a long-lasting and sustainable impact on local communities.

SESSION 3200 (SYMPOSIUM)

REALISING THE POTENTIAL OF ACTIVE AGEING IN EUROPE

Chair: A.C. Walker, *University of Sheffield*

Discussant: J. Beard, *World Health Organization*

This symposium reports the findings of the most comprehensive scientific investigation of the challenges presented by population ageing undertaken so far in Europe. The MOPACT (Mobilising the Potential of Active Ageing in Europe) was a four year multi-disciplinary collaboration involving 13 countries, which concluded in early 2017. Its objectives were to conduct systematic reviews of the social and economic challenges of ageing, generate new knowledge on key policy-related dimensions such as late working lives and healthy ageing, collect and analyse social innovations and policy initiatives and map the steps required to realise active ageing. As well as investigating the most important social and economic aspects of ageing, from pension system sustainability to social cohesion, MOPACT also included research on the built and technological environments and biogerontology. The major objectives of the symposium are to report findings from specific parts of this comprehensive project, namely new evidence on extending working lives and the challenge of increasing healthy life expectancy, and to provide a picture of the policy regimes that are associated with different degrees and forms of active ageing. In addition there is an overview of the MOPACT project and the strategy it adopted to enhance the policy relevance of its research. Symposium participants will encounter clear and concise summaries of the key findings from this unique project and take away fresh ideas about the promotion of active ageing in policy and practice.

THE MOPACT PROJECT

A.C. Walker, *Sociological Studies, University of Sheffield, Sheffield, United Kingdom*

This paper will provide an overview of the MOPACT project. Specifically it will outline the mission and objectives of the project and the strategies it developed to link scientific research to real world policy questions and, then, to ensure that the research findings were as policy

relevant as possible. It will explain too why the active ageing concept was central to the project. This overview will be followed by a summary of the key findings not covered by other papers in the symposium. The main topics covered are national variations in the achievement of active ageing, the projected increase in the numbers of people aged 80+ living alone, measures required to improve pension system sustainability, the potential of biogerontology to increase healthy life expectancy, the barriers to take-up of ICT products, the need to transform long term care and the political gerontocracy question.

REALISING ACTIVE AGEING IN EUROPE

A. Zaidi^{1,2}, A.C. Walker³, 1. Ageing/ Gerontology, University of Southampton, Southampton, United Kingdom, 2. London School of Economics and Political Science, London, United Kingdom, 3. University of Sheffield, Sheffield, United Kingdom

The potential of older people to contribute to societal progress is now widely accepted. The active ageing paradigm has encouraged policymakers to generate additional opportunities for older people, to be successful in their active and healthy experiences of ageing. The MOPACT project operationalised the concept of active ageing to generate evidence highlighting the optimistic view on ageing, taking the Active Ageing Index “AAI” as its starting point. This paper will report the results of this work, with a particular focus on identifying contexts and strategies across European countries that stimulate and sustain the activity, health, independence, and security of people of all ages. It combines the AAI evidence with the findings of rigorous scientific reviews undertaken across MOPACT WPs to develop an understanding about the active ageing regimes. It highlights key strategies required in promoting active and healthy ageing in different institutional and cultural contexts of the European countries.

SOCIAL PARTICIPATION AND HEALTHY LIFE EXPECTANCY OF OLDER PEOPLE IN POOR HEALTH: A SENARIO ANALYSIS

D.J. Deeg¹, B.C. Smid², B. Wouterse², 1. VU University Medical Center/Dept. of Epidemiology & Biostatistics, Amsterdam, Netherlands, 2. CPB Netherlands Bureau for Economic Policy Analysis, The Hague, Netherlands

The European Union has formulated an increase in healthy life expectancy (HLE) by two years as one of the Horizon 2020 goals. Given the increasing prevalence of multimorbidity, it is important to limit the disabling effect of chronic diseases, and thus increase disability-free life expectancy. This MOPACT-study considers the promotion of social participation among older individuals with multimorbidity as one of the tools to do so. Three scenarios that foster social engagement in older people with multimorbidity are generated, and the effects of these scenarios on HLE are assessed for sixteen European countries. We found only very modest effects on HLE. Our most realistic scenario results in improvements in HLE between 0 and 0.1 years. We conclude that substantial increases in HLE cannot be expected to come from a single

intervention alone but will have to be the result of combined efforts on several fronts.

LONGER WORKING LIVES IN EUROPE: THE WIDENING GAP BETWEEN FINANCIAL INCENTIVES AND ENABLING STRATEGIES

G. Naegele, J. Bauknecht, *Institute of Gerontology at TU Dortmund University, Dortmund, Germany*

Based on MoPAct research, this paper provides an overview and discussion of European macro and meso level measures aimed at higher older worker labor supply and later labor market exit. On the macro level, political reforms in the fields of pensions, unemployment and disability were implemented similarly in Western Europe and Central and Eastern Europe (CEE) with merely marginal differences despite significant lower employability (especially health-wise) in CEE. In contrast, on the meso level pro-employability measures on the level of employers and social partners are far more innovative and widespread in Western Europe. Against this background, the gap between financial incentives for older people to extend working lives and insufficient pro-employability measures will exist in Western Europe only to some extend, yet be far more widespread in CEE. In combination with the adverse initial situation this will exacerbate the existing problem of work despite low employability/bad health especially in CEE.

SESSION 3205 (SYMPOSIUM)

GSA M. POWELL LAWTON AWARD LECTURE: USING SCIENCE AS EVIDENCE TO INFORM PRACTICES AND POLICIES—EXAMPLES FROM NUTRITION AND AGING

Chair: J.L. Locher, *University of Alabama at Birmingham, Birmingham, Alabama*

As a scholar committed to the goal of translating scientific evidence into real world applications designed to improve the lives of older persons, M. Powell Lawton confronted multiple challenges along the way to fully realizing his goal. The challenges he encountered in making seminal contributions to gerontological treatment, service, and policy include those related to the methods, validity, and scope of research that are not unique to either the environmental and aging studies in which he was a pioneer or the twentieth century in which he lived. In fact, one might speculate that within the past decade: 1) the greater role of the media in the communication of science to the public, 2) the increased politicization of science (especially as it relates to nutrition), and 3) the decreased resources available for aging services may have amplified those challenges. This talk will address challenges and opportunities related to applied gerontological research with examples used from the field of nutrition and aging. Two themes will be emphasized: 1) In the absence of scientific evidence, why are unproven practices and policies adopted and maintained? And 2) In the

presence of scientific evidence, why are decision makers unwilling to implement the results of science that could benefit the lives of older adults?

SESSION 3210 (SYMPOSIUM)

ACHIEVING 21ST CENTURY FUNCTIONAL ABILITY THROUGH MORE EFFECTIVE ELDER CAREGIVING

Chair: M. Hodin, *Global Coalition on Aging, New York, New York*

Discussant: J. Beard, *Ageing and Life Course Department, World Health Organization, Geneva, Switzerland*

The 2015 World Health Organization World Report on Ageing and Health defined Healthy Ageing as “the process of developing and maintaining the functional ability that enables well-being in older age.” This new public health guideline focused on functional ability serves as a call-to-action aligned with 21st century longer lives, and it requires an innovative view of wellness and prevention, in addition to more effective treatment paradigms, as core focus areas of health.

The symposium will present the public policy and business imperatives of making functional ability a priority in public health.

The focus on better elder caregiving aims to reveal unique opportunities to reduce hospital visits, limit re-hospitalization and address the impact of healthy aging on family and friends’ mental and physical health. The symposium will identify opportunities to improve caregiving practices that pursue a more active aging, thereby adding quality to longer lives. It will further identify key areas for further investigation and research on elder caregiving that goes beyond disease treatment, focuses on prevention and wellness, and therefore leads to more effective elder caregiving.

THE ROLE OF FUNCTIONAL ABILITY IN HEALTHY AGING

J. Beard, *Ageing and Life Course Department, World Health Organization, Geneva, Switzerland*

John will describe the concept of functional ability and why WHO has made it a centerpiece of its Ageing and Health Strategy.

THE EMERGENCE OF THE CARING ECONOMY AND NEW MODELS OF CARE

P. Hogan, *Home Instead Senior Care, Omaha, Nebraska*

Paul will discuss the burden of care in the context of growing and specialized needs for Alzheimer’s care and the emerging and disproportionate toll on women.

IMPORTANCE OF HEALTH AND WELLNESS IN FINANCIAL PLANNING AS WE AGE

S. Kolluri, *Policy and Market Planning Global Wealth and Retirement Solutions Bank of America Merrill Lynch, New York City, New York*

Surya will focus on the latest research showing the importance of staying healthy and not becoming a burden on families and how those priorities relate to financial planning.

INNOVATIVE TOOLS FOR MORE EFFECTIVE CARE: REMOTE PATIENT MONITORING

D. Ryan, *Health & Life Sciences Sector, Internet of Things Group Intel Corporation, San Francisco, California*

Dave will introduce the role of technology, and specifically proof points from RPM, as a valuable tool for monitoring health and wellness and providing more efficient and effective care.

SESSION 3215 (SYMPOSIUM)

EARLY CAREER SCIENTIST OPPORTUNITIES—U.S. NATIONAL INSTITUTE ON AGING, NIH

Chair: M.A. Bernard, *NIA NIH, Maryland*

Co-Chair: R.J. Hodes, *National Institutes of Health*

Discussant: R.A. Barr, *National Institute on Aging*

The U.S. National Institute on Aging (NIA) at the National Institutes of Health, Department of Health and Human Services, supports biomedical and behavioral research with a life-span focus. There is attention to understanding basic processes of aging, improving prevention and treatment of diseases and conditions common in later years, and improving the health of older persons. It is the federally designated lead in research on Alzheimer’s disease. The NIA also supports the training and career development of scientists focusing on aging research and the development of research resources. The symposium, meant for junior faculty and emerging scholars, will provide an update on the latest research findings from the NIA followed by a brief update on funding mechanisms available to U.S. citizens and foreign nationals. An opportunity is provided to meet and consult with NIA extramural staff.

OVERVIEW OF NIA RESEARCH

M.A. Bernard, *NIA NIH, Bethesda, Maryland*

Dr. Richard Hodes, Director of NIA, will provide an overview of research supported by the Institute, including basic biology, neuroscience, behavioral and social science, and geriatrics and clinical gerontology. Particular emphasis will be placed on studies with international reach.

FUNDING OPPORTUNITIES AND MECHANISMS AT NIA

M.A. Bernard, *NIA NIH, Bethesda, Maryland*

Dr. Robin Barr, Director of the Division of Extramural Activities at NIA, will review funding mechanisms that are appropriate for early career researchers. Emphasis will be placed on steps to obtaining a first R01, and opportunities that may be appropriate for international researchers.

SESSION 3220 (SYMPOSIUM)

HOW YOUNG AND FULL ADULT LIFESPAN COHORTS CONTRIBUTE TO OUR UNDERSTANDING OF LATE-LIFE FUNCTION

Chair: M.C. Morey, *VAMC and Duke Medical Centers, Durham, North Carolina*

Discussant: H.J. Cohen, *Duke University*

Physical function in the context of older populations has been well studied. Much of what is known about late-life function has been derived from studies that are often comprised exclusively of older adults. There is a paucity of studies that have common measures directly assessing physical performance across a full life span. Such studies present a unique opportunity to examine trajectories of successful or premature aging and identify characteristics associated with each. Furthermore, recent research has elucidated the influence of early childhood characteristics associated with accelerated aging.

This symposium brings together unique cohorts that inform our understanding of late life health and function as a consequence of early and mid-life experiences. The first paper will examine functional outcomes based on trajectories of sedentary behaviors across cohorts representing decades of life from ages 30 and above. The second paper will examine, in a birth cohort followed to mid-life, characteristics stemming from early childhood adversity that are associated with mid-life accelerated biological aging. The third paper will discuss the development and impact to two novel indices, derived from markers of inflammation and metabolism, representing “robustness” and “burden” and how they relate to physical performance. The fourth paper will examine and model latent group grip strength trajectories from early to mid-adulthood, and their predictors, using data from the Fels Longitudinal Study. We conclude with findings from the Helsinki Businessmen Study that will discuss how differences in midlife physical fitness affect the association between midlife cardiovascular risk factors and physical functioning in old age.

EXPLORING THE LINK BETWEEN SEDENTARY BEHAVIOR AND DIMINISHED FUNCTIONAL HEALTH OUTCOMES IN ADULTHOOD

K.S. Hall, *Medicine-Geriatrics, Veterans Affairs/Duke University Medical Centers, Durham, North Carolina*

Sedentary behavior (SB) in the absence of physical activity is expected to exert a deleterious effect on functional health outcomes. We examined age-related trends, by decade, in SB and explored whether SB was inversely associated with functional health across adulthood. Analyses included nearly 800 adults (aged 30–90+ years at baseline) in the MURDOCK health study. SB was measured objectively with an accelerometer. Functional health was measured using a series of physical performance tests and biochemical markers. SB was relatively high across the range of age cohorts, showing a steady increase with increasing age, particularly in the 6th & 7th decades of life. Significant sex differences were observed for SB, with women, in general,

recording more sedentary time. Time spent in sedentary activities was strongly associated with diminished physical function and pronounced metabolic and inflammatory dysfunction. Findings suggest that reducing SB may help preserve functional independence and physiologic regulation with aging.

IMPACT OF EARLY PERSONAL HISTORY CHARACTERISTICS ON THE PACE OF AGING

D.W. Belsky, *Medicine, Duke University School of Medicine, Durham, North Carolina*

Aging is a lifelong process. Theory predicts that early-life adversity will accelerate biological processes of aging, leading to early-onset disease and frailty. Supporting evidence comes from studies of older adults that retrospectively assess histories of adversity and correlate them with current health status. We tested if early-adversity accelerated biological aging could be detected already during midlife, in time for preventive intervention to extend healthspan. We studied a 1972–3 birth cohort (N=954) followed prospectively through their 38th year of life, the Dunedin Study. We measured early adversity from records accumulated prospectively during Study members' childhoods. We measured biological aging from biomarker data using three published algorithms, Biological Age, Age-related Homeostatic Dysregulation, and Pace of Aging. Findings show that exposure to early adversity accelerates the rate of biological aging already by the middle of the life course. Implementing geroprotective therapies during midlife may prolong healthspan for individuals with histories of early adversity.

CREATING BIOMARKER BURDEN AND ROBUSTNESS INDICES FOR PHYSICAL PERFORMANCE IN OLDER ADULTS

X. Zuo^{1,2}, A. Luciano², C.F. Pieper², H.J. Cohen², 1. *Duke-NUS Medical School, Singapore, Singapore, Singapore*, 2. *Duke University Center for Study of Aging, Durham, North Carolina*

The human aging process is associated with decline in physical performance resulting from dysregulated inflammatory and metabolic systems; each has an effect on circulating serum markers of inflammation and metabolism. Biomarker burden and robustness indices were developed from twenty inflammatory and metabolic markers using a combination of three cross-sectional studies conducted in older adults. Each biomarker was individually correlated with gait speed, and all biomarkers underwent selection by step-wise regression on multiple bootstrap samples with respect to burden and robustness of physical performance. Twelve and eight biomarkers, respectively, were included in the indices that correlated with steady, step-wise change in outcome. The biomarker indices predict physical performance better than individual markers and are the first of such indices to link multiple inflammatory/metabolic markers with physical performance. The biomarkers included in the model have physiological and clinical implications on development of, or resilience to, physical performance decline in the older adults.

GRIP STRENGTH TRAJECTORIES FROM EARLY ADULTHOOD THROUGH MIDLIFE: THE FELS LONGITUDINAL STUDY

M. Peterson, *Wright State University, Kettering, Ohio*

Grip strength is a measure of overall strength that predicts adverse outcomes in old age. Grip strength trajectories throughout adulthood and their predictors are not well understood. We modeled growth trajectories of grip strength from Fels participants aged 18–60. Data from 403 participants (55% female) aged 29.4±6.6 years with subsequent visits through age sixty were included. We modeled latent grip strength groups, with predictors including demographic, health, behavioral, and biomarker variables. Multiple, differing trajectory groups were observed in men and women. In initial models, 16% and 12% of men and women, respectively, had persistent poor grip strength throughout adulthood. A high grip strength group was identified in men and women that peaked in the sixth decade and associated with higher BMI in women and non-smoking in men. Group grip strength trajectories were evident, and membership predictors differed between sexes. Additional biomarker and health predictor group membership models will be discussed.

MIDLIFE CARDIOVASCULAR RISK FACTORS AND PHYSICAL FUNCTIONING TRAJECTORIES IN OLD AGE

M. von Bonsdorff¹, T. Törmäkangas¹, S. Stenholm², K. Pitkälä³, T. Strandberg³, 1. *Jyväskylän Yliopisto, Jyväskylä, Finland*, 2. *University of Turku, Turku, Finland*, 3. *University of Helsinki Department of General Practice and Primary Health Care and Helsinki University Hospital, Helsinki, Finland*

We investigated whether there are differences according to midlife physical fitness for the long-term association between cardiovascular disease (CVD) risk factors and physical functioning in old age. We studied Caucasian men born in 1919–1934 in the Helsinki Businessmen Study (HBS initial n=3490). Data on CVD risk factors (body mass index [BMI]), 1-hour glucose tolerance test and total cholesterol) and self-reported physical fitness (good vs. average or poor) were assessed in 1974. 26 years later in old age physical functioning was assessed using the Short Form SF-36 survey. Among men who had good midlife physical fitness, lower BMI, glucose and cholesterol were associated with better physical functioning. Among men who reported average or poor physical fitness, only lower BMI was associated with better physical functioning. Among businessmen, a more favorable CVD risk profile was associated with better physical functioning in old age particularly among those who felt physically fit in midlife.

SESSION 3225 (SYMPOSIUM)

TRANSLATING KNOWLEDGE ABOUT DEPRESCRIBING INTO PRACTICE TO OPTIMIZE MEDICATION USE IN OLDER ADULTS

Chair: E. Reeve, *University of Sydney, Sydney, New South Wales, Australia*

Co-Chair: J.P. Turner, *University de Montreal, Montreal, Quebec, Canada*

Medications play a significant role in the management of chronic medical conditions in older adults. Polypharmacy (concurrent use of multiple medications) can be appropriate and highly beneficial to the individual. The decision to initiate a medication involves determining the necessity of the medication, then weighing up the potential benefits and potential risks of the medication for the individual. However, the necessity, benefits and risks of medication use in an individual may change with time and the ageing process. Therefore, to achieve quality use of medications in older adults “deprescribing” may be required.

Deprescribing is the process of withdrawal (or dose reduction) of medications that are no longer necessary, are high risk, or do not fit with the preferences and treatment goals of the individual (inappropriate medications). Evidence internationally shows that approximately half of all older adults are taking a medication which is potentially inappropriate and, therefore, deprescribing is not occurring in practice as often as it should be.

Research is being conducted internationally to highlight the prevalence and associated harms of inappropriate medication use as well as determining the potential benefits and harms of deprescribing. It is imperative that knowledge gained from this research is translated into practice. We have a worldwide ageing population and use of medications in this population is unavoidable. This symposium will present international research and knowledge translation activities that are leading the way to a clinical practice where medications are prescribed and deprescribed judiciously.

BARRIERS AND FACILITATORS TO DEPRESCRIBING IN PRACTICE

J.P. Turner^{1,2}, S. Edwards³, M. Stanners⁴, S. Shakib^{5,6}, J. Bell², 1. *Institut universitaire de gériatrie de Montréal, University de Montreal, Montreal, Quebec, Canada*, 2. *Monash University, Melbourne, Victoria, Australia*, 3. *Drug and Therapeutics Information Service (DATIS), Adelaide, South Australia, Australia*, 4. *Torrens University, Adelaide, South Australia, Australia*, 5. *The University of Adelaide, Adelaide, South Australia, Australia*, 6. *Royal Adelaide Hospital, Adelaide, South Australia, Australia*

Identifying barriers and facilitators to deprescribing is a prerequisite for successful medication cessation. This study investigated barriers and facilitators to deprescribing in long-term care from the perspectives of patients, physicians, nurses, pharmacists and multidisciplinary teams.

Semi-directed focus groups were conducted using nominal group technique with 56 key informants working or residing in long-term care in South Australia. Nineteen physicians, 12 nurses, 11 pharmacists, and 11 patients discussed the barriers and facilitators to deprescribing that they perceive. Thematic content analysis and ranking was performed by each group to generate a prioritized list of barriers and facilitators.

Common themes were identified although priorities differed between focus groups. Barriers included evidence for deprescribing, poor communication, and fear of deterioration while ability to identify patient's goals of care was an enabler. Awareness of barriers and facilitators can inform future research and development of tools to assist clinicians to deprescribe.

SHARED DECISION MAKING AND PATIENT-CENTERED DEPREScribing

E. Reeve, 1. *University of Sydney, Sydney, New South Wales, Australia*, 2. *Dalhousie University, Halifax, Nova Scotia, Canada*

Older adult (or caregiver) resistance/refusal is often cited by prescribers as a barrier to deprescribing. Shared decision making is advocated not only because it is ethically appropriate, but also because it can prevent waste of resources and improve health outcomes. This session will present a portfolio of research into how older adults and caregivers feel about deprescribing and discuss strategies on how this knowledge can be translated into practice.

Research conducted using the Patients' Attitudes Towards Deprescribing (PATD) questionnaire in hospitals, aged care facilities and the community in Australia, Canada and Italy found that between 80 and 90% of older adults and caregivers of older adults are willing to have a medication deprescribed if their doctor said it was possible. Qualitative and quantitative studies have found common barriers and facilitators to deprescribing including patient belief in the appropriateness of the medication, the burden of medication taking and fear/concerns surrounding withdrawal.

INTEGRATION OF AN ELECTRONIC MEDICATION RISK ASSESSMENT TOOL INTO HOME MEDICINES REVIEWS

L. Kouladjian O'Donnell, D. Gnjjidic, T. Chen, S.N. Hilmer, *University of Sydney, St Leonards, New South Wales, Australia*

The Drug Burden Index (DBI) pharmacologically measures the cumulative effect of anticholinergic and sedative medications (ACh-Sed). Increasing DBI has been associated with poorer outcomes in older adults, including those with dementia. There is a need to highlight the risks of prescribing ACh-Sed in clinical practice.

This study assessed the feasibility and impact of integrating a DBI report generated by The DBI Calculator® (a reliable electronic clinical decision support tool), into the pharmacist-led Home Medicines Review service - an Australian government-funded medication review model in the primary care setting. Three-months after the intervention, the median DBI for patients (n=100) significantly decreased (p=0.014), and 36.4% of patients with DBI>0 (n=66) at baseline had a reduction in their DBI scores. This study demonstrates the feasibility of integrating The DBI Calculator® in practice to facilitate deprescribing of ACh-Sed in older adults.

DEVELOPMENT AND IMPLEMENTATION OF DEPREScribing GUIDELINES

B. Farrell^{1,2,3}, J. Conklin^{1,6}, L. Raman-Wilms⁴, L. McCarthy^{4,7}, K. Pottie^{1,2}, C. Rojas-Fernandez⁵, L. Bjerre^{1,2}, H. Irving¹, 1. *Bruyere Research Institute, Ottawa, Ontario, Canada*, 2. *University of Ottawa, Ottawa, Ontario, Canada*, 3. *University of Waterloo, Kitchener, Ontario, Canada*, 4. *University of Toronto, Toronto, Ontario, Canada*, 5. *McMaster University, Hamilton, Ontario, Canada*, 6. *Concordia University,*

Montreal, Quebec, Canada, 7. *Women's College Hospital, Toronto, Ontario, Canada*

Class-specific deprescribing guidelines are a potential solution to address polypharmacy. This study aimed to understand factors associated with successful deprescribing guideline implementation and whether self-efficacy for deprescribing was affected.

Deprescribing guidelines were developed using AGREE-II (Appraisal of Guidelines for Research and Evaluation), and GRADE (Grading of Recommendations Assessment, Development, and Evaluation) to rate certainty of evidence and recommendation strength. Decision-support algorithms were developed based on guideline content. Developmental evaluation was performed using ethnographic methods: observations and interviews with site implementation teams (three Family Health Teams and three Long-Term Care sites in Ottawa, Canada). Self-efficacy surveys were completed.

Three evidence-based deprescribing guidelines were developed (proton pump inhibitors, benzodiazepine receptor agonists and antipsychotics). Implementation was supported by incorporation of algorithms into pharmacist/physician medication reviews. Practice site priorities and processes shaped ability to incorporate recommendations; aligning guidelines with existing processes is critical for implementation. Self-efficacy increased among 9 consistent respondents across all guidelines.

ENABLING KNOWLEDGE TRANSLATION THROUGH THE CANADIAN DEPREScribing NETWORK

C. Tannenbaum¹, S. Morgan⁵, B. Farrell⁴, J. Trimble⁵, J. Currie⁵, J. Shaw⁶, J. Silvius^{2,3}, 1. *University de Montreal, Montreal, Quebec, Canada*, 2. *Alberta Health Services, Calgary, Alberta, Canada*, 3. *University of Calgary, Calgary, Alberta, Canada*, 4. *Bruyere Research Institute, Ottawa, Ontario, Canada*, 5. *University of British Columbia, Vancouver, British Columbia, Canada*, 6. *Women's College Hospital, Toronto, Ontario, Canada*

In Canada 66% of people aged ≥65 years take five or more medications per day, and 1-in-3 consumes a Beers List inappropriate prescription. The Canadian Deprescribing Network was launched in 2016 to mobilize older adults, clinicians, health care organizations and policy-makers to reduce inappropriate prescriptions by 50% over the next 3–5 years.

The questions “who needs to do what, when, and with whom?” and “how should we communicate our messages?” drive our knowledge translation strategy. Building on system and individual-level levers for increasing capability, opportunity, and motivation to deprescribe, we struck sub-committees and developed an action plan to influence and achieve buy-in from the different target audiences in a distributed leadership fashion. A Deprescribing Fair was set-up to showcase deprescribing tools and methods being used across Canada. Media attention, the launch of the deprescribing.org website, promoting deprescribing champions within organizations, and disseminating newsletters has led to collaborative engagement in deprescribing.

SESSION 3230 (SYMPOSIUM)

WHO CLINICAL GUIDELINES ON INTEGRATED CARE FOR OLDER PEOPLE

Chair: J. Barratt, *International Federation on Ageing, Toronto, Ontario, Canada*

Co-Chair: B. Vellas, *CHU Toulouse, Toulouse, France*

Discussant: J. Beard, *World Health Organization*

The added years of life being experienced so widely are one of the great achievements of the 20th Century. Ensuring they can be enjoyed in good health will be one of the biggest public health challenges of the first half of the 21st Century. It will require significant changes in the way health systems are designed, the way we deliver health care and long-term care.

In 2015 WHO released the first ever *World report on ageing and health* and the *Global Strategy and Implementation Plan on Ageing and Health* that was adopted by the 2016 World Health Assembly. Both reflect a new conceptual model for *Healthy Ageing* that is built around the functional ability and intrinsic capacity of older people, rather than the absence of disease. While both identify strategies that can be taken by countries, they also emphasise the stark knowledge gaps that are a major barrier to global action.

This Symposium brings together global experts in the area of muscle skeletal health, geriatrics and public health to discuss how the new WHO healthy ageing framework can be operationalized in clinical and primary health care settings.

CAPTURE THE FRACTURE: INTEGRATED CARE PREVENTS THE DECREASE IN INTRINSIC CAPACITY IN ELDERLY SUBJECTS

J. Reginster^{1,2}, C. Cooper^{1,3,4}, J. Kanis^{1,3}, M. Schneider⁶, E. McCloskey⁵, O. Bruyère^{1,2}, R. Rizzoli^{1,7}, 1. *ESCEO ASBL, Liège, Liège, Belgium*, 2. *Department of Public Health, Epidemiology and Health Economics, University of Liège, Liège, Belgium*, 3. *MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton, United Kingdom*, 4. *NIHR Musculoskeletal Biomedical Research Unit, University of Oxford, Oxford, United Kingdom*, 5. *Collaborating Centre for Metabolic Bone Diseases, University of Sheffield, Sheffield, United Kingdom*, 6. *International Osteoporosis and Other Skeletal Diseases Foundation, Nyon, Switzerland*, 7. *Service of Bone Diseases, Faculty of Medicine, Geneva, University Hospitals, Geneva, Switzerland*

Whereas osteoporosis is recognized, worldwide, as a major Public Health issue, with one in two women and one in five men over the age of 50 years presenting a fragility fracture, a vast proportion of women at high risk remain untreated (treatment gap). Case-finding strategies prioritizing assessment of women with prior fracture could identify 50% of potential hip fracture cases from 16% of the population. More than 80% of patients receive inadequate care after their fragility fracture. The International Osteoporosis Foundation (IOF) developed "Capture the Fracture[®]", a global programme for the prevention of secondary fractures by facilitating the implementation of Fracture Liaison Services (FLS). The project is based on 13 internationally endorsed standards to guide FLS, ensuring quality in secondary fracture prevention and providing support for FLS implementation, getting started and improving. 128 FLS

are now registered on the worldwide map, located in all WHO regions, with a range of fracture patients per year from 180 to 6200. When properly implemented, FLS was shown to be cost-effective. A best Practice Framework tool was developed in 9 different languages including 5 out of the 10 most spoken languages in the world to benchmark services internationally. FLS is expected to help closing the gap in osteoporosis treatment.

Capture the Fracture[®] name and logo are registered trademark of IOF.

INTERSECTIONS BETWEEN FRAILTY AND THE CONCEPT OF INTRINSIC CAPACITY

M. Cesari, 1. *Université de Toulouse III Paul Sabatier, Toulouse, France*, 2. *Centre Hospitalier Universitaire de Toulouse, Toulouse, France*

Global ageing is threatening the sustainability of health-care systems. Traditional medicine is facing major challenges in the attempt to address the novel needs presented by the older and more complex populations referring to clinical services.

Some years ago, the concept of frailty was developed in order to intercept the excessive vulnerability of the individual and propose adapted interventions and models of care. Frailty is today a condition of clinical interest well beyond the boundaries of geriatric and gerontological practice. Different disciplines and specialties are today getting familiar with this notion, perceiving it as the means for reshaping the obsolete approach to elders and age-related conditions. Nevertheless, heated debates are ongoing in the field and a gold standard definition for translating into practice the theoretical concept of frailty is currently missing.

In the recent World Report on Health and Ageing, the concept of intrinsic capacity was introduced and described. Intrinsic capacity was defined as the composite of all the physical and mental capacities that an individual can draw on. It is part of the functional ability (i.e., the health-related attributes that enable people to be and to do what they have reason to value), together with environmental characteristics and the interactions between the individual and these characteristics.

The framing of frailty and intrinsic capacity are very close, probably complementary. Frailty might be perceived as the age-related decline of physiological systems determining the reduction of intrinsic capacity, consequently leading to increased risk of negative health outcomes.

In this presentation, the theoretical foundations of frailty and intrinsic capacity will be presented. Potential issues to be considered in the practical translation of intrinsic capacity will also be discussed at the light of the experience coming from the history of frailty.

PREVENTING AND STOPPING DECLINES IN INTRINSIC CAPACITY: INTERVENTIONS AND CLINICAL RECOMMENDATIONS

I. Araujo de Carvalho¹, A. Jotheeswaran¹, J. Beard¹, M. Prince², 1. *Ageing and Life Course, World Health Organization, GENEVA, Switzerland*, 2. *Centre for Global Mental Health, London, United Kingdom*

WHO, with support from 30 experts in geriatric medicine, has initiated the development of evidence-based guidelines

on integrated care for older people (ICOPE). Targeted at non-specialist health professionals, they will guide home-based interventions for older people that can prevent, reverse or slow declines in intrinsic capacity.

The Guidelines covers issues such as malnutrition, mobility loss, urinary incontinence, falls, hearing and visual impairments, depression, and cognitive declines. Guidance will be given on how to ensure an integrated approach focusing on 'problems' that matter most for older people, rather than on specific diseases. This presentation will share the main findings and recommendations from the 10 Systematic Reviews undertook for the development of the WHO clinical guidelines, it will focus specifically on mental health, vision, hearing and nutrition, and the integrated service deliver model in which these interventions will be delivered.

DETERMINING THE ROLE OF SARCOPENIA IN THE DECLINE OF INTRINSIC CAPACITY IN ELDERLY SUBJECTS

E. McCloskey¹, J. Kanis¹, J. Reginster³, C. Cooper², R. Rizzoli⁴, A. Cruz Jentoft⁵, F. Landi⁶, 1. *Centre for Integrated Research in Musculoskeletal Ageing, University of Sheffield, Sheffield, United Kingdom*, 2. *University of Southampton, Southampton, United Kingdom*, 3. *University of Liège, Liège, Belgium*, 4. *University Hospitals Geneva, Geneva, Switzerland*, 5. *Hospital Universitario Ramón y Cajal, Madrid, Spain*, 6. *Universita Cattolica del Sacro Cuore, Rome, Italy*

Sarcopenia is the progressive loss of skeletal muscle mass, quality, strength and functional decline associated with aging. Sarcopenia has been estimated to affect 11–50% of those older than 80 years and poses a huge socio-economic burden. The clinical significance of sarcopenia rests in the adverse outcomes, particularly falls, fractures, disability, hospitalisation, loss of independence and mortality that arise as a consequence. A consensus on the definition of sarcopenia in a global setting should be driven by determining its role in predicting such poor health outcomes, analogous to the approach used in the successful development of the FRAX fracture risk assessment tool. While the assessment of the risk of adverse outcomes might encompass all three measurable aspects of sarcopenia, a number of factors need to be considered, particularly the ease with which measures can be used in non-specialist or community-based settings.

SESSION 3235 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: DEMENTIA-RELATED STIGMA—INTERNATIONAL PERSPECTIVES IN ADDRESSING THE STIGMA OF DEMENTIA

Chair: S. Kim, *Australian National University, Canberra, Australian Capital Territory, Australia*

Co-Chair: B.L. Casado, *Colorado State University, Fort Collins, Colorado*

People with dementia and their caregivers are often isolated due to the stigma attached to the disease. Stigma can also discourage people from seeking health services resulting in the delayed diagnosis and timely treatment of dementia. Indeed, dementia-related stigma is being increasingly acknowledged by

governments and policymakers around the world as an important public health issue and one of the priority areas in dementia research. For example, Alzheimer's Disease International published a report solely focusing on dementia stigma in 2012, highlighting the need to reduce the stigma. However, despite the known negative effects of stigma and the need to reduce it, there is very limited research investigating dementia-related stigma and strategies to address the stigma. This symposium aims to shed light on dementia-related stigma and draw attention to this important issue. The first paper in this session will address dementia-related stigma amongst Australians and its effects on help-seeking intentions (Kim). The second paper will examine the effect of dementia-related stigma on a minority ethnic Korean group in the USA (Casado). The third paper will present the results of an online module developed to promote social inclusion and combat stigma in the UK (Downs). The fourth paper will explore the effectiveness of intergenerational schools project addressing dementia-related stigma in the UK (Evans). Lastly, the fifth paper will address stigma in psychosocial dementia research (Vernooij-Dassen).

DEMENTIA-RELATED STIGMA, CULTURAL DIVERSITY, AND HELP SEEKING INTENTIONS

S. Kim, M. Mortby, *Australian National University, Canberra, Australian Capital Territory, Australia*

Despite the high prevalence of dementia, negative community attitudes and/or stigma towards dementia are still common. This study reports findings from a nationally representative telephone survey with a sample of 1000 Australian adults examining dementia-related stigma, cultural identity and help-seeking behaviours. Significant differences were found between the age cohorts for stigma, demonstrating dementia-related stigma to be higher in older age. Men reported significantly higher levels of stigma than women. Stigma was also higher amongst non-English speakers and those born outside of Australia. While 91% of participants indicated help-seeking intentions, only 36.3% reported they would seek help immediately when symptoms appeared. Dementia-related stigma was associated with help-seeking intentions among younger cohorts only. These findings suggest that dementia-related stigma is specific to age, gender and cultural background. These findings are of particular importance as they highlight the need to develop dementia-stigma reduction strategies tailored specifically to different age-cohorts, gender and culture groups.

STIGMA OF ALZHEIMER'S DISEASE AND CARE-SEEKING AMONG KOREAN AMERICANS

B.L. Casado, *School of Social Work, Colorado State University, Fort Collins, Colorado*

Stigma of AD has been identified as a barrier to care-seeking for AD. This study examined three domains of stigma of AD (public avoidance, pity, shame) and their roles in the intention, attitude, subjective norm, and perceived behavioral control regarding care-seeking from primary care physician (PCP) and AD specialist among Korean Americans (KA). A cross-sectional survey collected data from 254 KA adults. Beliefs about the stigma of pity were most prominent, followed by the stigma of public avoidance and shame. Path analyses showed that none of the three stigma domains

directly affected KAs' intention for care-seeking. However, each domain specific stigma showed varied indirect effects: public avoidance stigma indirectly affected KAs' care-seeking intention from both PCP and AD specialist via attitude toward the behavior; and pity stigma affected care-seeking intention from PCP via attitude and subjective norm. The stigma of shame had neither direct nor indirect effects on KAs' care-seeking.

CREATING A DEMENTIA-FRIENDLY WORKFORCE: THE ROLE OF PERSONAL NARRATIVES IN ONLINE TRAINING

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Bradford, Yorkshire, United Kingdom, 2. Health Education
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In the UK a key challenge to living well with dementia is stigma. Training in dementia is considered to be the cornerstone of challenging stigma and improving the quality of care for people living with dementia and their families. Online training is increasingly relied upon as offering a cost effective and flexible approach. At the same time there is growing recognition of the role of personal narratives in education and training. In this paper we will describe the development and preliminary evaluation of a freely available online dementia awareness module designed to challenge the stigma of dementia. 426 learners of over 1,000 of whom completed the module provided feedback. Learners found the personal narrative aspects of the module most compelling. Online training which includes the perspective and experience of people living with dementia and their families has the potential to create a dementia-friendly workforce.

AN INTERGENERATIONAL APPROACH TO ADDRESSING STIGMA

S. Evans, T. Atkinson, *Association for Dementia Studies, University Of Worcester, Gloucester, United Kingdom*

In the UK there is a government commitment to enabling people to 'live well with dementia', particularly through the Dementia Strategy, the Prime Ministers Dementia Challenge, and the Dementia Friendly Communities programme. These initiatives have led to a growing recognition of the need to raise awareness of dementia and reduce stigma across society.

This paper reports on the Prime Minister's Challenge Intergenerational Schools project which embedded dementia as a topic within the school curriculum. Intergenerational working has been proven to reduce stigma and formulate positive images of marginalised populations. Evidence from this study demonstrates a shift in pupil knowledge and understanding, and also shows that meeting someone with dementia makes a significant difference to pupils' attitudes towards people living with the disease. Educating children at an early age helps to build resilience and form the bonds that will support community in future generations.

STIGMA IN PSYCHOSOCIAL DEMENTIA RESEARCH

M. Vernooij-Dassen¹, L. Groen - van de Ven², M. Span²,
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Stigma attached to dementia has many aspects. The focus of psychosocial dementia research on negative outcomes and interventions reducing deficits, rather than on capacities contributing to this stigma. We study whether and how people with dementia have the capacity to contribute to shared decision making about day-care. A multi-perspective qualitative study with eighteen care networks (18 dementia patients, 34 informal caregivers and 36 professionals) was conducted. Three themes emerged using content analysis: emotionally charged preferences (verbal and non-verbal expressions of what participants want or do not want), considerations (concerns of professionals) and actions (participants' activities in decision making process). The emotionally charged preferences of the person with dementia triggers reactions in other participants. People with dementia have the capacity to participate in decision-making by verbal and non-verbal expressions. These findings are the base of an intervention on shared decision making in advanced care planning in dementia, thereby highlighting these capacities.

SESSION 3240 (PAPER)

NUTRITIONAL ISSUES IN OLDER ADULTS II

HETEROGENEITY OF GAIT SPEED RESPONSE TO INTENTIONAL WEIGHT LOSS IN OLDER ADULTS

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Randomized controlled trial results in obese older adults consistently associate intentional weight loss of 5–10% with clinically meaningful improvement in gait speed, on average. Consideration of individual differences in response, however, has been largely ignored. The purpose of this study is to describe the inter-individual variability in gait speed response to intentional weight loss in overweight and obese older adults. Participants from the Intensive Diet and Exercise for Arthritis trial (NCT00381290), randomized to a caloric restriction intervention targeting 10% weight loss over 18 months were included, with fast-paced 6-minute walk assessed at baseline and 6 months. Of 112 participants (BMI: $33.6 \pm 3.7 \text{ kg/m}^2$; age: 66.7 ± 5.9 years), 79 experienced at least 5% weight loss at 6 months and increased gait speed by $0.05 \pm 0.10 \text{ m/s}$ ($p < 0.001$). Individual changes, however, varied from -0.27 to 0.29 m/s , with 24% ($n=19$) experiencing no improvement (i.e. change $\leq 0.0 \text{ m/s}$). At $\geq 10\%$ achieved weight loss at 6 months, mean gait speed increased by $0.06 \pm 0.10 \text{ m/s}$ (range: -0.16 to 0.29 m/s) and the subset of non-responders increased to 29% ($n=14/48$). When considering gender, age, race, baseline BMI and baseline gait speed, change in gait speed was negatively associated with both baseline gait speed and African-American race (both $p < 0.05$). Data suggest large variation in the magnitude of gait speed change for a given amount of weight loss and highlight a subset of participants likely to experience no improvement. Better understanding of the characteristics influencing weight loss-associated functional change is necessary to optimize individualized weight management strategies for this population.

NUTRITIONAL STATUS OF ELDERLY PATIENTS VISITING THE GERIATRIC CLINIC—RESULTS FROM NORTH INDIA

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Malnutrition is a major concern among the elderly population. The Mini-Nutritional Assessment is a validated scale for determining elderly malnutrition. A study was conducted to determine the prevalence of malnutrition among elderly patients visiting the geriatric out-patient services of a tertiary care center in north India and analyze various attributes.

225 elderly (≥ 60 yrs) randomly selected patients ($M = 154$, mean age 67.42 ± 13.82 yrs; $F = 71$, mean age 64.69 ± 10.51 yrs) were assessed using the MNA questionnaire. Information regarding chronic illnesses for 145 patients ($M = 97$, $F = 48$) was entered into a pre-designed case report form. The data was analyzed using SPSS ver 16.0. Mean BMI was 22.58 ± 8.55 kg/m² (M) and 23.76 ± 10.79 kg/m² (F) ($p = 0.084$). 180 patients scored ≤ 11 points on screening test and full assessment was completed on them only. Among the 180 patients ($M = 117$, $F = 63$), 73 were classified as malnourished (< 17 total score) and 107 were at risk of malnutrition (17 – 23.5 total score). 36% males undergoing full assessment were malnourished as compared to 49% females ($p = 0.083$). 100% patients lived independently or with families. 92.8% patients were taking > 3 prescription drugs daily. 68% patients were unaware of their weight loss patterns. Whereas fruit/ vegetable consumption was adequate among most (84%) patients, 83% had intermediate protein consumption and as many as 71% had inadequate fluid intake. 50 out of 145 evaluated patients had at least 2 chronic co-morbidities. Hypertension was the commonest co-morbidity (40.7%) followed by T2DM (23.4%).

A high prevalence of malnutrition in the Indian elderly visiting hospitals was demonstrated. The average BMI was found to be in the normal range. Prescription drug use was quite common in the elderly. Whereas fruit/ vegetable consumption was adequate, fluid intake fell short.

The study highlighted important aspects of elderly nutrition in north India.

AGE-DEPENDENT INCREASE IN ENDOTHELIAL MICROPARTICLES IN HEALTHY SUBJECTS: IMPACT OF COCOA FLAVANOLS

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Background: Clinical studies show that cocoa flavanols (CF) can decrease vascular stiffness and blood pressure and improve endothelial function even in healthy elderly subjects. We investigated whether age-dependent changes in circulating endothelial microparticles (EMPs) exist, whether these correlate with age-dependent vascular changes, and whether a CF-intervention also affects EMPs.

Methods: EMPs were determined in 52 healthy subjects (22–75 years) by flow cytometry. Endothelial function (flow-mediated-vasodilation; FMD), blood pressure, and wall-shear-stress (WSS) were measured. Using pulse-wave-analysis, pulse wave velocity (PWV) and aortic augmentation index (AIX) were measured. 22 young (< 35 yrs) and

20 elderly (50–80 yrs) non-smoking healthy male consumed either CF-containing-drink [450mg] or nutrient-matched, CF-free-control BID for 14 days. Measurements were taken after overnight fasting before and 1h after the first drink on day 1 and day 14.

Results: With increasing age, CD62e⁺ but not CD31⁺/41⁺ and CD144⁺-EMPs, increased. Significant correlations were found between age and systolic blood pressure (SBP) and AIX. In elderly subjects, we observed an increased BA diameter and hence reduced WSS and FMD. CD62e⁺ correlated with SBP and inversely with FMD. Following 2 weeks of daily CF intake, FMD and PWV improved in young and elderly individuals. CF decreased AIX and thus SBP in elderly. CD62e⁺ and CD31⁺/41⁺-MPs but not CD144⁺ significantly decreased in both groups. The decrease in CD62e⁺ correlated with decreases in SBP, AIX, and inversely with FMD improvements.

Conclusion: In healthy humans, cardiovascular aging is associated with EMPs indicative of endothelial injury and can be modulated by dietary CFs along with improvements in vascular function.

INADEQUATE HYDRATION STATUS AND OVERWEIGHT AMONG OLDER ADULTS: DATA FROM NUTRITION UP 65

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Data on the association between hydration status and overweight in the elderly is scarce. Therefore, the objectives of this study were to evaluate the hydration status in a representative sample of Portuguese older adults and to assess the association between inadequate hydration and overweight (including obesity).

A cluster sampling approach was used, representing Portuguese older adults (≥ 65 years) according to age, sex, education level and regional area within the Nutrition UP 65 study. This cross-sectional evaluation was conducted in 2015 and 2016. From a sample size of 1500 participants, 1312 were eligible for the present analysis, 57.3% were women and 23.5% were aged ≥ 80 years. Inadequate hydration was defined as one 24h urine osmolality > 500 mOsm/kg. Overweight group includes also the obese and was defined as BMI > 27 kg/m², according to the Nutrition Screening Initiative criteria for older adults. A multivariable binary logistic regression model was conducted to evaluate the association between hydration status and overweight/obesity. Odds Ratios (OR) and respective 95% Confidence Intervals (95%CI) were calculated.

Inadequate hydration was observed in 37.5% participants and 69.6% were overweight or obese. After adjusting for potential confounders, inadequate hydration (OR=1.52, 95%CI: 1.17–1.98) was associated with overweight/obesity.

These results highlight the need for implementing nutritional strategies towards the improvement of hydration status in this age group, and particularly in the overweight or obese.

This project was granted by the Public Health Initiatives Programme (PT06), financed by EEA Grants Financial Mechanism 2009–2014.

CHANGES IN BODY WEIGHT AND NUTRITIONAL STATUS IN SOUTH AUSTRALIAN NURSING HOME RESIDENTS

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Ageing related changes in body weight and composition impact quality of life of older people. Therefore the aim of the retrospective study was to determine body weight, body mass index (BMI), nutritional status assessed by malnutrition universal screening tool (MUST), pain, and length of stay, of a cohort of elderly nursing home residents in Adelaide, South-Australia, as well as the factors associated with changes in body weight over 6–12 months. 1,020 residents aged 87 ± 8 years were in the 6-months retrospective analysis, and a subset of 752 residents in the 12-months sub-group. The average weight and BMI for the overall cohort were 66 ± 16 kg and 25 ± 6 kg/m². Almost 30% of residents were at medium or high nutritional risk (14% and 16%). Body weight decreased 0.4 ± 4.1 kg ($0.5 \pm 6.4\%$) over 6-months ($P=0.006$) and 0.9 ± 5.2 kg ($1.3 \pm 7.8\%$) over 12-months ($P<0.001$). 46% of residents had marked weight change ($\geq 5\%$ loss or gain) over 12-months. Residents in the lowest BMI tertile (≤ 23 kg/m²) were most likely to experience both marked weight change (52%) and weight reduction (30%). Weight loss was associated with higher pain scores ($P=0.012$) and greater length of stay in the nursing home ($P=0.002$). In conclusion on average these older people lost weight, with high rates of both substantial weight loss and gain, particularly among those in the lowest BMI tertile. Almost a third in the lowest BMI tertile lost 5% or more body weight, putting them at increased risk of undernutrition-related morbidity, suggesting greatest attention to prevent and treat such morbidity should be focused on that group.

SESSION 3245 (PAPER)

EPIDEMIOLOGICAL STUDIES: MORBIDITY AND MORTALITY

A STUDY ON THE RELATION BETWEEN SLEEP AND BETA-AMYLOID-42 IN CEREBROSPINAL FLUID IN 70-YEAR-OLDS

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Recent research indicates that beta-amyloid-42 is reduced in cerebrospinal fluid (CSF) decades before onset of Alzheimer's disease. There is a need to know more about the clinical correlates of this preclinical stage. A representative population sample of 70-year-olds ($N=1202$, response rate=72%) were examined between 2014 and 2016 with comprehensive neuropsychiatric examinations. A subsample of 301 individuals (25%) consented to a lumbar puncture and had data on sleep disturbance. Six individuals were excluded due to dementia, leaving 295 for the analysis. Individuals with any sleep disturbance had lower mean beta-amyloid-42 levels than those without (660.05 ng/L versus 733.35 ng/L; $p=0.010$). Both those with increased sleep (595.60 ng/L versus 730.90 ng/L; $p=0.026$), and those with decreased sleep (667.96 ng/L versus 730.90 ng/L; $p=0.038$) had lower mean beta-amyloid-42 levels than those without. Sleep disturbances, both decreased and increased sleep, are associated with lower levels of beta-amyloid-42 in individuals without dementia. It needs to be elucidated whether sleep disturbance is a consequence or a cause of preclinical Alzheimer's disease.

CHANGES IN MEDICATION USE IN LONG-TERM CARE FACILITIES IN FINLAND OVER AN EIGHT-YEAR PERIOD

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Background: Polypharmacy is highly prevalent and burdensome to residents and staff. The aim of this study was to investigate the change in medication use over an eight-year period in nursing home and assisted living facilities in Finland.

Methods: Data from three cross-sectional studies of residents aged ≥ 65 years in nursing homes in 2003 ($n=1987$) and 2011 ($n=1576$) and in assisted living facilities in 2007 ($n=1377$) and 2011 ($n=1586$) in Finland were combined. The prevalence of medication use across time periods were compared. Polypharmacy was defined as the use of nine or more regular medications.

Results: Polypharmacy increased in assisted living facilities (44.7% to 50.6%, $p<0.001$) but decreased in nursing homes (40.4% to 32.4%, $p<0.001$). The prevalence of cardiovascular medications decreased in nursing homes (67.0% to 52.9%, $p<0.001$) and assisted living facilities (72.5% to 66.8%, $p<0.001$). The prevalence of diuretics, nitrates and digoxin decreased, but the prevalence of statins increased in both settings. The prevalence of antithrombotics decreased in both nursing homes (55.4% to 49.0%, $p<0.001$) and assisted living facilities (62.2% to 55.8%, $p<0.001$). The prevalence of dementia medications increased in both settings.

Conclusions: The prevalence of polypharmacy significantly decreased in nursing homes but has increased in assisted living facilities. Significant reductions in the use of cardiovascular and antithrombotics suggest improved assessment of the risk-to-benefit ratio of these medications in the long-term care setting.

PARALLELS ACROSS THE POND: WEALTH ASSOCIATED DISPARITY IN DEATH AND DISABILITY IN THE U.S. AND ENGLAND

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Low income is strongly associated with adverse health outcomes. Wealth may be a better marker of resources in late life than income. Our objective was to determine the relationship of wealth with mortality and disability (defined as activity of daily living difficulty) among older adults in the US and England. The US Health and Retirement Study (HRS) and English Longitudinal Study on Ageing (ELSA) are nationally representative cohorts of community-dwelling older adults. We examined participants enrolled in HRS (N = 13,533) and ELSA (N = 8,886) in 2002, stratifying our analyses by age (50–64 vs 66–80) as many safety-net programs commence around age 65. Wealth quintile was based on total net-worth in 2002. Participants were followed until 2012 for mortality and disability. We found increased risk of both death and disability as wealth decreased. In the US, participants age 50–64 in the lowest wealth quintile (Q1) (<\$38,000) had a 19% risk of mortality and 41% risk of disability while the highest wealth quintile (Q5) participants (>\$553,000) had a 6% risk of mortality and 15% risk of disability. In England, 50–64 year olds in Q1 (<£31,015) had a 17% risk of mortality and 39% risk of disability, while Q5 participants (>£303,000) had a 4% risk of mortality and 11% risk of disability. In 66–80 year olds, the absolute risks of mortality and disability were higher, but the risk gradient across wealth quintiles did not differ. Low wealth was similarly associated with death and disability in both the US and England.

INCIDENCE AND DURATION OF POLYPHARMACY IN OLDER ADULTS: A NATIONWIDE LONGITUDINAL COHORT STUDY

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Polypharmacy is highly prevalent among older adults, and is associated with negative health outcomes. Studies on polypharmacy are often based on single point-prevalence measures of polypharmacy. Little is known about the incidence and the duration of polypharmacy over time. Using the Swedish Prescription Drug Register linked with several other registers with national coverage in Sweden, we followed the complete population ≥65 years (n≈1,700,000) from 31 October 2010 to 31 December 2013, and measured the monthly prevalence of polypharmacy (≥5 concomitant drugs) every three months. Out of 971,315 older adults free of polypharmacy at baseline, the incidence rate of polypharmacy was 15.2 per 100 person-years (ranging from 12.1% in people aged 65–70 to 24.9% in people aged 95+). Among the 59,613 incident polypharmacy users during the first month of follow-up, 46.1% were still exposed 6 months later and 20% were on polypharmacy at each time point during the 3-year period. In conclusion, about half of the

polypharmacy-free individuals at baseline transitioned into polypharmacy over a 3-year period, with higher incidence in older age groups. Of the incident polypharmacy users at baseline, almost half were only exposed to polypharmacy for a shorter time period (6 months), but a considerable share was on constant polypharmacy for 3 years.

CHARACTERIZING THE COMPLEXITY OF MULTIMORBIDITY IN OLDER ADULTS USING A NETWORK APPROACH

B.T. Burke, T.A. Glass, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

There is no evidence that any single multimorbidity measure captures the multifactorial nature of health and function in older adults. Current measures are generally based on the concept of multimorbidity as two or more co-occurring chronic diseases, while symptoms and geriatric syndromes are frequently excluded. To better characterize the complexity of multimorbidity, we used a network approach to evaluate the co-occurrence of diseases, symptoms, and geriatric syndromes in older adults. We estimated sex-stratified networks of 26 self-reported diseases, symptoms, and geriatric syndromes in 9,267 participants aged 65+ from the Health and Retirement Study. A network depicts relationships among interacting elements. Diseases, symptoms, and geriatric syndromes were represented as points (“nodes”) and pairwise correlations were represented as lines. Network structure was evaluated using centrality measures, crisp clustering, and fuzzy clustering. Cluster analysis grouped strongly co-occurring nodes. Crisp clustering placed each node into one group, while fuzzy clustering provided probabilities of belonging to multiple groups. Symptoms and geriatric syndromes played a more important role, measured by degree centrality, in network structure than diseases. Diseases, symptoms, and geriatric syndromes clustered differently in males and females. Fuzzy cluster analysis revealed symptoms and geriatric syndromes were more likely than diseases to occur in multiple clusters. The approach to measuring multimorbidity based solely on diseases likely underestimates complexity by disregarding symptoms and geriatric syndromes. The network approach revealed how diseases, symptoms, and geriatric syndromes commonly co-occur in older adults. This work illustrates the potential of network methods to improve the measurement of multimorbidity in older adults.

SESSION 3250 (SYMPOSIUM)

DEVELOPING SELF-MANAGEMENT INTERVENTIONS FOR AGING CANCER SURVIVORS: FROM TRIAL TO TRANSLATION

Chair: R. Walker, *University of Massachusetts-Amherst, Amherst, Massachusetts*

Discussant: C.R. Leach, *American Cancer Society*

Cancer survivors worldwide experience unique combinations of cancer-related and non-cancer-related changes that may require different strategies for self-management as they age and move into different phases of survivorship. Organized by phases of Gitlin's behavioral ‘trial-to-translation pipeline’, this symposium presents current evidence and important considerations when developing self-management

interventions for aging cancer survivors. Starting with the preclinical phase of the pipeline, Dr. Mary H. Parker will present epidemiological evidence from 6 countries regarding exercise as a mechanism underlying the health benefits of dragon boat paddling. These results could guide development of future interventions for aging breast cancer survivors. The next two phases of the pipeline involve determining intervention acceptability, feasibility, and safety (Phase 1) and assessing preliminary effect sizes, side effects, and dosing (Phase 2). Dr. Sandra Spoelstra will discuss these phases in relation to outcomes of an APRN-led intervention to promote medication adherence in older adults newly-prescribed anti-cancer agents. Dr. Mei Fu will also present development and testing of an mHealth intervention for lymphedema self-management. Finally, we will discuss how interventions that have already moved through later phases of the pipeline (efficacy and effectiveness-testing, implementation, & sustainability) can be adapted for new populations and clinical problems. Dr. Rachel Walker will share stakeholder perspectives on adaptation of an existing aging-in-place intervention to meet the needs of aging cancer survivors in a rural region. This symposium provides researchers and clinicians with empirical examples of strategies for accelerating translation of the science of self-management from research to policy and practice change.

BREAST CANCER SURVIVORS AGE 60–86 FROM 6 COUNTRIES PADDLE DRAGONBOATS TO RECOVERY

M.H. Parker, *Institute for Palliative & Hospice Training, Inc., Oakpark, Virginia*

750 women answered an Internet Survey 2011–2013 sent to Breast Cancer Survivor dragonboat teams. 356 (47%) aged 60 to 86 resided in the United States (48%), Canada (28%), Australia (17%), New Zealand (5%), England (1%), and South Africa (1%). The 32 question instrument recorded their experience of breast cancer: exercise, treatments, lymphedema and other after effects, and the effect of dragon boat paddling on their well-being after breast cancer. 99% had not paddled before cancer and selected BCS dragonboating as recovery exercise. Data illustrate types of cancer treatment reported by women in each country and after effects. 79 (25%) reported having lymphedema. 56% reported paddling had made their lymphedema “better”. Research reports exercise using large skeletal muscles produces “myokines” a “hormone” factor reducing inflammation. 59% reported manual lymphatic drainage was an effective therapy. 98% reported increased fitness from paddling. 87% said they would continue to paddle to keep physically active.

THE EFFECT OF A NURSE-LED INTERVENTION TO PROMOTE ADHERENCE IN PATIENTS PRESCRIBED ORAL AGENTS

S. Spoelstra¹, A. Sikorskii², M. Schueller¹, 1. *Grand Valley State University, Grand Rapids, Michigan*, 2. *Michigan State University, East Lansing, Michigan*

Symptoms and poor adherence to oral anti-cancer agents in adult cancer patients remain a significant clinical problem, and depressive symptoms and self-efficacy affect both. Sixty-one adult patients newly prescribed an oral anti-cancer agent

were recruited from 3 community cancer centers. Nurse practitioners provided the intervention - one semi-structured, face-to-face session followed by 3 weekly phone sessions using motivational interviewing, brief cognitive behavioral therapy, and a Toolkit to promote self-management. Least square (LS) means and standard errors (SE) were conducted and Effect Size (ES) determined. All data were collected from 2014 -2016. Effect Size were: depressive symptoms 0.13 ($p = 0.55$) and medication self-efficacy -0.47 ($p = 0.04$). The number of cancer patients who receive treatment in pill form is increasing, and improving depressive symptoms and self-efficacy may enable patients to self-manage symptoms and adhere to their cancer medication.

MHEALTH SELF-CARE INTERVENTIONS FOR LYMPHEDEMA SYMPTOMS FOLLOWING BREAST CANCER TREATMENT

M.R. Fu, *New York University Rory Meyers College of Nursing, New York, New York*

Lymphedema, an abnormal accumulation of lymph fluid in the ipsilateral body area or upper limb, remains an ongoing major health problem affecting more than 40% of 3.1 million breast cancer survivors in the United States. Patient-centered care related to lymphedema symptom management is often inadequately addressed in clinical research and practice. To provide patient – centered care, we developed *The-Optimal-Lymph-Flow* health IT system (TOLF), a web-and-mobile-based educational and behavioral mHealth intervention focusing on safe, innovative, and pragmatic electronic assessment and self-care strategies for lymphedema symptom management. Findings from psychometric, usability, and pilot feasibility studies demonstrate that women using TOLF for 12 weeks experienced significantly less pain ($p=0.031$), fewer numbers of lymphedema symptoms ($p=0.003$), and improved symptom distress ($p=0.000$). The study findings suggest that innovative web-and-mobile-based educational and behavioral mHealth interventions, such as TOLF, are easily accessible and have potential to improve breast cancer survivors' quality of life.

ADAPTATION OF AN AGING-IN-PLACE INTERVENTION TO ADDRESS THE NEEDS OF RURAL-DWELLING CANCER SURVIVORS

R. Walker¹, S.L. Szanton², 1. *University of Massachusetts Amherst College of Nursing, Amherst, Massachusetts*, 2. *Johns Hopkins University School of Nursing, Baltimore, Maryland*

Rural-dwelling cancer survivors face multiple socioeconomic, behavioral, and environmental barriers to achieving recommended exercise levels. Many older cancer survivors also report that symptoms of cancer and other chronic conditions interfere with functioning, leading to more time spent sitting or lying down. These prolonged periods of inactivity negatively-impact overall health and cancer rehabilitation. Reducing sedentarism (distinct from promoting exercise) may be a more achievable goal for rural-dwelling cancer survivors experiencing symptom-related disability. Therefore, we adapted an intervention originally developed for urban-dwelling disabled older adults to

meet the needs and activity goals of rural-dwelling older cancer survivors living in the Northeastern United States. Drawing on methods outlined by Dr. Anna Marie Napoles, we established the infrastructure for a translation partnership, identified clinician and community stakeholders, and sought their input. This presentation highlights survivor advocate and clinician perspectives on critical components of the adapted intervention, and key considerations for implementation and evaluation.

SESSION 3255 (PAPER)

INTERNATIONAL PERSPECTIVES IN PRIMARY CARE OF OLDER ADULTS

PHOSPHATE AND CALCIUM ASSOCIATION WITH CARDIAC EVENTS IN OLDER PEOPLE: RETROSPECTIVE COHORT ANALYSIS

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This study builds on our work exploring the association between serum phosphate and cardiovascular risk. We made a 10-year retrospective cohort analysis of the Royal College of General Practitioners (RCGP) Research and Surveillance Centre (RSC) database. This is one of the oldest UK primary care sentinel networks with data from >1 million patients.

We included patients aged over 65 years with at least one phosphate measurement and no pre-existing cardiovascular disease (N=19,418). The odds ratio (OR) represents the odds of developing a cardiac event (myocardial infarction, acute coronary syndrome or revascularisation procedure) within 5 years of the first phosphate measurement. We included demographic and cardiovascular risk variables in a stepwise logistic regression analysis.

With a reference age of 65–70 years, the OR increased to 1.46 (95%CI 1.26–1.70, $p<0.0001$) and 2.27 (1.87–2.75, $p<0.001$) for ages 70–79 years, and 80–89 years, respectively. Older men had a higher risk of cardiac events (1.891, 1.64–2.18, $p<0.0001$). Diabetic patients had more outcomes (1.55, 1.31–1.82, $p<0.0001$). Hypophosphatemia (1.67, 1.16–2.35, $p<0.01$) and high-normal phosphate (1.38, 1.13–1.67, $p<0.01$) conferred risk. Severe hypocalcemia <2.0 mmol/l (9.67, 1.94–40.28, $p<0.01$) or unrecorded calcium (2.09, 1.71–2.55, $p<0.0001$) were also of interest. Our findings were independent of renal function.

To our knowledge, this is the first study to demonstrate significant cardiac risk associated with either low or high-normal serum phosphate in older adults. Hypocalcemia, or a lack of calcium surveillance, were also associated with primary cardiac events. We conclude that close monitoring and management of these common electrolytes is indicated in older patients.

ASSOCIATION OF AGE WITH PATIENT EXPERIENCE OF CARE IN MEDICALLY COMPLEX VETERANS

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A barrier to improving care for high need, high cost patients is the heterogeneity of this population. The goal of this cross-sectional analysis was to determine how patient characteristics and experience of care differ among medically complex Veterans according to age. Data were obtained from an ongoing RCT examining nurse care management for medically complex Veterans after an ED visit. We examined associations between baseline characteristics and age groups (18–54, 55–64, ≥ 65) using Pearson chi-square statistics. Logistic regression models examined age group association with probability of high self-rated quality of chronic illness care (PACIC ≥ 3.5) and high satisfaction with overall care (CAHPS =10). Among 513 subjects, 30% were aged 18–59, 31% 55–64, and 39% ≥ 65 . The oldest age group included more males, fewer Veterans of Black race, lower education ($P<0.01$ for all). Fair/poor self-rated health and frequent mental distress were common, especially in the younger and middle age groups (64–65% and 60–38% respectively; $P<0.01$). In models adjusted for socio-demographics and health status, odds of reporting high quality of chronic illness care were no different across age groups ($P=0.5$); however younger age groups had lower odds of high overall satisfaction compared to ≥ 65 (OR=0.22 and 0.36; $P<0.01$). In this group of medically complex Veterans, overall satisfaction differed by age although assessment of quality of chronic illness care did not. Improving coordination and delivery of chronic disease care may have more positive impact on patient experience among older adults than their younger counterparts.

TRANSITIONAL CARE EFFECTIVENESS FOR CHRONICALLY ILL OLDER ADULTS: SYSTEMATIC REVIEW AND META-ANALYSIS

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Healthcare systems are facing an increasing number of vulnerable older patients with chronic diseases (CD). Transitions in care from hospital to primary care for this population are complex and lead to increased mortality and service use. In response to these challenges, transitional care (TC) interventions are being widely implemented to increase continuity and quality of care. They encompass education on self-management, discharge planning, structured follow-up and coordination among the different healthcare professionals. A systematic review of interventions targeting transitions from hospital to the primary care setting was conducted in order to determine the effectiveness of TC on all-cause mortality, ED visit, readmission, readmission days and quality of life (QoL). Randomized controlled trials on TC were identified through Medline, CINHAL, PsycInfo, EMBASE (1995–2015). Two independent reviewers performed the study selection, data extraction and assessment of study quality (Cochrane “Risk of Bias”). Relative risks and mean differences were calculated using a random-effects

model. From 10,234 references, 92 studies were included. Compared to usual care, significantly better outcomes were observed in chronically ill older patients benefiting from TC: a lower mortality at 3, 6, 12 and 18 months post-discharge, a lower rate of ED visits at 3 months, a lower rate of readmissions at 6 and 12 months and a lower mean of readmission days at 3, 6, 12 and 18 months. No significant differences were observed in quality of life. In conclusion, TC improves transitions for older patients and should be included in the reorganization of healthcare services.

ENGAGING URBAN AND RURAL SENIORS AS RESEARCH PARTNERS TO IMPROVE CHRONIC DISEASE MANAGEMENT

S.A. Ali, K. Walsh, M. Kloseck, *Western University, London, Ontario, Canada*

Osteoarthritis is a chronic disease that affects 50% of people over the age of 65. There is no cure, but there are evidence-based strategies that can reduce the burden of this disease. The challenge lies in conveying and implementing those strategies in the target population, community-dwelling seniors in both urban and rural centers, particularly given the decreased availability of physicians, health services, and community programs in rural centers. In this qualitative study, we directly engage seniors in identifying barriers and facilitators to daily osteoarthritis management. We use hermeneutic phenomenology to explore their lived experiences. Purposeful sampling was used to recruit urban-community-dwelling seniors (N=11) and rural-community-dwelling seniors (N=9) with confirmed osteoarthritis in Ontario, Canada. Interviews were guided using three open-ended questions: 1) Where do you get information related to osteoarthritis? 2) How do you manage your osteoarthritis pain? 3) What can be done to improve osteoarthritis management for seniors? Interviews were transcribed verbatim and coded using NVivo® Pro 11 by two independent researchers. Strikingly, despite the differences between urban and rural centers, highly similar themes relating to osteoarthritis management emerged from the data from both urban- and rural-dwelling seniors. Three central themes were identified: *psychological impact*, *personalized approach*, and *physician reliance*. For rural-dwelling seniors, an additional theme of *resource accessibility* was identified. This study highlights the importance of capturing stakeholder-identified areas for improvement in chronic disease management.

SESSION 3260 (PAPER)

FUNCTIONAL DECLINE IN ACUTE CARE ENVIRONMENTS

EAT WALK ENGAGE: IMPROVING NUTRITIONAL CARE AND INTAKE OF HOSPITALISED ELDERS

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Malnutrition is a common and costly problem that affects 30–50% of older hospital inpatients. Approximately half of hospital patients eat 50% or less of the food provided to them at meals. Barriers to adequate nutrition are numerous and complex and include patient and illness factors, mealtime care processes and the hospital environment. Eat Walk Engage (EWE) is a unique ward-based program which aims to improve care practices and health outcomes of older inpatients through the implementation of strategies to support mobility and independence, nutrition and hydration, and meaningful cognitive activities. From data collected during structured EWE meal audits (n=601 meals), we identified two key barriers to meal intake of hospitalised patients: mealtime positioning and timely assistance. In a separate study, we observed the intake of three cohorts of older medical patients (total n=320) as we introduced EWE and other dietary changes to the ward. This study found that patients have improved intake (energy: cohort 1: 5073kJ/d; cohort 2: 5403kJ/d; cohort 3: 5989 kJ/d, $p=0.04$; protein: cohort 1: 48g/d, cohort 2: 50g/d, cohort 3: 57g/d, $p=0.02$). These findings suggest that changes to dietary and mealtime care processes are associated with measureable and sustained improvements in nutritional intake of older inpatients.

ACUTE CARE UNITS FOR ALZHEIMER'S PATIENTS

D. Zekry, A. Mendes, F.R. Herrmann, G. Gold, *Internal Medicine, Rehabilitation and Geriatrics of Geneva University Hospitals, Geneva, Switzerland*

Patients with behavioral and psychological symptoms of dementia (BPSD) due to a concomitant acute somatic disease are at risk of not being adequately treated in respect to all their problems either in a somatic or in a psychiatric setting. This results in frequent and often repetitive transfers between institutions. The need for new models of care for patients with dementia hospitalized for somatic disease concomitant with challenging BPSD has led to the development of acute care units for Alzheimer patients. The main target of these units is an improvement in quality of care resulting in better outcomes for these patients. In addition, important issues are the safety for wandering patients, reduction of psychological stress and workload for the staff and better integration of proxies in the care process. To reach these goals a training program of the multidisciplinary team is mandatory.

However, these special acute care units, located for the majority in the somatic geriatric hospital, are still rare. Similarity and differences between these units will be presented. To validate our model in our unit (SOMADEM, somatic and dementia) in the Department of Internal Medicine, Rehabilitation and Geriatrics at the Geneva University Hospital in Switzerland, we compared clinical features between SOMADEM unit and a normal general geriatric unit in the same hospital. Results on cognitive, functional, nutritional status and adverse hospitalization outcomes (longer length of stay, institutionalization and mortality) will be presented.

These units represent an innovative advance in the care of acutely ill hospitalized old persons with dementia.

BRIEF PRE-INJURY FUNCTIONAL STATUS MEASURE PREDICTS TWO-YEAR DECLINE AND DEATH AFTER GERIATRIC TRAUMA

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The American College of Surgeons recommends a 5-item functional status (ACS-FS) evaluation of geriatric trauma patients, but it is not yet validated. Alternatively, the 5-item Short Functional Status (SFS) survey, validated in a single-hospital trauma center, overlaps with the ACS measure in only 2 activities of daily living (ADLs). We examined if ACS-FS predicts mortality and functional decline using national Health and Retirement Study (HRS) linked with Medicare data.

Between 1998–2010, 3628 trauma hospitalizations among participants age 65+ occurred within two years of interview or death. We predicted multinomial outcomes: no decline vs decline (1+ loss of 12 ADLs between pre-injury to post-injury interview) vs death. Our functional predictors of interest were pre-injury function (12 ADLs, SFS, or ACS-FS), categorized as no vs mild vs severe impairment. All models also controlled for age and injury severity using the Trauma Mortality Program Model score. We bootstrapped the Area Under the Curve (AUC). One-quarter died and 42% declined by 2 years. **Pre-injury functional category defined by the pre-injury ACS-FS performed as well as categories defined by full ADLs (AUC .79 vs .81), whereas SFS performed modestly (AUC .72).** Using ACS-FS, **mild impairment** (compared to none) was associated with OR 1.53 [95%CI 1.20–1.94] for decline and OR 3.28 [2.52–4.28] for death (vs no decline). **Severe pre-injury impairment** was unassociated with further decline, OR .882 [.669–1.16], but **strongly predicted mortality OR 3.46 [2.62–4.56].**

The brief pre-injury ACS-FS predicts long-term post-trauma outcomes with excellent fit and dose-response, suggesting strong avenues for prospective clinical research.

MULTICOMPONENT EXERCISE PROGRAM EFFECTS ON FUNCTIONAL CAPACITY IN FRAIL HOSPITALIZED PATIENTS

A. Casas Herrero¹, N. Martinez-Velilla¹, F. Zambom Ferraresi², M. López-Sáez de Asteasu², F. Alonso Renedo¹, M. Izquierdo², 1. *Complejo Hospitalario de Navarra, Pamplona, Navarra, Spain*, 2. *Universidad Publica de Navarra, Pamplona, Spain*

Randomized clinical trial conducted in 193 patients admitted in a Geriatrics Acute Unit Hospitalized patients who met inclusion criteria (75 years and older, medical stable, frail or prefrail – SPPB 4–9, previous ability to walk, able to communicate) were randomly assigned to the intervention or control group. The intervention consisted of a multicomponent exercise training programme, composed of supervised progressive resistance exercise training at low-moderate intensities, balance-training, and walking for 5–7 consecutive days. Evaluations of functional capacity (SPPB,

Usual Gait velocity and under dual task conditions, Barthel index), strength and power assessments were conducted at admission and previous to discharge in the control and intervention group. 193 completed pre/post evaluations (control group (CG) n= 83, intervention group (IG) n=81). 29 drop-out due to medical reasons. Mean age 87.10. In the IG, significant improvements were observed after the intervention in all strength and power assessments (knee extension, hip flexion, maximal power) and functional capacity parameters (SPPB, hand grip, Gait velocity, gait velocity with dual task conditions and Barthel index) In contrast, in the CG, no significant improvements after evaluations were detected in any of the strength, power or other functional parameters studied. A multicomponent exercise program, with special emphasis in progressive resistance training, is an effective therapy to improve functional capacity in frail patients during hospitalizations. Individualized an planned exercise programs should be prescribed routinely in all frail patients admitted to hospitals, as same as other medical treatments, in order to prevent functional impairment

SHORT PHYSICAL PERFORMANCE BATTERY TO PREDICT SHORT-TERM OUTCOMES IN OLDER OUTPATIENTS IN ACUTE CARE

M.R. Aliberti², J.A. Melo^{1,2}, S.Q. Fortes-Filho^{1,2}, D. Apolinario², W. Jacob-Filho², L.E. Gracez Leme¹, 1. *Department of Orthopedics and Traumatology, University of São Paulo Medical School, São Paulo, São Paulo, Brazil*, 2. *Division of Geriatrics, Department of Internal Medicine, University of São Paulo Medical School, São Paulo, São Paulo, Brazil*

Physical performance could be performed safely and in a short time in older hospitalized patients with good predictor for long-term outcomes, however has not been evaluated for outpatients in acute care conditions. To evaluate the predictive value of short physical performance battery (SPPB) for 6-month hospitalization and functional decline, defined as a decline at least one activity of daily living, in elderly outpatients attending in acute day hospital care. A prospective cohort study with 511 older adults who were able to walk admitted to a Geriatric Day Hospital (GDH) with acute problems in São Paulo, Brazil. Physical performance was evaluated at admission. High-risk group was defined as SPPB ≤ 4 points, median-risk group as SPPB between 5 and 8 points, and low-risk group as SPPB ≥ 9 points. Kaplan-Meier curves and hierarchical adjusted Cox proportional hazards models were calculated for each outcome. The 6-month incidence of hospitalization and functional decline were significantly more frequent in the high-risk group at Kaplan-Meier curves (p=0.001 and p<0.001). After adjusting for demographic and clinical variables, participants with high-risk and median-risk were more likely to hospitalization (HR=2.2; 95%CI 1.3–3.7 and HR=1.7; 95%CI 1.1–2.7, respectively) compared with participants with a low risk. High-risk and median-risk group were also independently associated with functional decline (HR=4.4; 95%CI 2.2–9.0 and HR=2.8; 95%CI 1.4–5.5, respectively). In acute care older outpatients patients admitted at GDH, SPPB was a good predictor of hospitalization and functional decline in six months.

SESSION 3265 (SYMPOSIUM)

ANTECEDENTS AND OUTCOMES OF DISABILITY ACROSS THE ADULT LIFESPAN

Chair: F.J. Infurna, *Arizona State University, Tempe, Arizona*

Co-Chair: S.Y. Schaefer, *Arizona State University, Tempe, Arizona*

Discussant: M. Ernst Bravell, *Jonkoping University, Sweden*

Health adversities, such as disability and disease, become more common and prominent in midlife and especially in old age. The impact of disability and disease on development varies greatly, with some individuals displaying positive adaptation, whereas others may succumb. The goal of this symposium is to bring together a collection of papers that examine factors that are predictive of disability onset and the ways through which disability shapes the course of development. *Schaefer and colleagues* examine the predictive ability of level and rates of change in grip strength for disability onset over 8 years of time. Higher levels of and stability in grip strength were protective against the onset of disability onset, independent of covariates. *Fauth and colleagues* use longitudinal data on older adults to examine whether social embeddedness changes before and after disability and found that social embeddedness substantially decreased at the time of disability onset and showed sustained lower levels thereafter, with older age at disability being associated with stronger declines. *Infurna* examines changes in life satisfaction, positive affect, and negative affect before and after disability onset using longitudinal panel survey data in an adult lifespan sample and found that the likelihood of resilience differs for each indicator and that strong social connections increase the likelihood of resilience. The discussion by *Marie Ernst Bravell* will integrate the three papers, highlight the importance of examining the implications of disability onset across the adult lifespan using different methodological approaches and consider future routes of inquiry.

GRIP STRENGTH CHANGE OVER TIME PREDICTS DISABILITY ONSET IN OLDER ADULTS: FINDINGS FROM HRS DATA

S.Y. Schaefer, F.J. Infurna, *Arizona State University, Tempe, Arizona*

Grip strength is a useful biomarker of age-related processes, but less is known about whether its change over time has prognostic value in determining future events such as mortality or disability. To address this, we used data from 7,405 participants from the Health and Retirement Study (waves 2006–2014, mean±SD age of 67.7±10.7 years) to examine whether rates of change in grip strength were predictive of disability onset over 8 years of time. Higher grip strength in 2006 was protective against disability onset; each one-unit increase was associated with a 3% decreased likelihood of disability. More positive 4-year changes in grip strength was protective against disability, translating to a 4% decreased likelihood. Findings were independent of age, gender, years of education, depressive symptoms, and health conditions. While numerous factors contribute to grip strength, these findings indicate that grip strength is a dynamic variable whose trajectory may be prognostic of future disability.

DECLINE IN SUBJECTIVE SOCIAL SUPPORT: A FUNCTION OF DISABLEMENT PROCESSES

E. Fauth¹, F.J. Infurna², N. Ram³, D. Gerstorf⁴, 1. *Utah State University, Logan, Utah*, 2. *Arizona State University, Tempe, Arizona*, 3. *Pennsylvania State University, State College, Pennsylvania*, 4. *Humboldt-Universität zu Berlin, Berlin, Germany*

Lower subjective social support is associated with late-life disability in Activities of Daily Living (ADL), however prior research suggests it may be less protective postdisability onset. Using linear mixed models we examine subjective support changes over time in two phases: predisability and postdisability. Data were pooled from four longitudinal Swedish studies (GENDER, OCTO, OCTO-TWIN, NONA) where participants ($N = 1149$) were assessed every 2 years (4, for GENDER) for up to 8 years. Mean Age = 83.42 (SD=5.39), 64.8% female, and 32% married at baseline. Disability onset was the first wave where impairment in 1+ Personal ADL and/or 2+ Instrumental ADL emerged. Social embeddedness was measured via five items ($\alpha = .74$). In the predisability phase, subjective support declined (Est.=-.02; $p<.01$), but decline was more pronounced postdisability (Est.=-.010; $p<.01$). Progression to and from disability onset is related to declining subjective support. Intervention and care should target instrumental, and subjective support.

DIFFERENTIAL EFFECTS OF DISABILITY ON SUBJECTIVE WELL-BEING ACROSS THE ADULT LIFESPAN

F.J. Infurna, *Psychology, Arizona State University, Tempe, Arizona*

This study explores trajectories of subjective well-being (SWB) before and after disability. Previous research has typically included single outcomes of doing well, showing that most people experience high SWB despite adversity (deemed resilient). However, it is an open question if resilience is found when across multiple facets of SWB. Using data of the HILDA study ($N=7,552$, ages 16–101, 53% female) we examined trajectories of life satisfaction, positive affect and negative affect before and after disability onset and predictors of resilience. The proportion of people exhibiting resilient trajectories varied greatly across the facets of SWB (between 22% and 67%). Only 19% of individuals were resilient in all three SWB facets. Stronger social relationships were the strongest predictor of being resilient. Our discussion focuses on how resilience differs based on the indicator of SWB and directions for future research, including research designs that provide for studying the processes leading to resilience.

SESSION 3270 (PAPER)

ORGANIZATIONAL CULTURE AND WORKFORCE CONTRIBUTIONS TO QUALITY IN LONG-TERM CARE

ORGANISATIONAL CULTURE CHANGE IN RESIDENTIAL AGED CARE

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Australia, 3. University of Calgary, Calgary, Alberta, Canada, 4. Curtin University, Perth, Western Australia, Australia

There is increasing demand for quality residential care services in the face of constrained resources. In previous work, we developed an intervention comprising external facilitation of change cycles ('TOrCCh': Towards Organisational Culture Change), implemented by staff work teams. This study was undertaken to develop, and evaluate a toolkit and training resource to support sustainable culture change in residential aged care facilities (RACF), eventually with minimal external facilitation. Eight RACFs across two Australian States participated. A toolkit was drafted iteratively engaging participating sites and a reference group. Participating facilities undertook one change cycle with some external facilitation by research staff. The toolkit was then refined, and a second change cycle was undertaken using the toolkit, with minimal external facilitation. Qualitative data were collected from project sponsors and/or managers, work teams, and other care staff. Participants perceived benefits including staff development, increased communication, teamwork and leadership. The intervention was perceived to provide a generic approach which could be applied to solve agreed challenges in the work place ("Let's TOrCCh it!"), generating useful outcomes. The role of a project sponsor, and organisational support, were perceived as important for sustainability. Challenges were the complexity and application of the toolkit resource and management of work place constraints. Final products for the TOrCCh Project comprised Workteam Members and Leaders Guides as well as additional tools and resources accessible from <https://www.perkins.org.au/wacha/torcch/>. Our findings demonstrate that staff teams can work together to achieve change when provided with a toolkit and process.

IMPACT OF NURSE PRACTITIONER CARE OF NURSING HOME RESIDENTS ON EMERGENCY ROOM USE AND HOSPITALIZATIONS

D. Bakerjian, M. Dharmar, *Betty Irene Moore School of Nursing, University of California, Davis, Sacramento, California*

The acuity and complexity of the nursing home (NH) population has increased causing greater use of the emergency department (ED) and more acute hospitalizations. Simultaneously, CMS has emphasized the need to reduce ED use and avoidable hospitalizations. Nurse practitioners (NPs) have been shown to provide high quality care in NHs at equivalent or lower costs; however, there is significant variability in scope of practice between states. Little is known about how NPs impact ED visits and hospitalizations of NH residents or if practice restrictions change outcomes. The purpose of this study was to examine whether a higher prevalence of NP care in NHs was associated with fewer ED visits and hospitalizations in this frail population and whether there were further differences in states where NPs have full practice authority. We used administrative data from the CMS Chronic Condition Warehouse to examine the impact of NP care on ED visits and acute hospitalization. In a 5% random sample of all NH residents in U.S. (n=187,789), NPs and primary care physicians provided 87% of all NH visits. Patients with NP involvement had fewer ED visits (mean,

2.01 vs. 2.26, $p=.007$) compared with physician only care and there were fewer acute hospitalizations (mean, 3.08 vs 3.32 $p=.02$) when NPs provided care. States where NPs had full practice authority had better outcomes compared with states that did not. NPs can significantly reduce NH residents' use of the ED and acute hospitalizations, which endorses the need for policy changes to support NP full practice authority.

ACHIEVING PERSON-CENTRED LONG-TERM CARE THROUGH VOLUNTEERING

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Person-centred care (PCC) is designed to focus care delivery on the needs and preferences of the individual. Transferring PCC principles into practice is especially difficult when staffing levels are insufficient to allow time to respond to individual needs. The objective of this project was to develop and implement a volunteer program that sensitizes students to person-centred approaches including an emphasis on language. University students were recruited to volunteer for three hours, twice a week, for the duration of 12–18 months. Each resident was paired with two volunteers who focussed on improving access to residents' preferred activities, interaction with other residents and participation in home life. Continued learning for volunteers was maintained through monthly discussion groups with experts and fellow volunteers. Data was collected through journal entries, focus groups every three months, MDS data on residents and Likert scales assessing volunteer interest in working in this field. Results indicate a strong preference for one-on-one volunteer work as well as extended volunteering experience. Volunteers spoke of acting as advocates and facilitators for residents; and families spoke of respite for their visits. Continued learning was expressed as a benefit to students. Residents were able to participate in activities not normally available to them, such as outdoor activities. The results and lessons learned, within the context of PCC, as well as the avenues for future research and standardization of approach will be discussed.

BEHAVIORAL ENGAGEMENT AND ITS MEASUREMENT: IMPROVING DIRECT CARE WORKER OUTCOMES

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With the evolving nature of work combined with the aging of the workforce, engaged employees are key as low levels of engagement can result in poor outcomes. Behavioral engagement (BE) is a core element of employee engagement and involves the amount of discretionary effort expended. Using the Macey and Schneider (2008) framework, we posit BE is reflective of individual and leadership factors in the workplace. The purpose of this study was to determine leadership contributions to direct care worker (DCW) engagement and

the relationship between BE and outcomes. Using data from the 2007 National Home Health Aide Survey and the 2004 National Nursing Assistant Survey, factor analysis and hierarchical linear regression were used to develop a BE scale and examine the relationships between engagement and outcomes for DCWs and organizations. The findings support the validity of the proposed BE scale in both datasets ($\alpha = .76$). Behavioral engagement was negatively associated with turnover intentions (Home Health Aide (HHA), $\beta = -.36$); (Nursing Assistant) (NA), $\beta = -.29$ p-value $<.001$) and positively associated with job satisfaction (HHA, $\beta = .47$; NA, $\beta = .38$, p-value $<.001$); employee willingness to recommend their organization as place to seek care (HHA, $\beta = .34$; NA, $\beta = .45$, p-value $<.001$) and as a place to work (HHA, $\beta = .33$; NA, $\beta = .51$, p-value $<.001$). This study contributes to the growing literature on leadership having a direct influence on the BE of DCWs and offers an innovative scale for long-term care organizations to measure and improve the working environment for DCWs.

COMMUNITY RESIDENTIAL CARE: OPPORTUNITIES FOR RICH AND VARIED CLINICAL LEARNING EXPERIENCES

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The expanding population of older adults has generated a range of residential care options and roles for nurses in new settings. Yet, long-term and residential care facilities are often overlooked by schools of nursing as potential sites for learning beyond foundational courses. This paper describes how an academic-clinical partnership model has led to use of these settings for excellent student experiences across multiple courses in a baccalaureate nursing program.

Intentionally developed partnerships between faculty and facility nurses resulted in clinical experiences that are highly rated by students and faculty for achieving course outcomes and developing ‘real world’ skills that are transferable across all practice settings. Staff highly rate the experiences as valuable to their aging residents and positive for the facility.

For the past five years, courses routinely taught at partner sites have included health promotion, chronic illness care, nursing leadership, population health, and the final, integrated practicum course. Over 15 residential care facilities representing nursing homes, assisted living, and residential care homes have participated as clinical sites along with 12 faculty and over 100 students across 6 campuses of the state-wide School of Nursing.

Described will be the types of learning activities implemented in specific courses along with findings from faculty, student, and agency staff evaluations of course delivery. Key issues that need to be addressed in planning the clinical experiences will also be identified.

SESSION 3275 (SYMPOSIUM)

SENIOR-FRIENDLY PRACTICES: ACHIEVING EXCELLENCE ACROSS THE CONTINUUM OF CARE

Chair: B.A. Liu, *University of Toronto, Regional Geriatric Program, Toronto, Ontario, Canada*

Co-Chair: D. Brown, *Sunnybrook Health Sciences Centre, Univ of Toronto, Toronto, Ontario, Canada*

As the worlds’ population ages and health concerns become increasingly complex, care settings are challenged to recognize and intervene effectively to achieve favorable patient outcomes. Care processes themselves at times lead to deleterious outcomes. Clinicians must acknowledge and embrace a new culture; new ways of providing elder care with efficiency as we also face unprecedented financial imperatives.

Sunnybrook Health Sciences Centre has been strategically implementing and sustaining exemplary care processes targeted to the unique needs of older persons in partnership with other academic centres in the Toronto Academic Health Sciences Network. Across more than 30 inpatient units that include acute, long-term care and rehabilitation, patients experience interprofessional care inclusive of: three times daily mobility activities; accurate delirium screening; non-pharmacological interventions to prevent or mitigate the effects of delirium; antipsychotic stewardship; in addition to respectful verbal and documented communication.

With an interprofessional team approach, all staff have a role to play in optimizing patient outcomes.

This symposium will share the challenges overcome, successes achieved, how interventions have been customized across patient populations and sectors, team tenacity to address hard realities and ways in which the work is and will be sustained for patients in our hospital. As a result of work accomplished by a large contingent of individuals, a culture sensitive to the vulnerability and the unique needs of older persons has developed and our hospital is acknowledged among peers as a leader in the care of older patients. We will present results of our collaborative implementation based on mixed-method evaluation.

PERSON-CENTERED LANGUAGE FOR RESPONSIVE BEHAVIOURS

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Care providers often use the terms “aggressive”, “difficult” and “inappropriate” when encountering a patient presenting with responsive behaviours. Language such as this influences our thinking and contributes to a culture of labelling and blame, often impeding the development of a supportive and caring relationship between care provider and patient. When describing responsive behaviours it is critical that the language used be specific and objective in order to facilitate an understanding of the person behind the behaviour and appropriate care planning at all levels. In 2014, a working group with the Toronto Academic Health Science Network, Senior Friendly Hospital Community of Practice (TAHSN CoP) created a unique language guideline to provide a means of communication for use amongst care

providers when caring for patients with responsive behaviours. The document is reflective of a person-centered culture of care and will be integrated in various education and documentation platforms across all TAHSN hospitals.

A STANDARD OF CARE FOR MOBILIZATION: STEPPING INTO THE FUTURE OF SENIOR-FRIENDLY CARE

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Low mobility during hospitalization is an under recognized epidemic leading to adverse outcomes. Early mobilization interventions have been shown to decrease length of stay and improve functional status. Sunnybrook Health Science Centres has a standard of care for mobility to ensure seniors maintain optimal function during hospitalization. The standard requires early and daily assessment of mobility status by the inter-professional health care team using an algorithm to create an individualized mobilization plan that promotes a minimum of 3 mobility activities daily.

Mobility has been integrated into rounds, transfer of accountability and documentation. Patients meeting the mobility standard of care have increased from 16% to 81%, patients with documented mobility level from 29% to 96% and those with "out of bed" activities have increased from 35% to 71%. There has been a 5% increase in patients discharged home without support, no increase in injurious falls and LOS has remained stable.

THE HEALTHY STAY VOLUNTEERS AS PARTNERS IN SENIOR-FRIENDLY CARE

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The goal of the Healthy Stay Volunteer Program is to help patients keep a healthy mind and stay physically active during a hospital stay. Since the fall of 2015, over 150 volunteers have been trained to support our strategy to prevent delirium and promote mobilization.

Volunteers serve 11 acute care units encouraging patients to ambulate and/or perform simple exercises depending on their level of mobility. They provide friendly visiting, promote orientation, assist with practical matters like using the telephone, and provide cognitive stimulation. The program provides the volunteer with an interactive experience to work with an elderly population in an acute care setting with the support of a dedicated interprofessional team. The Healthy Stay Volunteer program has flourished and supports the sustainability of process change implemented through our corporate senior friendly strategy.

IDENTIFYING PATIENT DELIRIUM: RELYING ON SCREENING IS NOT ENOUGH

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Delirium in hospital is common, contributes to adverse outcomes and in many cases, is preventable.

At Sunnybrook Health Sciences Centre (SHSC), we provided education on delirium. Within months of education, we saw favorable uptake in screening. However the rate of positive delirium screens was much lower than expected. Accuracy of screening was suboptimal.

Staff focus groups identified that accurate delirium detection was impeded by lack of knowledge of patient baseline status, team communication challenges and tendency to perceive CAM screening as a moment-in-time determination.

Interventions on 3 acute care units, facilitated by chart reviews and rapid cycle improvement has improved accuracy by 18%, 30% & 39% on each unit over a period of 6 months.

Knowledge of delirium is often lacking in healthcare settings. SHSC has implemented a successful program which goes beyond compliance with delirium screening to ensure accurate identification of patients at risk of delirium.

ANTIPSYCHOTIC STEWARDSHIP FOR OLDER PATIENTS IN ACUTE CARE: PROMOTING APPROPRIATE PRESCRIBING

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Antipsychotics are associated with significant adverse effects and evidence to guide the choice of specific antipsychotic and the appropriate dose in older acutely ill patients is not robust. Our stewardship program is a novel approach to improve appropriateness of antipsychotics in acute care. In addition to the antipsychotic review, the stewardship team offers case-based learning sessions and integrates best practices in delirium management with front-line staff. Other antipsychotic stewardship programs have focused on audit and feedback of prescribing patterns. In contrast, our approach has been to provide education and reinforce non-pharmacologic strategies to behaviour management as an alternative or adjunct to antipsychotic use. In preliminary analysis, 55% of patients receiving antipsychotics were male and 77% of orders were for new prescriptions. Quetiapine and haloperidol were the most frequently ordered antipsychotics at 43% and 41% of orders, respectively. We discontinued or decreased the dose of antipsychotic in 62% of orders.

SESSION 3280 (SYMPOSIUM)

SARCOPENIA: REVISITING CRITERIA DEFINITION AND ASSOCIATION WITH PROTEIN INTAKE AND INSULIN RESISTANCE

Chair: J.A. Morais, *McGill University, Montreal, Quebec, Canada*

Co-Chair: S. Chevalier, *McGill University, Montreal, Quebec, Canada*

Sarcopenia is an important component of frailty and its diagnosis could lead to specific intervention to improve

functional capacity in older adults. There are several clinical oriented criteria definitions of sarcopenia available in literature for case finding based on low gait speed and handgrip strength. These criteria may be too sensitive, mandating unnecessary body composition measures. Total protein intake is important for muscle mass maintenance but we will present evidence from the Quebec Longitudinal Study on Nutrition and Successful Aging (NuAge) Study that distribution across meals may also prevent losses. Although muscle is considered the principal site of glucose uptake and its loss to contribute to the development of insulin resistance, these assumptions have not always been verified. The method used to present muscle mass index correcting absolute mass by either height squared or weight could account for the discrepancies in establishing the relationship with insulin resistance. Data from the NuAge Study will illustrate this concept and arguments will be brought forth to propose the most appropriate method. Furthermore, several hormonal and inflammatory factors associated with insulin resistance are also responsible for loss of muscle mass, therefore creating a false relationship between insulin resistance and low muscle mass. Using data from the NuAge Study, we will show how the application of logistic regression analysis of these factors along with muscle mass index will disentangle this spurious association.

SARCOPENIA AND FRAILITY: WHAT ARE THE ISSUES RELATED TO GAIT SPEED AND HANDGRIP STRENGTH CUTOFF VALUES?

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There is still no consensus on the strategies to diagnose frailty and sarcopenia. Gait speed (GS) and handgrip strength (HS) are included in most of the diagnostic criteria of sarcopenia – e.g., European Working Group (EWGSOP) – and frailty – e.g., Fried's scale. However, their cutoff points to select individuals with poor performance are not adequately determined. For instance, there is evidence that the cutoff points suggested by EWGSOP to screen elderly to muscle mass measurement select a very high proportion of individuals. Recently, three studies from Brazil, Mexico, and Spain reported that 83.4% of their cohorts were selected as suspected of sarcopenia using EWGSOP criteria. Cutoff-values tailored for these cohorts reduced the proportion of abnormal results to 34.2%. Also, in frailty studies, using inadequate GS and HS cutoff-values may overestimate in almost 10% their prevalence. In conclusion, to be epidemiologically/clinically useful, the cutoff-values of GS and HS must be adapted to specific populations.

MEALTIME DISTRIBUTION OF PROTEIN INTAKE AND LEAN MASS AND MUSCLE STRENGTH IN NUAGE PARTICIPANTS

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In addition to total intake, protein distribution across meals may affect sarcopenia. An even distribution further increased muscle protein synthesis compared to a skewed intake, in young adults. We studied whether this short-term result translates into long-term preservation of lean mass (LM) and muscle strength in healthy older adults of the NuAge study (827 men, 914 women). Outcomes were measured at baseline and 2-3-year follow-up. Protein intake was calculated from 6x24-h food recalls. **Results:** In men and women, LM declined by 2.5% and 2.0%, muscle strength by 20.0% and 18.2%, and mobility score by 6.5% and 7.8 % ($P<0.05$). Rates of decline were not independently affected by the quantity and distribution of protein intake. Yet, participants with more evenly distributed protein intake had higher LM and muscle strength throughout follow-up, even after controlling for confounders ($P<0.05$). This could translate in delaying reaching a sarcopenic threshold, affecting functionality.

DIFFERENT INDICES OF MUSCLE MASS MAY LEAD TO DIFFERENT ASSOCIATIONS WITH THE HOMA-IR SCORE

J.A. Morais, *Medicine, McGill University, Montreal, Quebec, Canada*

Muscle is considered the principal site of glucose uptake and its loss thought to contribute to the development of insulin resistance. The method used to present muscle mass index could account for the discrepancies in establishing the relationship with insulin resistance. We wished to determine the association of the HOMA-IR with two indices of muscle mass: height-muscle mass index (HMMI; kg muscle/height in m²), and weight muscle mass index (WMMI; kg muscle/body weight X 100) in 440 non-diabetic, men and women of the Quebec Longitudinal Study NuAge. HMMI was positively correlated with HOMA-IR ($r=0.340$, $p<0.001$) and WMMI negatively ($r=-0.211$, $p<0.001$). Correcting for fat mass made the association to disappear for the WMMI. Since correcting for fat mass eliminates this association for the WMMI, one can infer that this index gives a spurious inverse relationship, likely by creating a false relative low MMI for persons with higher adiposity.

PREDICTORS OF INSULIN RESISTANCE IN COMMUNITY-DWELLING OLDER ADULTS OF THE NUAGE STUDY

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We determined insulin resistant subjects over a 3-year period by trajectory analyses of the HOMA-IR in a sample of non-diabetic, participants of the NuAge Study. Muscle mass index and % body fat were derived from DXA and bioimpedance. Physical activity was assessed. Protein intakes were calculated. Serum biomarker profile included adiponectin, leptin, CRP, TNF- α , IL-6, IL-10, lipid profile, IGF-1 and IGFBP-3. Using path analysis without biomarkers, positive associations were observed for HOMA-IR score with MMI ($\beta=0.42$) and % body fat ($\beta=0.094$). Logistic regression

without biomarkers provided only 3 significant predictors of insulin resistance: MMI [OR (95% CI): 1.72 (1.26–2.3)]; %body fat [1.18 (1.12–1.25)]; male sex [0.145 (0.04–0.45)]. When the biomarker profile was included, adiponectin [0.58 (0.35–0.95)], TNF- α [1.12 (1.00–1.23)] and leptin [2.92 (1.29–6.64)] were independent predictors of insulin resistance. Our analyses showed that positive association between muscle mass and HOMA-IR is likely mediated through higher levels of TNF- α and leptin and lower adiponectin.

NEUROPROTECTIVE EFFECTS OF DANCING IN OLD AGE

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Neuromuscular junction (NMJ) degeneration and loss of motor units (MUs), markedly contribute to sarcopenia. NMJ damage in sarcopenic individuals can be assessed from serum measurements of c-terminal peptide agrin fragment (CAF) (Hettwer et al. Exp Gerontol 2013). Interestingly, aerobic exercise protects against NMJ degeneration (Valdez et al. Proc Natl Acad Sci 2010) in senile rats and in humans, no decline in MUs has been found in master runners (Power et al. Med Sci Sports Exerc 2010). The present study aimed to investigate whether ball-room dancing could have neuroprotective effects compared to gym training (endurance, strength-endurance and flexibility training). Thirty-seven older individuals (aged 71.6 ± 3.5 yr, 18 female and 19 male) were randomly assigned to a Dance Group (DG) or Gym Exercise Group (GEG). Both groups trained twice/week, 90 min/session, for 6 months. Blood serum CAF levels (Neurotune AG, Schlieren, Switzerland) were measured before and after the intervention. Data were compared to those of older sarcopenic and young controls. Values are means $\pm$ S.D., paired/unpaired Student's t-Test were used. Pre-training, CAF values of the DG and GEG groups were respectively 1.9 and 2.2-fold higher than of young controls. However, after the intervention, CAF levels decreased by 15% ($P < 0.001$) in DG, while no changes were found in the GEG. These findings suggest a reduction of neuromuscular degeneration in older humans as a result of six-month recreational dancing but not by general fitness training. This neuroprotective effect of dancing may be due to improved neurotrophin levels, reduced oxidative stress and inflammation.

SESSION 3285 (PAPER)

COGNITION: INTERNATIONAL PERSPECTIVES

PHYSICAL ACTIVITY IN MIDLIFE AND 20-YEAR CHANGE IN GLOBAL COGNITIVE FUNCTION: THE ARIC-NCS STUDY

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Chapel Hill, North Carolina, 2. Johns Hopkins University, Baltimore, Maryland, 3. University of Texas Health Science Center, Houston, Texas, 4. University of Minnesota, Minneapolis, Minnesota, 5. University of Mississippi Medical Center, Jackson, Mississippi

Reducing the high burden of cognitive impairment and its sequelae in our aging population is a high priority that may be attainable by intervening on modifiable behaviors such as physical activity. We determined the cross-temporal associations between mid-life physical activity and change in global cognitive function among 14,203 participants (mean age: 57 years (SD: 5.7); 24.7% Black) of the Atherosclerosis Risk in Communities Neurocognitive Study (ARIC-NCS). Using the interviewer-administered Baecke Physical Activity Questionnaire from the visit 1 examination (1987–1989), we categorized participant's physical activity according to the American's Heart Association's Life's Simple 7 cardiovascular health criteria: ideal ($n=5731$), intermediate ($n=3200$), or poor ($n=5272$). Cognitive tests of working memory, language, and executive function were administered at visits 2 (1990–1992), 4 (1996–1998), and 5 (2011–2013). Cognitive test scores were standardized to z-scores and averaged to yield a global cognition score. Race-stratified linear mixed models, with random intercepts and random slopes, estimated the associations of ideal, intermediate and poor physical activity with change in global cognitive function, adjusted for age, sex, education, and smoking. Among Whites and Blacks, no significant differences were observed in 20-year rates of change in global cognition comparing participants with ideal physical activity to those with poor physical activity (Beta=-0.03, 95% CI: -0.08, 0.02; Beta=0.01, 95% CI: -0.09, 0.11), respectively. Results were robust to adjustment for attrition. Future work should further evaluate the impact of the joint and independent effects of type, duration and intensity of physical activity on cognitive function.

ASSOCIATIONS OF SOCIAL NETWORKS WITH COGNITION IN OLD AGE: RESULTS FROM THE BERLIN AGING STUDY

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Leading an engaged lifestyle is recognised as one means of contributing to cognitive health across adulthood. This has led to several studies examining associations of social network attributes with cognition in older adults. Most have focused on structural aspects of networks (e.g., network size and activity engagement), however social networks are multi-faceted and different aspects of social behaviour could affect cognition through different mechanisms. This study used data from the Berlin Aging Study (BASE), a population-based study of 516 adults (age range 70 – 103) to examine associations of baseline social network structure (number of close others, network members lost through death), and network quality (social and emotional loneliness, number of upsetting network members) with levels and rates of change in processing speed and verbal fluency. Number of close others, and number of network members lost were not associated with levels, or rates of decline in speed or fluency across the 13 year study interval. Among the network quality indicators, greater social and emotional loneliness were

each related to poorer levels of cognitive performance, but were unrelated to rates of change. Having a greater number of problematic network members was associated with higher levels of fluency. The discussion focuses on the different mechanisms through which social functioning could affect cognition, and considers issues of possible reciprocal causation.

COGNITIVE TRAJECTORY PATTERNS PREDICT INCIDENT DEMENTIA RISK IN OLDER SWEDISH ADULTS

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Lower average performance levels and decline in memory and executive function tasks have been associated with dementia risk. In this study, we aimed to establish a forward-prediction line of reasoning by applying growth-survival models to examine the relationship between cognitive trajectories and incident dementia risk. We used data from 981 Swedish adults (mean baseline age = 65.89 (SD = 10.72)) who were evaluated in both the Swedish Adoption/Twin Study of Aging (SATSA) and the HARMONY study. Cognitive performance measures were available for up to 10 assessments and up to 22.9 years of follow-up (median = 9.37 years). Of the total sample, 219 individuals (22.32%) were diagnosed with incident dementia. Cognitive data obtained after the estimated age of dementia onset were not included in the analysis to consider trajectory patterns that emerged prior to discernible disease. Accounting for sex and age at entry, the simultaneous growth-survival models revealed that linear declines at age 65 in processing speed ($p < .001$) and spatial ability ($p = .08$) were associated with increased dementia risk, whereas neither level of performance at age 65 nor nonlinear change were significant. For episodic memory, lower level of performance at age 65 ($p < .001$) and nonlinear accelerations in decline ($p < .01$) across age predicted increased dementia risk, but linear change at age 65 did not; this result remained significant when adding education as a covariate. We will consider additional tasks in the verbal domain and compare results to those in other Swedish studies of aging (e.g., OCTO Twin, GENDER).

GENDER DIFFERENCES IN COGNITIVE IMPAIRMENT AMONG THE OLD AND OLDEST-OLD IN CHINA

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Research has shown that among the oldest-old in China, women have higher risk of cognitive impairment than men. Building off previous research and using the latest waves (2008–2011) from the Chinese Longitudinal Healthy Longevity Survey (N=13,586), we explored gender differences in cognitive impairment across two age cohorts in

China: the old (ages 65–79) and oldest-old (ages 80–116). Regression analysis was employed to model the gender effects on baseline cognitive function and onset of cognitive impairment. Independent variables included demographic background, socioeconomic status (SES), social network, leisure activities, and dementia status. Among the oldest-old, women (32.9%) were twice as likely as men (15.7%) to have cognitive impairment. For the old, women (2.2%) were only slightly more likely than men (1.9%). Regression models found that the oldest-old women remained at significantly higher risk of having cognitive impairment compared to men ($p < .001$), even after introducing independent variables. However, no significant gender differences were found among the old cohort. Of the independent variables examined, the gender effects were reduced the most when incorporating SES in these regression models for both age cohorts. For the oldest-old, gender differences in cognitive impairment could be due to differences in SES between men and women. As for the old, the lack of gender differences could be attributed to the very low percentages of cognitive impairment to begin with. Perhaps as they age, gender differences may emerge as seen in the oldest-old. Future research should follow up with this current old cohort about possible gender differences in cognitive impairment.

SESSION 3290 (SYMPOSIUM)

SOCIAL, PSYCHOLOGICAL, AND HEALTH-RELATED RISK FACTORS FOR LATE-LIFE SUICIDE

Chair: J. Lutz, *West Virginia University*

Co-Chair: R. Cui, *West Virginia University, Morgantown, West Virginia*

Discussant: Y. Conwell, *University of Rochester*

Older adults, particularly males, are at comparatively high risk for suicide in many countries around the world. Therefore, suicide among older adults is a major public health problem, and it is crucial to identify risk and protective factors for suicide in this population. This symposium will present current research on social, psychological, and health-related risk factors for late-life suicide.

First, Kadija Williams, M.A., will present research on younger and older adults' perceptions of risk and protective factors for suicide. Then, Ehud Bodner, Ph.D., will discuss research on subjective age as a moderator of the relation between daily stressors and passive death wishes in younger and older adults. Third, Danielle Jahn, Ph.D., will discuss a study testing whether use of healthcare services and quality of experience with healthcare providers are associated with perceived burdensomeness, thwarted belongingness and suicidal ideation among older male veterans. Next, Briony Murphy, B.A., will present results of a national case series study of death by suicide among nursing home residents in Australia. Finally, Lydia Li, Ph.D., will present research on the association between self-reported discrimination and suicidal ideation in older Chinese Americans. Yeates Conwell, M.D., director of Geriatric Psychiatry and co-director of the Center for the Study and Prevention of Suicide at the University of Rochester Medical Center, will serve as discussant.

OLDER AND YOUNGER ADULTS' PERCEPTIONS OF PRECIPITANTS AND PROTECTANTS FOR LATE-LIFE SUICIDE

K. Williams, D.L. Segal, *University of Colorado – Colorado Springs, Colorado Springs, Colorado*

This study examined perceptions of and attitudes toward late-life suicide among older and younger adults. A sample of 462 adults (391 young adults, 18–29 years; 71 older adults, 60–81 years) read a fictional obituary of an older adult who died by suicide and rated the importance of 10 precipitating events and eight protective factors. Results indicated that regarding precipitants, older adults attributed personal terminal illness with significantly more risk than younger adults ($p = .04$; $d = .28$) whereas younger adults attributed greater risk to illness of a first degree relative ($p = .013$; $d = .57$). Regarding protectants, older adults rated financial resources as more protective than younger adults ($p = .017$; $d = .30$). Correlational results revealed that agreement with late-life suicide was associated with agreement with age-stereotyping and the Geriatric Suicide Ideation Scale total score. An implication is that older and younger adults differ on the attribution of importance of some risk and protective factors over others

YOUNGER SUBJECTIVE AGE, DAILY HASSLES, AND PASSIVE DEATH WISHES IN ADULTHOOD AND LATE LIFE

E. Bodner¹, A. Shrira¹, Y. Palgi², *1. Bar-Ilan University, Ramat Gan, Israel, 2. University of Haifa, Haifa, Israel*

Passive death wishes increase in old age. Having a younger subjective age relates to lower vulnerability to daily hassles. We examined whether subjective age moderates the effect of daily hassles on daily passive death wishes. Participants at the age range of 30 to 96 ($N=334$, $M=57.6$, $SD=17.1$) reported their subjective age, exposure to daily hassles and passive death wishes, on each day over a period of two weeks. Multilevel models showed that the interaction between subjective age and daily hassles was significant at the .002 level and the basic model explained 11% in the within-person variance in passive death wishes. The effect of daily hassles on death wishes was weaker among individuals with younger subjective age, even after controlling for depression and background variables. These findings join previous ones in establishing subjective age as an important developmental marker, regulating vulnerability to stress.

INTERACTIONS WITH THE HEALTHCARE SYSTEM AND SUICIDE RISK FACTORS AMONG OLDER MALE VETERANS

D. Jahn, *1. University of Maryland School of Medicine, Baltimore, Maryland, 2. VA Capitol Health Care Network (VISN 5) Mental Illness Research, Education, and Clinical Center, Baltimore, Maryland*

Suicide risk is high among older men (CDC, 2016). Using healthcare services may increase healthcare-related perceived burdensomeness and thwarted belongingness (both suicide risk factors; Cukrowicz et al., 2013), depending upon the quality of interactions with providers. Therefore, we sought to examine how use of services and experiences with providers influenced suicide risk among older male Veterans. We found that frequency of healthcare service use was not correlated with perceived burdensomeness ($r=.19$, $p=.34$) or

thwarted belongingness ($r=-.02$, $p=.93$), though perceived mental illness-based discrimination ($r=.52$, $p=.004$; $r=.50$, $p=.01$, respectively) and stereotyping by providers ($r=-.49$, $p=.01$; $r=-.43$, $p=.02$, respectively) were. Perceived burdensomeness and thwarted belongingness separately mediated the relations between perceived discrimination (95% CI=0.31,12.71; 95% CI=1.06, 5.19, respectively) or stereotyping (95% CI=-1.29,-0.12; 95% CI=-0.96,-0.09, respectively) and suicide ideation. These results suggest that it is not frequency of healthcare service utilization, but quality of interactions with healthcare providers, that influences suicide risk in older men.

SUICIDE AMONG NURSING HOME RESIDENTS IN AUSTRALIA, 2000–2013: A CASE SERIES STUDY

B. Murphy, L. Bugeja, J. Pilgrim, J. Ibrahim, *Monash University, Clayton, Victoria, Australia*

Little is known about suicide of residents in the nursing home setting. This research aims to describe the frequency and nature of suicides among nursing home residents in Australia, and examine associated individual, incident-level, organisational, and societal factors. Data on every suicide was obtained by reviewing the original coroner's (medical examiner) investigation file. The study identified 141 suicides among nursing home residents (2000–2013). Individual risk factors included being male ($n=97$, 68.8%); having a mood disorder ($n=93$, 66.0%); and suffering from one or more physical health conditions ($n=122$, 86.5%). Common methods included hanging ($n=45$, 31.9%), fall from height ($n=24$, 17.0%), and plastic bag asphyxia ($n=20$, 14.2%). High risk periods and organisational factors were also identified. This is the first national Australian study describing suicides among nursing home residents and will assist in developing prevention policies. This study contributes new knowledge internationally as it addresses incident-level and organisational factors.

SELF-REPORTED DISCRIMINATION AND SUICIDAL IDEATION IN OLDER CHINESE AMERICANS

L.W. Li¹, X. Dong², *1. University of Michigan, Ann Arbor, Michigan, 2. Rush University Medical Center, Chicago, Illinois*

This study examines the association between self-reported discrimination and suicidal ideation in older Chinese Americans. The sample included 3,033 Chinese adults (age 60+) in Chicago Area. Suicidal ideation was dichotomously coded, based on one item: "Have you felt suicidal or wished to be dead in the last 12 months." Self-reported discrimination was coded yes vs. no experience of discrimination, based on respondents' reports of discrimination experience in nine situations due to their race/ethnicity/color. Covariates included socio-demographics, acculturation, Chinatown residence, and neuroticism. About 4.8% of the sample reported having suicidal ideation and 21.5% having experienced discrimination. Logistic regression results show that self-reported discrimination was significantly associated with suicidal ideation before ($OR=2.21$, 95% CI=1.57–3.11, $p<.001$) and after adjusting for the covariates ($OR=2.18$, 95% CI=1.47–3.23, $p<.001$). This is the first study to report the association between self-reported discrimination and suicidal ideation, and among the few focusing on suicidal ideation in older Chinese Americans.

SESSION 3295 (SYMPOSIUM)

COORDINATED ANALYSIS OF ECOLOGICAL MOMENTARY AND DAILY DIARY STUDIES OF EVERYDAY STRESS AND AFFECT

Chair: M. Sliwinski, *Penn State University, Pennsylvania*

Co-Chair: S.B. Scott, *Stony Brook University*

Discussant: L. Nielsen, *Division of Behavioral and Social Research, National Institute on Aging*

Emotional responses to everyday stress have been linked to important age-related health outcomes, such as chronic disease, cognitive decline and dementia, and mortality. This symposium illustrates the value of conducting coordinated analyses across multiple intensive repeated measures studies that assessed everyday stress and affect for answering these questions for elucidating the proximal mechanisms through which everyday stress impacts health and health behaviors. Sliwinski provides an overview of some of the unresolved questions regarding age difference in everyday stress, the differences between momentary and end-of-day (EOD) assessments, and how conducting coordinated analyses of multiple data sets can advance scientific knowledge. Scott & Sliwinski presents a paper that examines age differences in the affective variability across different time scales (within-day vs. between-days) and whether this variability can be reliably measured. Zawadzki, Almeida & Smyth directly contrast momentary vs. typical EOD reports of stressor to illustrate how assessment methods and the temporal frame of self-report assessments interact with age to influence the frequency of stress reporting. Stawski & Almeida attempt to explain the variability in findings regarding age differences in emotional reactivity to everyday stressors by contrasting results across multiple studies that utilized momentary and EOD reports of stressors and affective experiences. Lis Nielsen will provide a discussion that integrates findings from these papers in the context of initiatives advanced by the National Institutes of Health (NIH) Science of Behavior Change Common Fund Program.

DECOMPOSING AFFECT VARIABILITY ACROSS MOMENTARY AND DAILY TIMESCALES

S.B. Scott², M. Sliwinski¹, 1. *Penn State University, University Park, Pennsylvania*, 2. *Stoney Brook University, Stoney Brook, New York*

Recent research has taken a lifespan developmental perspective on emotion regulation and examined whether there are age differences in variability in emotional experiences. Multiple factors, however, contribute to affect variability - stable individual differences, daily shifts, and momentary fluctuations. This coordinated analysis of seven independent daily diary and ecological momentary assessment studies (age = 18–84 years) decomposed negative affect (NA) and positive affect (PA) variability. Within-person variability was sizeable (NA: 45–74%, PA: 24–66%), with most at the momentary level. PA and NA reliability were high (0.77–0.91) despite different items and designs. Heterogeneous variance models by age group indicated greater proportion of momentary variability among older adults. Theorized processes underlying moment-to-moment fluctuations are conceptually distinct from those differentiating good from bad days and one individual's typical state from another person's.

Imprecise labeling of variability may impede progress when researchers attempt to find the same patterns and predictors across different time scales.

ASSESSING STRESS: DOES METHOD, TEMPORAL FEATURES, OR AGE INFLUENCE REPORTED STRESSOR FREQUENCY?

M. Zawadzki¹, D. Almeida², J. Smyth², 1. *University of California, Merced, Merced, California*, 2. *Penn State University, University Park, Pennsylvania*

Although exposure to stressors in daily life is a common experience, reports of stressor frequency may be influenced by how they are assessed. Moreover, age differences in attending to negative stimuli might influence rates of stressor reporting across the lifespan. We conducted a coordinated analysis of seven large data sets that assessed stressor frequency using end of day [EOD; one overall report daily], ecological momentary assessment [EMA; multiple reports throughout a day], or hybrid designs [both EOD and EMA]. Our analysis examined if the frequency of stressor reporting differs by: (1) the approach used (i.e., EOD/EMA/hybrid); (2) temporal features (e.g., day of week, number or position of measurement days); or (3) a function of age. Analyses suggest that assessment method, temporal features, and age can impact the frequency of stress reporting. These results have important implications for how stress is assessed and interpreted in studies using EOD and EMA designs.

AGE DIFFERENCES IN EMOTIONAL REACTIVITY TO DAILY STRESSORS: A COORDINATED ANALYSIS

R.S. Stawski¹, D. Almeida², 1. *Oregon State University, Corvallis, Oregon*, 2. *Penn State University, University Park, Pennsylvania*

Theories of stress, emotion and aging posit age-related decreases in emotional reactivity to stressors. Ecological momentary assessment (EMA) and end-of-day diary (EOD) approaches have been employed to study age differences in stressor-related increases in negative affect, yielding mixed results. Some studies show age benefits, some show age decrements, and others show no difference. Data from 7 independent studies, 5 EMA and 6 EOD, were analyzed to address these inconsistencies. Preliminary analyses of 2 EMA (Study 1: N=240, 14 days, 5 beeps/day, Ages=25–65; Study 2: N=175, 7 days, 5 beeps/day, Ages=20–80) and EOD (Study 1: N=2,022, 8 days, Ages=35–84; Study 2: N=311, 8 days, Ages=21–63) studies revealed significant stressor-related increases in negative affect across all studies. Age-related decreases in reactivity were observed across all studies, but only statistically significant for EOD studies. Discussion will focus on design and measurement considerations for EMA and EOD studies for understanding stress processes and aging.

SESSION 3300 (SYMPOSIUM)

REAL-TIME LOCATION SYSTEMS FACILITATE INDEPENDENCE IN LONG-TERM AND SPECIALIZED CARE SETTINGS

Chair: D.H. Sullivan, *Central Arkansas Veterans Healthcare System, Little Rock, Arkansas*

Co-Chair: W. Kearns, *University of South Florida, Tampa, Florida*

Discussant: A. Mihailidis, *University of Toronto, Toronto, Ontario, Canada*

In this symposium, speakers will discuss clinical and research initiatives utilizing real-time location systems (RTLS) to promote functional independence of vulnerable adults in home and clinical environments. The intended use of RTLS to inform clinical decision-making will be described. Session one will focus on RTLS to monitor older residents' movements in an assisted living environment; data reduction and analysis techniques that map resident ambulation patterns around the facility and reveal intra-individual pattern changes in order to predict falls in this vulnerable population will be presented. Session two presents a unique integration of RTLS with bed monitors to support a nurse-driven clinical initiative promoting early and progressive ambulation in hospitalized Veterans. The validity, sensitivity and specificity of system-generated reports of patient time in motion, out of bed but sedentary, and at bed rest and the challenges of differentiating various modes of Veteran movement will be discussed. In the final session, ongoing work on model "Smart Home" integrated systems to support Veterans with traumatic brain injury in various environments will be presented. The session will describe a system that prompts a patient to perform specific functional tasks, the data integration strategies used to detect the behavior sequences in the task, and planned enhancements to the system that will reengage a Veteran to resume interrupted behavior sequences at the point in the sequence where the requisite behaviors have been omitted.

CHANGES IN AMBULATION AND FALL RISK

M.E. Bowen^{1,2}, M. Rowe³, 1. Michael J. Crescenzo VA Medical Center, Philadelphia, Pennsylvania, 2. West Chester University of Pennsylvania, West Chester, Pennsylvania, 3. University of South Florida, Tampa, Florida

The aim of this prospective study is to examine how intra-individual changes in ambulation characteristics may be used to predict falls. The ambulatory characteristics of 26 residents of an Assisted Living Facility were measured continuously for up to 8 months by a real-time locating system (RTLS). Ambulation characteristics include: time and distance walked, speed and path distance (at least 60 seconds of uninterrupted walking separated by at least a 30 second stop). Fall (yes/no) and cognitive impairment (CI) data were also collected. In Hierarchical Linear Models, path distance (OR=1.02; $p \leq 0.001$) was associated with an increased fall risk. In the short term, intra-individual changes in path distance were associated with a fall within the 4-week interval the change was noted. Path distance had fair sensitivity (0.74) and specificity (0.66) to a fall (AUC=0.70). Study findings suggest interventions focused on reducing path-associated fatigue may effectively reduce fall incidence in this population.

USE OF REAL-TIME LOCATING SYSTEM AND OTHER TECHNOLOGIES TO INCREASE HOSPITAL PATIENT MOBILITY

D.H. Sullivan^{1,2}, T.S. Taylor¹, S. Gray-Staples¹, C. Rice¹, F.A. Martin¹, J.S. Cheek¹, M.M. Bopp¹, 1. Central Arkansas Veterans Healthcare Systems, Little Rock, Arkansas, 2. University of Arkansas for Medical Sciences, Little Rock, Arkansas

As part of a quality improvement initiative to increase the time patients spend ambulating while hospitalized, a high resolution real-time locating system (RTLS) was installed on one hospital wing to provide the clinical staff with accurate assessments of the effectiveness of their interventions. The system, which is comprised of multiple sensors mounted near the ceiling and active tags attached to wheelchairs or worn as wristbands by patients, has a resolution to within 20 cm. After detailed validation testing, the clinical staff began utilizing the system to produce comprehensive reports on their patients' activity level including movement trails, gait speed, time ambulating, sedentary, and in bed, and distance traveled by day or shift. We describe how we link this system to a second bed monitoring system, the types and accuracy of the data produced, different methods utilized to differentiate ambulatory from non-ambulatory movement, and how the system reports inform clinical decision-making.

VA SMART HOME TECHNOLOGY FOR COGNITIVE IMPAIRMENT

S.L. Phillips¹, S.G. Scott¹, J. McCarthy¹, K.M. Martinez¹, K. Mann³, C. Reich³, R.G. Archer³, W. Kearns², 1. James Haley VA Hospital, Tampa, Florida, 2. University of South Florida, Tampa, Florida, 3. Ubisense, Inc, Denver, Colorado

The VA Smart Home at the James A. Haley Veterans Administration Hospital in Tampa provides advanced behavioral prompting to veterans with injury related cognitive impairment and their caregivers in order to monitor and improve the quality of health service delivery in three settings: 1) integrated logistical support for multiple caregivers providing care to veterans with TBI considered "emerging consciousness" cases. 2) in-home location and ADL tracking for semi-independent veterans with traumatic brain injury (TBI) and 3) an inpatient residential unit that uses location and time-based prompts for activities of daily living (ADL). Each setting poses unique design challenges for specific pervasive monitoring solutions, obviating a "one size fits all" approach. Lessons learned and design considerations will be discussed. Results from longitudinally gathered measures of caregiver burden, task and medication compliance, walking speed, and movement path variability (path tortuosity) will be presented.

SESSION 3305 (SYMPOSIUM)

OLDER ADULTS WITH INTELLECTUAL DISABILITY: PERSPECTIVES ON AGING-RELATED HEALTH STATUS AND DISPARITIES

Chair: M.P. Janicki, *University of Illinois, Rockport, Maine*
Discussant: L.W. Kaye, *University of Maine*

Older adults with intellectual disability (ID), like many disadvantaged older adults, represent various health statuses and often experience disparities in health access. Yet, knowing more about the health and function manifest in this broad group of older adults can help provide for more effective screening and management of daily health and medical services delivery. Variables that contribute to these variations include geographic location, presence of neuropathies, and extent of comorbidities. The symposium explores three aspects on this issue drawn from extant studies, one from an examination of older rural- and urban-dwelling adults with

ID in Australia compared with geo-equivalent neuro-typical older adults, another from analyses of data in the US-based national LHIDDS dataset related to comorbidity and preventative health in older adults w/ID, and the third from comparisons of how the health of adults with ID and dementia differ from non-affected adults. These studies show that for most conditions there is a noted discrepancy in the proportion of respondents with a chronic disease diagnosis versus those who were prescribed medications, which may point to inadequacy of appropriate healthcare primary-care physicians. They also show that adults w/ID in general have many comorbidities, and that among those adults with dementia varied health status and comorbidities are significant and there are marked behavioral changes when compared to unaffected adults. Noted is the higher than normative poorer health status and rates of comorbidities, which signal a greater need for health surveillance, more frequent health reviews, systematic health advocacy, and health provider education.

BURDEN OF CHRONIC DISEASE FOR OLDER AUSTRALIANS WITH INTELLECTUAL DISABILITY

R. Hussain¹, S. Wark², M.P. Janicki³, T. Parmenter⁴, M. Knox⁴, 1. *Australian National University, Canberra, Australian Capital Territory, Australia*, 2. *University of New England, Armidale, New South Wales, Australia*, 3. *University of Illinois, Chicago, Illinois*, 4. *University of Sydney, Sydney, New South Wales, Australia*

The preliminary findings from an ongoing large-scale Australian study assessing health, well-being and health service use for older people with intellectual disability (PwID), compared to their normative age-peers, have revealed the nature of the burden of chronic disease experienced by PwID aged ≥ 60 years ($n=356$). Preliminary results confirm a significant burden of chronic disease including: arthritis (41%), persistent pain (28%), diabetes (23%), asthma (16%), heart disease (15%), cancers (8.7%), depression (22%), anxiety (20%), schizophrenia/bipolar (3.3%) and dementia (2.2%). Many respondents reported multiple comorbidities. For most conditions, there was a noted discrepancy in the proportion of respondents with a chronic disease diagnosis versus those who were prescribed medication, which alludes to inadequacy of appropriate healthcare for PwIDs by primary-care physicians. Comparative data from OECD countries reveal patterns of chronic disease for older PwID; given this there are significant challenges of healthcare service provision across disability and aged-care services.

LIFESTYLES, HEALTH, AND PREVENTIVE HEALTH CARE OF OLDER ADULTS WITH INTELLECTUAL DISABILITIES

K. Hsieh, T. Heller, S. Murthy, *Disability and Human Development, University of Illinois at Chicago, Chicago, Illinois*

Data from a subset ($N=373$) of the US Longitudinal Health and Intellectual Disability Study (LHIDS) were examined to compare health factors and rates of preventive care use with data from the general population. Results show that older

adults with intellectual disability (ID) had higher prevalence rates of obesity, heart conditions, anxiety disorders, and falls across two age groups (50–59, 60+); only among adults age 60+ was a higher rate of depression noted. Conversely, older adults with ID had lower rates of arthritis, stroke, diabetes, asthma, and cancer. Disparities in breast and cervical cancer screenings were noted. Compared to their peers without ID, older adults with ID were more likely to be physically inactive and insufficiently consume fruits and vegetables. The findings suggest that older adults with ID need to improve their health through adopting lifelong healthy lifestyles and practices and by gaining greater access to cancer screenings, especially among women.

HEALTH STATUS AND COMORBIDITIES OF ADULTS WITH DEMENTIA AND ID-IMPLICATIONS FOR SCREENING AND HEALTHCARE

M.P. Janicki, 1. *University of Illinois, Chicago, Illinois*, 2. *National Task Group on Intellectual Disabilities and Dementia Practices, Rockport, Maine*

Declining health status and comorbidities are often markers for associated mild cognitive impairment or dementia. A group of community-dwelling adults with intellectual disability diagnosed with dementia (along with controls) have been tracked longitudinally with respect to their health and function. With time, the dementia-capable group home residents with dementia are showing significantly varied health status and comorbidities as well as marked behavioral changes. By tracking the health and function longitudinally, outcome information can pinpoint markers that are associated with premorbid dementia and can help health providers maintain surveillance over select functions and health conditions of those adults already affected. Screening instruments, incorporating these markers, can more precisely be used to identify at-risk adults for ADRD and aid providers design remediation programs earlier.

PREVENTIVE HEALTH CARE AMONG OLDER ADULTS WITH INTELLECTUAL AND DEVELOPMENTAL DISABILITIES

T. Heller, *University of Illinois, Chicago, Illinois*

Little research using large scale data focuses on preventive health care compliance and the associated factors among older adults with intellectual and developmental disabilities (IDD). Objectives were: (1) To examine preventive health care utilization rates and compliance among older adults with IDD (aged 50 years or older) by residential type; (2) To identify associated factors of preventive health care compliance among older adults with IDD. We analyzed the subset ($N = 1,732$) of the multi-state National Core Indicators 2009–2010 data. Descriptive statistics and logistic regressions were conducted to examine the associated factors with preventive health care compliance. Older adults with IDD living with family had the lowest rates of preventive health care with regard to physical exams, dental visits, vaccinations, colorectal cancer screening, and mammograms. Preventive health care compliance was related to being older, not Hispanic, and living in specialized institutions or agency-operated apartments.

SESSION 3310 (SYMPOSIUM)

CREATING SUSTAINABLE AND RESILIENT INTERGENERATIONAL COMMUNITIES: LESSONS FROM FOUR SOCIETIES

Chair: C.T. Hayashida, *St. Francis Healthcare System of Hawaii*

Rapid population aging points to significant challenges for the 21st Century including the maintenance of sustainable and resilient intergenerational communities. While on-going work is done on achieving increased healthy life expectancy for active retirees, it is clear that there will always be a need for more understanding by the younger and older generations about the aging process, their changing roles and responsibilities to assure intergenerational community integration. Lacking that awareness and commitment by both the young and old, the prospects for intergenerational conflict is great.

This symposium will showcase four (4) presentations from Indonesia, Singapore, Hong Kong and Hawaii that collectively provides cross-national recommendations for the creation of intergenerational communities. The Indonesian study report on the positive value of informal intergenerational caregiving programs which moderate the cost of elder-care services provided with public funds. However, this study also notes that the implementation of these types of programs throughout Indonesia is dependent upon intergenerational leadership to mobilize the generations. The Singapore study is based on paying attention to what older adults are saying as what is important to age well. The study suggests that the next step calls for increased intergenerational awareness early in life for all generations. Hong Kong reports on its approach to intergenerational programs and the emerging lessons from that experience for the community. The Hawaii presentation reports on its Age-Friendly Initiative that embraces an intergenerational approach with its first calls for building awareness, promoting active aging and reducing ageism. This session will provide some common universal threads to build sustainable and resilient intergenerational communities.

COMMUNITY SERVICES FOR OLDER PERSONS PROVIDED BY FAMILIES AND THE YOUNG IN INDONESIA

T. Rahardjo, 1. *University of Indonesia, West Java, Indonesia*, 2. *University of Respati, Depok, Indonesia*, 3. *Active Aging Consortium Asia Pacific (ACAP), Fukuoka, Japan*

By 2050, the number of older people in Indonesia will approach 80 million. To enhance the health status of older persons, a referral program of networking hospitals and health clinics have been created. A survey of health centers in 33 provinces found them to be age-friendly. Our evaluation showed that the health status and daily life activity levels of older persons were maintained but depended on the number and dedication of *cadres* (i.e. young generations) providing services. Based on the programs reviewed, we conclude that there is national and community awareness of the issues surrounding the provision of care of older persons. However, it seemed that Indonesia is experiencing a decreasing number of the young supporting older persons. Suggestions are

provided to reverse this trend to maintain community resilience and sustainability.

WHAT IT MEANS TO AGE WELL? LAY PERSPECTIVES FROM OLDER ADULTS IN SINGAPORE

E. Wee¹, W. Lim^{1,2}, L. Thang^{3,4}, T. Gwee⁵, W. Cheong⁴, 1. *Nanyang Polytechnic, Singapore, Singapore*, 2. *Fei Yue Community Service, Singapore, Singapore*, 3. *National University of Singapore, Singapore, Singapore*, 4. *Active Aging Consortium Asia Pacific (ACAP), Fukuoka, Japan*, 5. *Presbyterian Community Services, Singapore, Singapore*

Knowledge about aging through lay perspectives is increasingly important and in a way serves as an empowerment effort to determine what matters most to the old. In this qualitative study set in the context of studio apartments for older adults in Singapore, the lay perspectives of residents from age 62 is explored on what it means to age well. Using a ground theory approach and applied thematic data analysis, the study uncovered main themes and key patterns in the data.

Health and finances were cited as two basic determinants of well-being in old age, reflecting the human condition espoused by Maslow's hierarchy of needs. Other important determinants include family relationship, remaining socially active and maintaining a positive mindset. The perceived pivotal role of family has encouraged older adults to place importance in maintaining close family ties while preferring to live apart. The importance of a positive outlook in old age suggests the significance of cultivating positivity early and nurturing the mindset over time so that it could become a source of resilience in old age. In general, the study shows that aging well is developmental in nature, in which relationships and mindset need to be cultivated and maintained over a long period of time. This implies that active aging programs and activities should not merely reach out to older adults, but should begin intergenerationally with young cohorts so as to raise awareness of preparing for old age and to cultivate these qualities and relationships early on.

INTERGENERATIONAL ACTIVITIES IN HONG KONG: EMERGING PRINCIPLES FOR A SUSTAINABLE PROGRAMME

T.B. Tsien, 1. *Hong Kong Polytechnic University, Institute of Active Aging & Dept of Applied Social Sciences, Hong Kong, Hong Kong*, 2. *Active Aging Consortium Asia Pacific (ACAP), Fukuoka, Japan*

In Hong Kong, there is increasing tension between the young and the old on how they view social, economic and human service issues. These changing relationships are often characterized by a lack of mutual understanding. Intergenerational programs are vehicles for promoting mutual understanding, the purposeful and ongoing exchange of resources and learning among older and younger generations for individual and community benefits. This presentation will begin with the definition of intergenerational programs, an overview of aging policies and services promoting intergenerational activities in Hong Kong. A few examples of intergenerational programs initiated at the Hong Kong Polytechnic University such as Overseas Study Tour, Life Mentorship and English Language Training will be discussed. Evaluations based on several indicators such

as the promotion of mutual understanding, and benefits and the establishment of new roles will be shared. Finally, lessons learned for creating sustainable programmes and communities will be summarized.

STRONGER TOGETHER: INTERGENERATIONAL APPROACHES TO BUILDING AN AGE-FRIENDLY HONOLULU

C.M. Nishita, 1. *University of Hawaii at Manoa, Honolulu, Hawaii*, 2. *Active Aging Consortium Asia Pacific (ACAP), Fukuoka, Japan*

Honolulu's Age-Friendly City Initiative embraces an intergenerational approach to implementing programs and solutions. The initiative, backed by Honolulu's Mayor and AARP Hawaii, began in 2014 and promotes age-friendly solutions that benefit individuals of all generations. Intergenerational approaches were used during the planning phase to develop policy recommendations in the city's Action Plan. Individuals from multiple generations engaged in walkability audits, focus groups, and a public age-friendly summit. Now, generations are brought together to implement community solutions. A key first step for building an age-friendly city will be to build awareness, promote active aging, and reduce ageism within the community and across the generations. Intergenerational age-friendly teams will work on media campaigns, community events, and toolkits to promote active aging and age-friendly practices. This presentation will describe intergenerational strategies and outcomes.

SESSION 3315 (SYMPOSIUM)

HIV AND AGING AMONG VULNERABLE POPULATIONS: SEXUAL AND RACIAL MINORITIES, AND CAREGIVERS

Chair: M.J. Brown, *University of South Florida, Tampa, Florida*

Discussant: M.G. Brennan-Ing, *ACRIA, New York, New York*

HIV continues to be a public health challenge for older adults in the U.S. and globally. With the improvements in antiretroviral therapy and with older adults continually being exposed to HIV risk factors, estimates suggest that by 2020, seven in ten adults living with HIV will be 50 and older. Compared to other racial/ethnic groups, Black populations have the highest HIV rates. In the U.S., men who have sex with men (MSM) continue to bear the grunt of the epidemic. HIV rates among transgender women are also staggering with approximately three in ten living with HIV. Nevertheless, research among older vulnerable populations who are at high risk for or living with HIV is lacking. This symposium, sponsored by the GSA HIV and Aging Interest Group, will examine opinions on HIV prevention; caregiving; and mental and sexual health among older, sexual minorities living with HIV. Specifically, Dr. Davis will assess the perspectives of older African-Americans on HIV prevention in primary care settings. Dr. Porter will examine vulnerabilities and resilience among older adults living with HIV, and are caregivers for their grandchildren. Dr. Brown will assess the association between age, depressive symptoms and substance use among older MSM living with HIV. Dr. Taylor will examine age-related changes on sexual health of older transgender women living with HIV. Our discussant,

Dr. Brennan-Ing, will highlight the public health implications and key focal points for HIV prevention and improving the lives of older adults living with HIV, especially for those who are most vulnerable.

HIV PREVENTION IN PRIMARY CARE SETTINGS: PERSPECTIVES FROM OLDER AFRICAN AMERICANS

T. Davis, *Interdisciplinary Studies, Rutgers University, Stratford, New Jersey*

The number of older adults diagnosed and living with HIV is increasing steadily. Sources estimate that by 2020, 70% of those living with HIV will be over the age of 50. It is imperative to increase HIV prevention efforts among older adults in order to reduce the number of older adults diagnosed with HIV and dying from AIDS. The purpose of this study was to better understand older adults' perceptions regarding HIV prevention in primary care settings. Data were collected using semi-structured interviews. Thus far, 15 African-Americans over age 50 have been interviewed. Data collection will continue until saturation is reached. Preliminary findings indicate that older adults are unaware of changes in HIV-related demographics, including the increase in HIV rates among adults over 50, but thought that primary care providers should increase HIV prevention efforts for older adults. Findings from this study will be used in developing HIV prevention interventions.

GRANDPARENTS WITH HIV IN SOUTH AFRICA CARING FOR GRANDCHILDREN: VULNERABILITIES AND RESILIENCE

K.E. Porter¹, M.G. Brennan-Ing¹, C. MacPhail², V. Minichiell³, S. Karpiak¹, J. Negin⁴, F. Venter⁴, 1. *Center on HIV & Aging, ACRIA, Quincy, Massachusetts*, 2. *University of New England, Armidale, New South Wales, Australia*, 3. *La Trobe University, Melbourne, Victoria, Australia*, 4. *University of Sydney, Sydney, New South Wales, Australia*

Older adults with HIV in Sub-Saharan Africa are frequently involved in grandchild care, but there are little data on how this impacts well-being and the ability for self-care. We examined a sample of older grandparents with HIV in South Africa (N=90), of whom 40% were caring for grandchildren. Significant differences were examined using *t*-tests and Fisher's Exact Tests ($p < .05$). Caregivers were vulnerable with significantly higher average levels of comorbidities (1.61 vs. .94), loneliness scores (5.19 vs. 4.53), and greater physical, emotional and financial strain due to HIV. They also had more difficulty following medication instructions (45.7% vs. 28%). However, compared to non-caregivers, caregivers showed resilience with greater HIV disclosure and were more likely to endorse the importance of religion (81.2% vs. 65.1%). Findings highlight the need for a programmatic response to address the vulnerabilities and enhance the resilience of older grandparent caregivers living with HIV in South Africa.

AGE, DEPRESSIVE SYMPTOMS, AND SUBSTANCE USE AMONG MEN WHO HAVE SEX WITH MEN LIVING WITH HIV

M.J. Brown, J. Serovich, J.A. Kimberly, *University of South Florida, Tampa, Florida*

Depressive and substance use disorders vary by age, and MSM tend to show higher rates of mental health issues
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compared to the general population. However, research examining the association between age and mental health among men who have sex with men living with HIV (MSMLH) is lacking. The aim of this study was to determine the association between age, depressive symptoms, and substance use among MSMLH. Data were obtained from 338 MSMLH. Multivariable logistic regression was used to determine the association between age, and being at risk for clinical depression, and substance use. After adjusting for time since diagnosis, compared to MSM 35–49, MSM aged 50+ had 46% lower odds of being at risk for clinical depression (OR: 0.54; 95% CI: 0.31–0.92) and 51% lower odds of substance use (OR: 0.49; 95% CI: 0.27–0.87). Interventions geared towards reducing depressive symptoms and substance use among MSMLH should consider these age differences.

SEXUAL HEALTH AND AGING NEEDS OF TRANSWOMEN WITH HIV

T. Taylor, *Medicine, SUNY Downstate Medical Center, Brooklyn, New York*

Transwomen with HIV (TWH) are an extremely vulnerable population. Many face social rejection and marginalization, physical and sexual abuse and denial of educational, employment, and housing opportunities. For many, insensitivity to their transgender identity has also resulted in barriers to quality HIV care and treatment; consequently, TWHs are less likely to be on antiretroviral therapy or achieve viral suppression. Few HIV providers have had training or are knowledgeable about transgender health, especially their unique sexual health needs that change as they age. Using qualitative methods (focus groups and interviews) we assessed the sexual health needs of TWHs in Brooklyn to identify factors that impact their sexual health as they age. We found that TWH are often reluctant to seek sexual health care, such as pelvic exams or screenings for STIs and prostate cancers out of fear of discrimination, discomfort with the physical exams, or a lack of money or insurance.

SESSION 3320 (SYMPOSIUM)

SOCIAL BARRIERS TO ADVANCE CARE PLANNING IN THE UNITED STATES

Chair: S.M. Moorman, *Boston College, Chestnut Hill, Massachusetts*

Discussant: D.P. Waldrop, *University at Buffalo, Buffalo, New York*

Twenty-seven years after the passage of the Patient Self-Determination Act, a significant minority of older adults in the United States still lack complete, actionable advance care plans. Issues of access and information are important, but are not the full story. Barriers including cultural values and attitudes and social ties also prevent older adults from engaging in this important preventive health care behavior. This symposium delves into these barriers from the perspectives of human development, nursing, social work, and sociology. Three papers take up the theme of cultural values and attitudes. Noh's focus groups indicated that African American older persons preferred greater use of life-sustaining treatments than white older persons did, not only because of lack of rapport with doctors but also because of belief and hope

in recovery. Supiano and colleagues analyzed narratives of anticipated conditions at end-of-life to explore the role that values played in determining care preferences. Ahmed and colleagues found that just as with other preventive health behaviors, men who endorsed a hegemonic masculinity were less likely to engage in advance care planning. Two papers investigated personal relationships. Koss looked at a spouse's role in promoting planning, finding that men's experiences had a greater effect on their wives than vice versa. Moorman and Boerner concluded that variations in the size, composition, and quality of older adults' social networks are a significant influence on who they prefer to involve in end-of-life decision-making. Discussant Waldrop will make connections across disciplines and draw out implications for policymakers and practitioners.

COMMUNITY-DWELLING BLACK AND WHITE OLDER ADULTS' PERCEPTIONS OF ADVANCE CARE PLANNING

H. Noh, K. Anderson, C.D. Ford, Y. Guo, R.S. Allen, A. Halli-Tierney, K.L. Burgio, *University of Alabama, Tuscaloosa, Alabama*

To address racial disparity in advance care planning (ACP), this study aimed to 1) examine knowledge of and attitudes toward life-sustaining treatments (LSTs) and to 2) explore perceptions of ACP among community-dwelling, white and black elders. Fifty-eight participants were recruited and assigned to 8 focus groups by their race. Findings from content analysis revealed that whites had more knowledge about risks of LSTs than blacks; however, knowledge was limited to CPR. Both groups had some knowledge and favorable views of hospice care. While whites preferred comfort care, blacks preferred limited medical care or all life-support. Both wanted further information about when to stop LSTs. Blacks were more hesitant toward ACP with doctors than whites, especially when patient-doctor rapport lacked. Both expressed concerns for potential family conflict in ACP. In-depth information about risks of LSTs and trusted patient-doctor relationship are crucial to promote ACP, particularly among black elders.

THE INFLUENCE OF ANTICIPATED DEATH TRAJECTORIES AND PERSONAL VALUES ON END-OF-LIFE CARE PREFERENCES

K.P. Supiano, N. McGee, K.A. Dassel, R.L. Utz, *University of Utah, Salt Lake City, Utah*

We examined narrative responses of 365 respondents in a national sample of healthy older adults who completed a survey on their anticipated preferences for end of life (EOL) care in the context of various terminal disease scenarios. We explored the relationship between personal values and anticipated diseases and conditions that would influence EOL care choices. Reluctance to burden close others was the most frequently voiced personal value across all conditions affecting EOL preferences, followed by the personal value of quality of life. Concern about whether one's wishes would be honored was more commonly voiced in the context of prospective terminal cancer than in neurological conditions. Respondents who voiced desire for autonomy in how they would die clearly attributed extreme pain as the primary influence on EOL preferences. Because personal values do

influence EOL preferences, care should be taken to ascertain patient values when presenting diagnoses, prognoses, and treatment options.

MASCULINITY BELIEFS AND END-OF-LIFE PLANNING: DOES HEGEMONIC MASCULINITY INHIBIT PLANNING?

M. Ahmed, K. Springer, D. Carr, *Rutgers University, New Brunswick, New Jersey*

Hegemonic masculinity refers to cultural beliefs and expectations regarding the masculine role, such as beliefs that men should be strong, self-reliant, and unemotional. Although these beliefs have been linked to avoidance of preventative health behaviors, we know of no studies exploring the ways masculinity shapes advance care planning (ACP). Using data from the Wisconsin Longitudinal Study, a long-term study of high school graduates from the class of 1957 and their siblings, we evaluate whether masculinity beliefs predict whether a man has a living will, durable power of attorney for health care (DPAHC), and has discussed his treatment preferences with care providers. We find that men who strongly endorse masculine beliefs are less likely to do ACP, although these associations are partly accounted for by socioeconomic status and family structure. We discuss potential health disadvantages associated with beliefs in self-reliance and stoicism, and potential benefits of adherence to the “protector” role.

SPOUSAL INFLUENCES ON ADVANCE DIRECTIVE COMPLETION

C. Koss, *California State University, Sacramento, Sacramento, California*

Using the Actor-Partner Interdependence Model, this study examined how spouses' characteristics influence their own and each other's advance directive (AD) completion. Health and Retirement data on 2,243 heterosexual married couples 65+ were analyzed. Both one's own age and spouse's age were positively associated with a higher likelihood of completing an AD. The worse a spouse's health, the less likely the other spouse would have an AD. Men's education was positively associated with AD completion for both spouses, but women's education only increased their own likelihood of having an AD. Men's prior hospitalization or outpatient surgery also increased the likelihood of having an AD for both themselves and their wives, whereas women's hospitalization/surgery had no significant effect on either spouse. These findings highlight the need to account for the characteristics and experiences of both husbands and wives in advance care planning research and point to important gender differences in spousal influences.

THE SOCIAL NETWORKS OF UNCONVENTIONAL END-OF-LIFE DECISION-MAKERS: STRENGTHS AND VULNERABILITIES

S.M. Moorman¹, K. Boerner², *1. Sociology, Boston College, Chestnut Hill, Massachusetts, 2. University of Massachusetts-Boston, Boston, Massachusetts*

Most older adults choose a spouse or adult child to serve as a surrogate on their behalf should they become decisionally incapacitated at the end of life. However, some older adults make unconventional choices because they

lack immediate family or cannot expect to rely upon them when dying. Unconventional decision-makers are at risk of receiving lengthy, invasive care at the end of life. We investigated the size, composition, and quality of the social networks of 542 unconventional decision-makers and 1,543 conventional decision-makers who participated in the 2005 wave of the nationally-representative National Social Life, Health and Aging Project. We found four distinct groups of unconventional decision-makers: those who had no surrogate preference, those who preferred a surrogate who was not a member of their social network, unmarried parents who bypassed their adult children, and unmarried nonparents. Groups faced different end-of-life risks based on the strengths and vulnerabilities of their networks.

SESSION 3325 (PAPER)

FAMILY CAREGIVING IN CONTEXT

FAMILY CARE WORK IN LONG-TERM RESIDENTIAL CARE: A CASE STUDY OF MEN'S EXPERIENCES AND PERSPECTIVES

A. Phinney, J. Baumbusch, D. Beaton, *University Of British Columbia, Vancouver, British Columbia, Canada*

Many older people are admitted to long-term residential care (LTRC) when families are unable to support them living at home. However, this does not mean that families cease to be involved, or that they simply adopt the role of “friendly visitor”. Rather, it is increasingly recognized that families make important contributions to care work in these settings which are complex and poorly understood. To address this gap in understanding, we are conducting a critical ethnography of family care work in three LTRC settings in British Columbia, Canada. We discuss a sub-set of findings as a case study directly addressing the role of gender in how family care work is enacted. We conducted a thematic analysis of data from the family of an 87 year old woman living in a 75 bed publicly-owned facility. This included in-depth interviews with three sons (5 hrs), a room-mate (1.5 hrs), and participant observation of family visits (4 hrs). Findings are integrated around concepts of masculine roles and relations in the evolving context of family caregiving, drawing attention to themes of *organizing care*, *expressing commitment*, and *creating comfort*. These practices are further interpreted in light of how the men took up issues of age and culture through family story. We discuss these findings in relation to our knowledge translation goals: namely, transforming family involvement in the complex socio-political milieu of LTRC will mean taking into account issues of gender, and specifically the experiences and perspectives of men who are involved in family care work.

CAREGIVING GENDER DISPARITY IN THE CONTEXT OF CHANGING SOCIAL POLICIES: A TALE OF JAPAN

N. Muramatsu, L. Yin, *School of Public Health, University of Illinois at Chicago, Chicago, Illinois*

Globally, women disproportionately bear family caregiving responsibilities. Gender disparity in caregiving is often attributed to culture, rather than to social policies. This

presentation aims to put gendered work of family caregiving in the social policy contexts of Japan, one of the most gendered and rapidly aging societies. In 2000 Japan introduced mandatory long-term care insurance (LTCI), making access to long-term services and supports (LTSS) universal for all persons aged 65+ who need help with daily activities. Using data from large national repeated cross-sectional time use surveys conducted in 1991, 1996, 2001, and 2006, this study examined whether gender disparity in family caregiving declined after the LTCI implementation. Time use was reported for 20 pre-coded activities in 15 minute intervals for two consecutive days (48 hours). The analysis accounted for age, marital status, employment status, education, household income, living arrangement, urban/rural residence, and weekday/weekend. Caregiving gender disparity decreased significantly after 2000 among adults aged 40 to 64. On average, women daily spent 37 minutes more than men on family caregiving before 2000. The gender gap narrowed to 14 minutes after 2000. Universal access to LTSS among older adults is likely to have freed women from some family caregiving and facilitated men to participate in caregiving. Future research should pay increased attention to social policy contexts in understanding gender disparity in caregiving and their impact on the health and well-being of aging caregivers and on gerontological practice in the era of global aging.

TRAJECTORIES OF POSITIVE ASPECTS OF CAREGIVING AMONG FAMILY CAREGIVERS OF STROKE-SURVIVORS

R. Malhotra¹, C. Chei¹, E.B. Menon², W. Chow³, S. Quah¹, A. Chan¹, D. Matchar¹, 1. *Health Services and Systems Research (HSSR), and Centre for Ageing Research and Education (CARE), Duke-NUS Medical School, Singapore, Singapore*, 2. *Saint Andrew's Community Hospital, Singapore, Singapore*, 3. *Health Services Research, Eastern Health Alliance, Singapore, Singapore*

Research on family caregivers of stroke-survivors has mostly focused on the negative impact of care provision. Recent theoretical and empirical work demonstrates presence of positive feelings resulting from care provision among family caregivers in general. However, less is known about such positive feelings specifically among family caregivers of stroke-survivors, especially their longitudinal pattern, and their association with the important time-varying covariate of stroke-survivor functional disability. We delineate short-term trajectories of 'Positive Aspects of Caregiving' (PAC) (measured using Tarlow et. al.'s PAC scale) among family caregivers of stroke-survivors and assess the influence of change in stroke-survivor functional disability over time on the level of the delineated trajectories. Longitudinal data on 173 stroke-survivor/caregiver dyads in Singapore, interviewed thrice over 6 months, was utilized. Group-based trajectory modelling was applied to delineate PAC trajectories and identify the influence of change in stroke-survivor functional disability over time. Two distinct PAC trajectories (*low, and stable* [41.9% caregivers] and *high, and stable* [comprising 58.1% caregivers]) were delineated. Increase in stroke-survivor functional disability resulted in an upward shift (~more positive feelings) of the *high, and stable* trajectory, but resulted in a downward shift (~less positive feelings)

of the *low, and stable* trajectory. Care professionals should be mindful of the heterogeneity in the longitudinal pattern of positive feelings resulting from care provision among family caregivers of stroke-survivors. Family caregivers who have both low positive feelings at the start of their caregiver journey and a care recipient (stroke-survivor) with worsening functional disability over time require greater attention and support.

WIDENING THE GULF BETWEEN HAVES AND HAVE-NOTS: AN INQUIRY INTO DIVERSITY IN CAREGIVING SONS IN JAPAN

R. Hirayama, *Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan*

What represents recent changes in informal caregiving to aging family members in Japan involves a rapid increase in adult sons who serve as primary caregivers for their parents. At the same time, national estimates indicate considerable heterogeneity in the population of Japanese caregiving sons. In this study, focusing on two typical groups of son caregivers in Japan, that is, married sons with a regular job and single sons who are unstable in their employment, I sought to clarify differences in care experiences between these two groups particularly in relation to the sources and amounts of informal and formal support available for each. Data were collected using personal interviews with 36 caregiving sons from suburban and rural areas in Japan. These sons were mostly in their 50s and provided care for their parents at home. Findings from qualitative analysis on interview transcripts highlighted a gap between "haves and have-nots." Married sons with a regular job benefitted from both direct and indirect assistance from their wives while maximizing the use of public care services covered by national long-term care insurance. By contrast, single sons who suffered from job insecurity limited their use of care services for financial reasons; thus, to manage care responsibilities mostly by themselves, they had to reduce work hours, which further declined their income. On the basis of these findings, I argue that the widening socioeconomic gap among caregiving sons is linked with Japan's familistic welfare system as well as familial institutions that guide assignment of parent care responsibility.

THE EFFECT OF PARENT-CHILD RELATIONSHIPS ON THE WELL-BEING OF PARENTS OF ADULTS WITH MENTAL ILLNESS

E. Namkung, J. Greenberg, *University of Wisconsin-Madison, Madison, Wisconsin*

Previous research found that caring for adult children with serious mental illness (SMI) takes a long-term toll on the well-being of aging parents. A stress process model suggests that having a child with SMI has rippling effects on the parents' relationships with their other children that have the potential to negatively affect parental well-being. However, this has rarely been tested in empirical research. We examined (1) whether the quality of relationships between aging parents and their non-disabled children mediates the effect of having a child with SMI on psychological and physical well-being of parents, and (2) whether mothers and fathers are differentially affected. Using the Wisconsin Longitudinal Study, we analyzed 7,411 aging parents ($M_{age}=71$) regarding

their relationship quality (i.e., feeling of ambivalence, and its positive (solidarity) and negative (conflict) components) with each of their adult children ($n=23,440$, $M_{age}=44$). Structural Equation Modeling was used to estimate the mediation models. Results indicated that parental ambivalence fully mediated the association of parenting a child with SMI on depressive symptoms, and it partially mediated the association on physical health outcomes, including self-rated health, physical symptoms, and health-related quality of life. When feelings of solidarity and conflicts were modeled as separate mediators, only feeling of conflicts significantly mediated the associations. Feelings of ambivalence toward children had stronger effects on the well-being of mothers relative to the effects on the well-being of fathers. In consideration of the role of intergenerational relationships in parental well-being, these findings call for family-level interventions when working with individuals with SMI.

SESSION 3330 (SYMPOSIUM)

LOSS OF VOCATIONAL CAPACITY IN SENIOR PROFESSIONALS

Chair: M.L. Gilhooly, *Brunel University London, Uxbridge, England, United Kingdom*

Co-Chair: C. Hutchins, *Merrill Lynch & Co., Inc.*

Discussant: P.A. Lichtenberg, *Wayne State University, Detroit, Michigan*

This is the third of three symposia organized by the GSA Lifelong Financial Health Workgroup. Symposium 3 is concerned with loss of vocational capacity in senior professionals. Many professionals are now working well beyond the normal retirement age of 65 years. This may include professionals in highly technical and responsible positions, for example, doctors, lawyers, financial advisors and accountants. Ageing is associated with many forms of diminished cognitive capacities and these professionals are just as prone to cognitive decline as the general population. Adverse consequences for financial firms might include reputational damage, loss of business, legal liability and regulatory actions. Adverse consequences for physicians might even include loss of patient life and a charge of medical negligence. In paper 1 Marson provides an introduction to this topic and considers diminished capacity in senior financial advisors. In paper 2 Long outlines capacity issues from a legal standpoint. The serious issue of diminished capacity amongst senior attorneys is considered by Marson in paper 3. Gilhooly considers creativity and cognitive decline in ageing academics in paper 4. Finally O'Neill examines the response of medicine and occupational health in paper 5 and argues for a balanced perspective on the impact of neurocognitive disorders on professional performance.

DIMINISHED VOCATIONAL CAPACITY IN THE SENIOR FINANCIAL ADVISOR: ISSUES AND RESPONSES

D.C. Marson, *University of Alabama at Birmingham, Birmingham, Alabama*

An important aspect of our aging society is that many professionals (eg., attorneys, physicians, accountants, financial advisors) continue to work long after the traditional

retirement age of 65. As a consequence, these professionals become increasingly vulnerable to cognitive decline and diminished vocational capacity (DVC) related to the effects of normal cognitive aging and dementias of aging. This paper addresses DVC in the senior financial advisor (FA), and associated challenges for clients, investment firms and the financial industry, and regulatory agencies. DVC in the senior FA can take multiple forms, including inappropriate investment decisions for clients, absent or failed succession planning, and impaired general workplace performance and behavior. Adverse consequences for investment firms include loss of clients and business, reputational damage, legal liability, and regulatory actions. The paper concludes by discussing possible investment firm responses and programs for identifying and managing DVC in their senior FA workforce.

CAPACITY ISSUES FROM A LEGAL STANDPOINT

R.C. Long, L. Peterson-Sakai, J. Srouji Gantner, *Wells Fargo Advisors, St Louis, Missouri*

This paper investigates the legal aspects regarding cognitive impairment among client-facing professionals. These issues are becoming increasingly more prominent and can be caused by everything from substance abuse to dementia. As such, they can severely impact a person's ability to perform one's job – presenting multi-faceted issues for organizations. Regulatory bodies have not provided much guidance on how to manage or respond to these issues, which often can create age and disability discrimination, leaving firms to develop their own key messages and resources to address these matters. In order to move forward, industry and thought leaders need to help develop forums in which firms and regulators can more openly discuss these complex issues, share best practices, and ultimately identify consistent, effective solutions. By doing so, organizations will be better equipped to serve their clients and employees while simultaneously mitigating this growing risk.

ASSESSMENT OF THE COGNITIVELY IMPAIRED SENIOR ATTORNEY: CONCEPTUAL AND CLINICAL ASPECTS

D.C. Marson, *University of Alabama at Birmingham, Birmingham, Alabama*

This presentation addresses conceptual and clinical issues concerning the senior attorney with cognitive impairment and diminished vocational capacity (DVC). Increasingly attorneys are choosing not to retire at the traditional age of age 65 and instead are working past age 70 and beyond. As a consequence, the legal profession is aging and is vulnerable to cognitive declines related to cognitive aging and dementias of aging. Assessment and appropriate management of the senior attorney with cognitive impairment and DVC represents a growing national problem faced by lawyer assistance programs and state legal disciplinary commissions. Clinicians with knowledge of capacity assessment can play a valuable role in helping these agencies accurately assess and obtain successful disposition in often challenging cases. This presentation will discuss the senior attorney with cognitive impairment, the role of the clinician, conceptual and clinical aspects of such assessments, and will include an instructive case study.

CREATIVITY, COGNITION, AND THE AGEING ACADEMIC

K.J. Gilhooly^{1,2}, M.L. Gilhooly¹, 1. *Department of Clinical Sciences, Brunel University London, Uxbridge, England, United Kingdom*, 2. *University of Hertfordshire, Hatfield, England, United Kingdom*

Academics are amongst the keenest people to postpone retirement. Creativity and high levels of research and scholarly performance are expected of academics. This paper will outline what is known about declines in creativity, problem solving and general cognitive performance, comparing and contrasting academics with the general population. Longitudinal and cross sectional research indicates that fluid cognitive ability tends to decline with age, starting in the early 20s. However, crystallised abilities show little decline until around 60 years and decline quite slowly. Studies of psychometric divergent thinking tests indicate a peak in early middle age with decline thereafter. Overall, the prospects for creative, flexible thinking in later life may seem dim. A more positive view is that cognitive decline can be mitigated by arduous mental activity ("use it or lose it" hypothesis). Although studies of short term "brain training" have lent little support to this idea, longer term activity associated with different occupations does seem to have some benefits, perhaps by building up "cognitive reserves". The possibility that academics particularly benefit from their mentally active occupations will be discussed. Our own research on mid-life risk factors for cognitive decline in old age will highlight some of the key issues associated with working past the age of 65 years, including how aged academics manage their retirement finances.

KEEPING A BALANCED PERSPECTIVE ON THE IMPACT OF NEUROCOGNITIVE DISORDERS ON PROFESSIONAL PERFORMANCE

D. O'Neill, *Trinity College Dublin, Dublin, Ireland*

The interaction of age-related cognitive disorders on occupational performance among senior professionals is a neglected area of both research and practice, and research from our group indicates that professional and regulatory bodies are unprepared for responding to the challenges that may arise from this condition (1). While increased working life and early detection of dementia call attention to the phenomenon, it is also important that due consideration is given to the problems of ageism and stigmatization of dementia. This presentation will synthesize evolving research from occupational medicine, geriatric medicine and gerontology, along with insights also arising from diverse fields such as traffic/aviation medicine and literature, and in particular aims to contextualize the impact of early dementia on occupational performance relative to conditions occurring across the lifespan such as depression and alcohol/substance abuse.

1. FitzGerald D, Keane RA, Reid A, O'Neill D. Ageing, cognitive disorders and professional practice. *Age Ageing*. 2013 Sep;42(5):608–14.

SESSION 3335 (SYMPOSIUM)

QUALITY IN ASSISTED LIVING: INTERNATIONAL AND CULTURAL FINDINGS AND RECOMMENDATIONS

Chair: L. Schwartz, *American Health Care Association/National Center for Assisted Living*
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Discussant: P.C. Carder, *Portland State University, Portland, Oregon*

One way to understand the quality of care provided by assisted living (AL) settings is to examine the use of medical and health-related services, including hospitalizations, hospice, and home health care. This symposium includes four papers that describe medical and healthcare outcomes for AL residents in the U.S. and Canada, and quality improvement concepts and tools. Thomas et al. describe findings comparing state differences in the annual rate of hospitalizations, readmissions, hospice use, nursing home (NH) admission, and home health use among a national cohort (n=365,922) of Medicare fee-for-service beneficiaries residing in AL residences. Findings include state-wide hospitalization rates ranging from 19 to 41 percent. For an international comparison, Maxwell et al. describe findings from a study of over 2,000 assisted living and NH residents from 109 settings in Alberta, Canada. The annual incidence of hospitalization was three times higher for AL compared to NH residents. The third paper, by Kemp et al., provides resident and family (n=224) experiences of quality based on a 5-year longitudinal sociocultural study in eight diverse AL communities in one state in the U.S. Findings include a new understanding of how shared perceptions of quality led to the best resident and caregiver outcomes. The final paper, by Zimmerman et al., describes a set of quality improvement tools based on an environmental scan and critique of published tools for improving AL quality. The scan identified tools as well as gaps that require additional research attention. The discussant will summarize cross-cutting quality issues, including staffing and regulation.

HEALTHCARE UTILIZATION OF ASSISTED LIVING RESIDENTS ACROSS THE UNITED STATES

K. Thomas^{1,2}, D.M. Dosa^{1,2}, P. Gozalo¹, V. Mor^{1,2}, 1. *Brown University, Providence, Rhode Island*, 2. *U.S. Department of Veterans Affairs, Providence, Rhode Island*

The U.S. assisted living industry is largely regulated on a state level. Yet, there is little known about the health and healthcare utilization of assisted living (AL) residents across the states. In this paper, we present state differences in the annual rate of hospitalizations, readmissions, hospice use, nursing home admission, and receipt of home health among a national cohort of Medicare fee-for-service beneficiaries residing in large (25+ bed) AL communities. Data come from the 2013 Medicare Master Beneficiary Summary File and claims. Residents (n=365,922) were identified as living in large AL communities based on validated 9-digit ZIP codes. Results suggest that states vary, in some cases dramatically, in their rates of AL residents hospitalized (19%-41%), readmitted to an acute care hospital (4%-8%), admitted to a nursing home (14%-24%), and using hospice (4%-14%) or home health care (14%-44%) annually. Implications and relationships among utilization rates and state regulations will be discussed.

CLINICAL AND HEALTHCARE OUTCOMES OF ASSISTED LIVING RESIDENTS: A CANADIAN PERSPECTIVE

C.J. Maxwell^{1,2}, D.B. Hogan², J.E. Amuah^{3,4}, L.A. Strain⁵, 1. *Schools of Pharmacy and Public Health/Health Systems, University of Waterloo, Waterloo, Ontario, Canada*, 2. *University of Calgary, Calgary, Alberta, Canada*, 3. *CIHI, Ottawa, Ontario, Canada*, 4. *University of Ottawa*,

Ottawa, Ontario, Canada, 5. University of Alberta, Edmonton, Alberta, Canada

Assisted living (AL) has emerged as a popular residential care option for older adults in Canada. Similar to the U.S. experience, its introduction has raised concerns about regulatory oversight, eligibility criteria, staffing levels and quality of care. The Alberta Continuing Care Epidemiological Studies (ACCES) is the first prospective cohort study in Canada to examine AL residents' health and social needs and healthcare outcomes. ACCES included 1,089 older (65+) residents from 59 AL residences and 1,000 residents from 54 nursing homes (NHs) across Alberta. In both settings, dementia was the most common diagnosis (58% AL, 71% NH). Despite being less impaired, AL residents exhibited an annual incidence of hospitalization 3-times higher than NH residents (38.9% vs. 13.7%). They also showed an annual incidence of NH placement of 18.3%. Key drivers of both outcomes included AL resident characteristics (health and social vulnerability) and residence factors (size, staffing levels and oversight).

QUALITY OF CARE AND LIFE IN ASSISTED LIVING: WHAT MATTERS MOST TO WHOM

C.L. Kemp¹, E.O. Burgess¹, M.M. Ball², J.C. Morgan¹, A.F. Fitzroy¹, J.A. Dillard¹, M.M. Perkins², 1. *Gerontology, Georgia State University, Atlanta, Georgia*, 2. *Emory University, Atlanta, Georgia*

Assisted living (AL) residents are embedded in care convoys (i.e., networks) comprised of the evolving collection of individuals who provide informal support and formal care. Although convoy members directly and indirectly influence resident quality of care and life, few studies include the full range of stakeholders. In this paper, we present findings from a 5-year longitudinal qualitative study involving 50 residents and their informal and formal caregivers (n=225) drawn from eight diverse AL communities in the southern United States. Our aim was to identify the ways residents and their convoy members describe what matters most for resident quality of care and life. Perceptions of quality frequently varied by resident and convoy member and were influenced by individual, cultural, and AL residence factors. Within convoys, shared perceptions of quality led to the best resident and caregiver outcomes. Findings suggest that aligning perceptions of quality within convoys is essential to achieving it.

TOOLS FOR QUALITY IMPROVEMENT IN ASSISTED LIVING

S. Zimmerman¹, L. Cohen², T. Washington³, K. Ward¹, P. Giorgio⁴, 1. *University of North Carolina, Chapel Hill, North Carolina*, 2. *Duke University, Durham, North Carolina*, 3. *University of Georgia, Athens, Georgia*, 4. *Evergreen Estates, Cedar Rapids, Iowa*

Assisted living (AL) has been in evolution for decades; now more than ever, providers must attend to quality in light of variations across settings, increased resident acuity, and changes spurred by health care reform. Unfortunately, quality improvement is hindered because few are aware of valid and reliable measures and instruments that have been used in AL or other health and long-term care settings that

serve similar populations. This project conducted a comprehensive environmental scan and critique of tools applicable for quality improvement in five domains. Literature searches generated 9,048 citations, 361 grey literature sources, and 51 websites, ultimately identifying 254 tools. After critiquing tools in relation to their psychometrics and utility for quality improvement, 96 were recommended to improve person-centered care (6 tools), medication management (10), care coordination/transitions (17), resident/patient outcomes (35), and workforce (28). A gap analysis indicated need to develop tools to assess staff sufficiency and overall quality.

SESSION 3350 (PAPER)

LONG-TERM CARE I

THE IMPACT OF LONG-TERM CARE POLICY ON FAMILY ELDERCARE COSTS IN CHINA: A SYSTEM DYNAMICS SIMULATION

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Due to lack of long-term care (LTC) insurance in China, Chinese families bear most of the long-term care costs for frail older adults. This study aims to understand the impact of current and future LTC policies on family eldercare hours and costs in China. System dynamics methodology was used to construct a LTC system model in order to analyze and simulate LTC cost-sharing and service allocation models across three different LTC settings (family, community, and LTC facilities). Based on the data from the Chinese Longitudinal Healthy Longevity Survey and other public available data, using variables on time adjustment and LTC insurance, we estimated the impact of LTC policies on family eldercare expenditures and hours respectively. Results showed that both average weekly hours and expenditures for family eldercare are projected to increase approximately 30% from 2015 to 2030 if there is no policy changes. Family eldercare hours and expenditures were significantly reduced by increasing the capacity of nursing home care and community care, and implementing long-term care insurance compensation. This study suggests that policy makers in China should plan the long-term care capacity for elders, and explore the possibility of establishing public long-term care insurance to help Chinese families to meet their LTC needs.

FOSTERING HOMELIKENESS IN NURSING HOMES: QUALITATIVE RESULTS FROM FAMILY AND FRIENDS OF RESIDENTS

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Identifying how to enhance the quality of life for older adults living in nursing homes can contribute to transforming health care institutions into person-centered homes, an approach to care that places residents' relationships, life

experiences, abilities, preferences and dignity at the forefront. One component of a federally-funded study of 23 nursing homes in Nova Scotia, Canada, focused on how to enhance the quality of life in nursing homes from the perspective of the family members and friends of the residents. Quantitative results clearly showed that from their perspective, homelikeness is associated with higher resident quality of life. We will present qualitative results to provide further insights into how to foster homelikeness within the nursing home environment. We thematically analyzed data collected from family members and friends of nursing home residents through 1) open-ended survey questions from 397 family members and friends, and 2) focus groups with 20 family members and friends who participated in the survey. Analysis of open-ended survey questions resulted in identifying key features that either strengthen or limit homelikeness in nursing homes. Analysis of the focus group data resulted in further identifying how homelikeness can be fostered in three key ways: care provided and relationships (e.g. staffing models that allow for individualized care), public spaces (e.g. the effective use of public spaces to support relationships), and private spaces (e.g. personalization). Our results provide evidence to nursing home decision makers about how to improve resident quality of life through creating a homelike environment.

PROMISES AND PERILS OF PERMANENT RESIDENT ASSIGNMENT IN RESIDENTIAL CARE FACILITIES

S. Caspar, *Health Sciences: Therapeutic Recreation, University of Lethbridge, Lethbridge, Alberta, Canada*

Purpose: Permanent resident assignment (PRA) is the practice of assigning resident care aides (RCAs) to care for the same residents every shift they work. It has been touted as “the magic bullet” of culture change in residential care facilities (RCFs) and is considered by many to be essential to person-centred care. The purpose of this study was to explore how staff assignment practices affect the care giving experience from the perspectives of RCAs, residents, and family members.

Methods: We conducted an institutional ethnography to explore the social organization of care in RCFs. The study was set in three RCFs: one with consistent PRA; one with PRA in one area of the facility and six week staffing rotations in another area of the facility; and one that had recently switched from PRA to three month staffing rotations. Data included 104 hours of naturalistic observation and 76 in-depth interviews.

Results: The RCAs and residents described the primary benefit of PRA as being able to “get to know” each other well. Family members indicated that it assisted them in knowing who to go to when they had questions or concerns. However, RCAs also indicated that PRA had a negative impact on team work and diminished the exchange of individualized resident-care information amongst the care staff.

Implications: Management initiatives are needed to ensure that the implementation of PRA does not result in the unintended consequence of diminishing staff members’ experience of teamwork or their ability and willingness to exchange pertinent, individualized resident-care information.

DETECTING IMPROPER TRANSFER TECHNIQUES TO REDUCE CAREGIVER INJURIES

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Background: Home health aides (HHAs) often suffer injuries as a result of improperly lifting and transferring patients from one location to another. The objective of this pilot study was to find innovative solutions to prevent work-related injuries among this population.

Methods: This was a cross-sectional study. Seven HHAs were recruited and given a questionnaire about their work experiences and history of injuries. A trained physical therapist was consulted to determine what improper lifting techniques and body mechanics would lead to work-related injuries. Next, motion sensors were attached to the seven HHAs while they performed patient transfers. The extent to which home health aides followed correct procedures was assessed using the motion capture data. The lifting technique and body mechanics ratings were both analyzed with multivariate linear and logistic regression models while controlling covariates in the model.

Results: Obesity was associated with a worse body mechanics score ($p < 0.0001$), while fear of injury was associated with better body mechanics ($p < 0.0001$). Generalized estimating equations identified that twisting the spine during transfers (OR = 6.3; 95% CI: 1.09–36.7) and not using a wide support base when lifting from supine to sitting (OR = 6.0, 95% CI: 2.03–17.7) were both associated with improper lifting technique and body mechanics.

Conclusions: This study identified two modifiable risk factors (obesity and lacking a fear of injury) and two individual transfer items that are associated with improper transfer techniques and body mechanics. A larger study subjects with multiple sites is underway.

SESSION 3355 (SYMPOSIUM)

AGING IN PLACE—THE VILLAGE MODEL AND ITS IMPACT ON OLDER ADULTS’ QUALITY OF LIFE

Chair: S. Hou, *University of Central Florida College of Health & Public Affairs, Orlando, Florida*

Co-Chair: N. Galucia, *Village to Village Network, St Louis, Missouri*

Discussant: A.E. Scharlach, *University of California, Berkeley, California*

This symposium introduces the growing popularity of the Village model. Villages are a new, consumer directed organization that aim to promote aging in place through a combination of social engagement, member-to-member support, and collective bargaining for services. These membership organizations are expanding rapidly in the US due to the increased cognizance of the benefits of aging in community and avoiding institutionalization. A representative from the Village to Village Network will join the symposium and provide an overview of the history and current state of this unique social movement. Researchers from the University of California will give an overview of Village organizational characteristics

from their 2016 national survey of Village directors. They will also present results from their national survey of Village members (N=1,900) focusing on the perceived impact of village membership on social engagement and quality of life. Additionally, researchers from the University of Central Florida will highlight one unique innovative village model as a case study. The Thriving-in-Place (TIP) village locates in the Celebration community in Orlando. Founded by the Walt Disney Company, this resort-style community environment was formed with the concept of building a better place to live and age gracefully. This symposium will further discuss promises and challenges of the village model on promoting aging in place.

REDEFINING AGING IN COMMUNITY THROUGH THE VILLAGE MODEL

N. Galucia, *Village to Village Network, St Louis, Missouri*

Hill Neighborhood of Boston, MA in 2001, has now spread across the US into Canada, the Netherlands and Australia. The Village model is a consumer-driven, affordable option for older adults who wish to remain in their homes and communities as they age. Each Village is a little different as the model adapts to meet the needs of each community, but the guiding principles of aging in community, working together and living vibrantly remain the same. Village to Village Network is a national organization that collaborates to maximize the growth, impact and sustainability of individual Villages and the Village Movement. The Network provides expert guidance, resources and support to help communities establish and maintain their Villages. VtV Network shares best practices, lessons learned and studies the model as it emerges across the world. An overview of the Village Model and several Village examples of Villages in different countries will be discussed.

RESULTS OF A NATIONAL STUDY OF VILLAGES AND MEMBER IMPACTS

C.L. Graham, A.E. Scharlach, *School of Public Health, University of California, Berkeley, Berkeley, California*

UC Researchers will present results of both a national survey of 1,900 Village members and 120 Village directors. The Village movement more than doubled between 2012 and 2016, from 80 to 160 in the US. Most Villages are freestanding and not for profit, with less than 2 paid staff members. Villages are expanding; with the average number of members increasing to over 100. The most common Village services include social and educational activities. Over 40% of members volunteer, providing other members with transportation, companionship or other support services. Over half of members say that they are more socially engaged and have better quality of life because of the Village. But only 8% report more positive health outcomes. Members who participate in more village activities like social events and volunteering are more likely to report positive benefits. Villages may face challenges serving more frail seniors as they age.

QUALITY OF LIFE AMONG YOUNG OLD, OLD, OLD OLD, AND THE OLDEST IN THE THRIVING VILLAGE

S. Hou¹, G. Niec², P. Kinser², D. Cummings^{3,4}, 1. *Health Management & Informatics, University of Central Florida College of Health & Public Affairs, Orlando, Florida,*

2. *Celebration Foundation, Orlando, Florida,* 3. *Florida Hospital Foundation, Orlando, Florida,* 4. *IQ Orlando, Orlando, Florida*

This study examined quality of life (QOL) among village older adults in a small town community in Florida. The 13-item Older People's Quality of Life (OPQOL-brief) was used. A total of 49 village members and volunteers participated. About 75% were females, 89% were whites, 56% were married, 85% had college education, 35% living alone, and 55% were volunteers. Mean age was 70.5 (SD=10.49). OPQOL Reliability was satisfactory ($\alpha = .92$). The overall OPQOL scores were high (mean=59.3; SD=6.13), and were significantly different by age groups ($p < .001$). Data showed that late middle-age had higher QOL scores than young old (mean of 63.62 vs. 57.47) and the oldest old adults (mean of 63.62 vs. 53.25) ($p < .05$). The study village consists of highly educated white older adults. More village studies and larger study samples are recommended. Results provide needed data for developing older age-tailored programs to promote healthy aging in village communities.

A MIXED-METHOD STUDY ON QOL BY VOLUNTEER STATUS AND LIVING ARRANGEMENT AMONG VILLAGE MEMBERS

R. Purdie, M. Vance, S. Hou, *Health Management & Informatics, University of Central Florida College of Health & Public Affairs, Orlando, Florida*

This study examines how volunteer status and living arrangement influence quality of life (QOL) quantitatively, and what qualitative barriers, facilitators, and strategies to enhance healthy lifestyle were suggested among village members. A convergent, parallel mixed method design was utilized. A total of 44 village members and volunteers participated. About 75% were females, 89% were whites, 35% living alone, and 55% were volunteers. Overall participants reported high QOL and there were no significant differences by volunteer status or living arrangements. Physical impairment and motivation were common barriers mentioned, while those who live alone also reported transportation as a barrier. Those who live alone preferred informal socialization while those who live with others preferred formal socialization. Volunteers were less likely to report physical barriers and identified more strategies to promote healthy lifestyle. Study results have implications on designing health promotion programs for village older adults with different status and needs.

SESSION 3360 (SYMPOSIUM)

ENVIRONMENTAL GERONTOLOGY: OLDER ADULT PARTICIPATION IN DESIGN FROM NURSING HOME TO NEIGHBORHOOD

Chair: A.B. Mitchell, *Thomas Jefferson University, Philadelphia, Pennsylvania*

Co-Chair: A.R. Eisenstein, *CJE SeniorLife, Chicago, Illinois*

Discussant: F. Oswald, *Goethe University Frankfurt, Frankfurt, Germany*

The design of the built environment can facilitate or hinder older adults as they navigate their living space in the home and community. This symposium sponsored by

the Environmental Gerontology Interest Group examines the challenges of design implementation in nursing homes, assisted living facilities, and neighborhoods to create an age friendly environment. These four presentations offer findings from studies in which older adults participated with researchers and community members in various environments to identify specific features of the built environment to enhance their physical activity, and engage in social interaction. Each setting presents its unique challenges for funding and implementing the design recommendations.

ENVIRONMENTAL ATTRIBUTES OF PERSON-CENTERED CARE

M. Kaup, J. Poey, *Kansas State University, Manhattan, Kansas*

Implementation of person-centered care (PCC) in nursing homes requires multiple strategies related to organizational, operational, and environmental practices. Understanding the details of the combinations of these practices and the environmental features that work in co-occurrence will be critical in advancing and sustaining meaningful change for residents and staff in long-term care settings. This presentation will describe the strategies and processes for conducting detailed environmental assessments on ten nursing homes participating in a pay-for-performance program linked to PCC in Kansas (PEAK). Unlike assessment instruments that score facilities based on a checklist of attributes, this assessment strategy was designed to provide a descriptive narrative of the combination of organizational, operational, and environmental variables present. Results of the assessments demonstrate that there are environmental features that are integral to patterns of effective and meaningful organizational and operational practices. Spatial characteristics that distinguish facilities that have achieved high-levels of PCC will be demonstrated.

NAVIGATING THE HUMAN PATH IN AN INTERGENERATIONAL DESIGN STUDIO

D. Gillette^{2,5}, J. Fisher^{3,4}, J.C. Yeh⁷, P. Moore⁶, C. Gladstone⁷, D. Fishman⁷, 2. *Center for Information Technology Research in the Interest of Society (CITRIS), Berkeley, California*, 3. *Training for Development of Innovative Control Technologies (TDICT) Project, San Francisco, California*, 4. *Aging 2.0, San Francisco, California*, 5. *Public Health Institute, Oakland, California*, 6. *MooreDesign Associates, Phoenix, Arizona*, 7. *University of California, San Francisco, Institute for Health & Aging, San Francisco, California*, 7. *University of California, Berkeley, Berkeley, California*

Design is an important concept for environmental gerontology because it exposes opportunities to modify or optimize relations between people and their environment. Following autocratic protocols or targeting a single end-user group limits the effectiveness of design. Co-design is a participatory approach that subverts relations of power by actively involving all stakeholders throughout the process to imagine and create usable products, services, and experiences that meet broader needs. This presentation describes lessons learned from an innovative pilot course involving 16 college undergraduates and 15 elders who explored how co-design

can better facilitate affordable, healthy, and meaningful aging in our society. Applying a user-centered lens of mobility and interconnectedness, participants worked in intergenerational teams as designers, students, teachers, coaches, and users to create transportation and community connection projects. This course advances a co-design movement aimed at developing exceptional, ethical, and inclusive products to better support navigating the human path throughout the lifespan.

AGE-FRIENDLY WEST PHILADELPHIA: ENGAGING COMMUNITY TO IMPROVE THE BUILT ENVIRONMENT

J. Russell, N.E. Strumpf, J. Lukach, *Ralston Center, Philadelphia, Pennsylvania*

Ralston Center, a nonprofit provider of senior services, collaborated with over fifty stakeholder groups, including community organizations, academic institutions, and city government, to develop its Age-Friendly West Philadelphia Initiative and create positive age-friendly change. Advisory committees helped develop programs on resource access and navigation, social connection, and improvements to public spaces. Ralston teamed with a local civic organization and two artist-led organizations to conduct a walkability audit, design outdoor furniture, and improve accessibility in a high-poverty neighborhood. Volunteers documented improvements needed to facilitate neighborhood walkability, identified locations for benches specifically designed for older residents, and locate appropriate wayfinding signs that highlight and honor community assets. Intergenerational design sessions, fabrication sessions and a community celebration follow, engaging and empowering older residents at each phase. The ongoing project informs age-friendly endeavors in a high-poverty urban area, and leads to new partnerships to benefit the community at large.

SESSION 3365 (SYMPOSIUM)

DEVELOPMENTS IN AFRICAN GERONTOLOGY AND GERIATRICS: TAKING STOCK AND LOOKING AHEAD

Chair: I. Aboderin, *African Population and Health Research Center*

Co-Chair: J.R. Hoffman, *Noth-West University, SA, Vanderbijlpark, South Africa*

About a decade since the formal establishment of an IAGG Africa region in 2009, and an earlier attempt to forge directions for research on ageing in the region, this symposium takes stock of, and reflects on the evolution of the African endeavour on gerontology and geriatrics over the past 10 years. The four key speakers, all of which have played central roles in the development of the field, will reflect on both major step changes and initiatives that have emerged in Africa policy, scientific inquiry, capacity building and exchange on ageing, as well as on continued and newly arising challenges to further progress in these areas. A joint discussion on opportunities for addressing the difficulties and strengthening the African aging endeavour, including through greater engagement with other IAGG regions will conclude the session.

A SUMMARY OF CURRENT AGING RESEARCH IN SUB-SAHARAN AFRICA

P. Kowal^{1,2}, J. Byles², 1. SAGE, WHO, Yangon, Myanmar, 2. University of Newcastle Research Centre for Generational Health and Ageing, Newcastle, New South Wales, Australia

“Good data are public goods for both policy and research.”

- p. 7, National Research Council (2001) Preparing for an Aging World: The Case for Cross-National Research. Washington DC: National Academy Press.)

Information on the status and specific needs of older people in Africa is needed to advocate for policy changes and to target programmes and support. Rapid population ageing and the growing absolute numbers of older persons in Africa, demand the full and comprehensive inclusion of ageing matters into the formulation of many of the current sustainable development goals and targets. We will describe efforts undertaken to document and describe research on aging in sub-Saharan Africa between 2004 and 2015, using a variety of techniques. The presentation will also include a summary of how identified research during this period addressed the policy directions described by the Madrid International Plan of Action on Ageing (MIPAA), and the research methods that were used (qualitative, quantitative, mixed). Taken as a whole, the Directory demonstrates the growing body of rigorous and in-depth aging research across Africa. While not all aging research in Africa has been included here, a review of the updated Directory indicates that research has been less active in some countries, and that some high-priority areas of research remain under-investigated. It is hoped that the updated Directory spurs additional research and discussion.

EVOLUTION OF THE IAGG AFRICA REGION AND CONTINENTAL AGEING POLICY ARCHITECTURE: FUTURE IMPLICATIONS

I. Aboderin, 1. African Population and Health Research Center, Nairobi, Kenya, 2. Centre for Research on Ageing, University of Southampton, Southampton, United Kingdom

An Africa region of the IAGG was established formally in 2009 in recognition, first, of the profound omission that the non-representation of the continent among IAGG's regions constituted and second, of an intensifying endeavour, which had emerged a few years prior, to promote and foster directions for African research and capacity building on aging. Over the past seven years important steps have been made toward an expansion of gerontology and geriatrics in the Africa region - yet major difficulties remain in consolidating this progress. In the same period the national, regional and global policy and legal architecture that commits African countries to action on ageing has expanded tremendously, heightening the need for gerontological and geriatric evidence and competence. This presentation reflects on key experiences in the evolution of the IAGG Africa region, and discusses implications of the new policy and legal regime for a further advancement of IAGG-connected inquiry, training and exchange activities in the region.

FORMAL GERIATRIC MEDICINE TRAINING IN SOUTH AFRICA AND BEYOND: DEVELOPMENTS AND CHALLENGES

B. Cassim, University of KwaZulu-Natal, Durban, South Africa

The absolute number of older people in sub-Saharan Africa (SSA) is rising rapidly within a context of an increasing burden of non-communicable diseases. Multimorbidity, geriatric syndromes and declines in intrinsic capacity in the region's growing older population require concerted health care responses. Yet, Geriatric Medicine training and services have not kept pace. South Africa, for example, where geriatrics is more established than elsewhere in SSA, has just one geriatrician per 275,000 older persons.

To address the gap, the South African Geriatrics Society (SAGS) has initiated a Diploma in Geriatric Medicine aimed at primary health care physicians, with private funding sought to support the course. Many challenges remain however in South Africa and SSA, broadly. This presentation discuss the format of the Diploma, its expansion to other parts of Africa and possible approaches to addressing persistent impediments to an SSA-wide training of a critical mass of specialist geriatricians.

AFRICAN RESEARCH ON AGEING NETWORK (AFRAN)—ADVANCES, CHALLENGES, AND PROSPECTS

J.R. Hoffman, 1. North West University, Vanderbijlpark, South Africa, 2. Oxford Institute of Population Ageing, University of Oxford, Oxford, United Kingdom

The African Research on Ageing Network (AFRAN) is a network that offers a collaborative platform of African and international institutions and individuals from academia, policy and practice. It was established in April 2005 to address the substantial gaps in ageing research, and to promote coherent direction for research and training on ageing in Africa. Having grown to 154 individual members, representing 25 different countries and 10 organisations, from 8 countries, ageing issues in Africa are now thoroughly mainstreamed by AFRAN-members on the international ageing agenda. Members work on issues ranging from poverty, general health issues, HIV/AIDS, and intergenerational / family dynamics. Drawing on the past ten years' experience, this presentation will offer key advances in, and challenges to the expansion of the community of scholars and practitioners on ageing in sub-Saharan Africa and share the unfolding debate, exchange and capacity building among them

SESSION 3370 (SYMPOSIUM)

SURVEILLANCE TECHNOLOGIES IN LONG-TERM CARE: A BLIND SPOT FOR GERONTOLOGISTS?

Chair: C. Berridge, University of Washington, Seattle, Washington

The commercial visibility of technological devices that monitor in the name of care has exploded with the expansion of internet-connected home surveillance products. Cameras that are popular for pet or child monitoring are now accessible for a variety of purposes in elder care. In multiple countries, public interest in the use of surveillance cameras in nursing home resident rooms is renewed periodically when major news outlets highlight a case of abuse captured by a hidden camera. Whether initiated by facilities or family members, camera use is at once a complex practice, policy, and ethical issue. Neither facility staff nor the resident who is placed under surveillance is likely to be a decision-maker when the question of camera use comes up

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in long-term care facilities. Policy makers, facilities, and family members thus carry a heavy responsibility to understand the nuances and consider all consequences of camera use in older adults' living spaces. In this symposium, gerontologists from Canada, Scotland, and the U.S. will present findings from their research on camera use in nursing homes, assisted living communities, and private homes. Drawing on research in long-term care facilities, we will consider how cameras are used in practice by facilities to monitor the behavior of residents and care workers. The experiential complexities of living with surveillance technologies at home will be described along with ethical implications. We will then present a legal analysis of U.S. state nursing home electronic monitoring laws to examine how these laws balance multiple stakeholders' vulnerabilities.

CHALLENGES AND OPPORTUNITIES OF USING SURVEILLANCE TECHNOLOGIES IN RESIDENTIAL CARE

R. Woolrych, *Heriot Watt University, Edinburgh, United Kingdom*

Surveillance technologies are becoming an increasingly pervasive tool for monitoring older adults in long-term care. A number of these technologies have been designed to support independence and well-being through monitoring everyday lifestyles and behaviours. However, in acting as an observational tool, concerns have been raised about how these technologies may impact privacy and autonomy, and affect care delivery. This study reports on qualitative research conducted in a long-term care home in Vancouver, Canada where video surveillance cameras were deployed to observe the behaviours of older adults in long-term care. The findings identify some of the potential benefits of surveillance (as an intervention and care management tool) alongside challenges and unintended consequences (on resident behaviour and care relationships). Understanding the consequences of surveillance technologies is important in order to better assess their efficacy in formal care settings.

A LEGAL ANALYSIS OF PIONEERING U.S. STATE LAWS REGULATING RESIDENT-ROOM CAMERAS IN NURSING HOMES

C. Berridge¹, K. Levy², *1. School of Social Work, University of Washington, Seattle, Washington, 2. Cornell University, Information Science, Ithaca, New York*

There is little published research on the effects or desirability of cameras used in nursing home resident rooms to detect or deter abuse, yet policy makers are making decisions about how to regulate their use for this purpose. In the United States, there is no federal law to regulate camera use, but five states now have electronic monitoring laws allowing residents or family members to install cameras in nursing home resident rooms. Using analyses of bills, amendments, committee sessions, floor votes, and public comments, this paper provides an in-depth socio-legal policy analysis of the development and content of these five state electronic monitoring laws. Particular focus is given to how residents', family members', nursing home facilities', and care workers' privacy and other interests are prioritized and protected. This research has important policy implications in the context of rapid policy movement on this issue in the U.S. and beyond.

SURVEILLANCE TECHNOLOGY IN ELDER CARE: SOME THEORETICAL OBSERVATIONS ABOUT OBSERVATION

A. Sixsmith, *Gerontology, Simon Fraser University, Vancouver, British Columbia, Canada*

Foucault's representation of a town contaminated by plague and the measures to stop the disease describes how a system designed to contain the disease has an impact on an individual's actions. Their behaviours and personalities become increasingly shaped by the parameters of the system. In monitoring older people, surveillance technology has the potential to not only observe, but also determine their behaviour, actions and routines and make inferences about the individual. If we are to rely on this observational data alone, the surveillance technology becomes a lens through which we construct the individual – their personality, their character and the ways in which the observer/care provider can control and intervene to ensure that they lead a “safer and healthier life”. Theoretical ideas about the tensions between the observer and the observed are discussed to better understand the nature of surveillance technologies within the elder care sector.

SESSION 3375 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: COMPARATIVE PERSPECTIVES ON THE FINANCIAL EXPLOITATION OF OLDER ADULTS

Chair: B. Penhale, *University of East Anglia, Norwich, United Kingdom*

Co-Chair: P. Lloyd-Sherlock, *University of East Anglia, Norwich, United Kingdom*

Discussant: M.S. Lachs, *Weill Medical College of Cornell University*

In recent years, the financial exploitation of older people has emerged as a virtual epidemic in high-income countries. There has been increasing attention to this issue, including research, development of assessment tools and involvement of the financial services industry as concern has grown.

Concurrently, less wealthy countries are seeing the fastest rates of population ageing and many have rapidly expanded pension coverage. However, the possibility that pensioners may be vulnerable to financial exploitation by family members and others, including through such mechanisms as pension pooling, predatory credit schemes and fraudulent selling of products such as bogus health insurance and legal services, has not been systematically assessed.

Papers in this symposium will provide, for the first time, a comparative analysis of financial abuse across developed and developing countries. Following introductory comments from the Chair (Penhale), papers will identify key areas of similarity and divergence, with reference to issues such as risk factors (Burnes/Pillemer), forms and consequences of abuse (Lloyd-Sherlock; Redondo; Conrad) and policy responses. Analysis will include cultural influences on how financial abuse is understood, perceived and experienced, by older victims and perpetrators. We will include comparative perspectives on the issue from the financial services sector (Gresham), as a key stakeholder. Finally, the discussant (Lachs) will synthesise the presentations and open the symposium for discussion.

This symposium will be of interest to academics seeking to develop collaborative, comparative research on abuse of older people, and aims to promote an international action agenda on this emergent and important topic.

PREVALENCE OF ELDER FINANCIAL FRAUD AND SCAMS: A SYSTEMATIC REVIEW AND META-ANALYSIS

D. Burnes¹, K.A. Pillemer², C. Henderson², C. Sheppard³, R. Zhao¹, M.S. Lachs⁴, 1. *University of Toronto, Toronto, Ontario, Canada*, 2. *Cornell University, Ithaca, New York*, 3. *University of Waterloo, Waterloo, Ontario, Canada*, 4. *Weill Cornell Medical College, New York City, New York*

Elder financial exploitation research to date has largely focused on scenarios occurring within relationships of trust (e.g., family). Little is known about elder financial fraud and scam (EFFS) forms of exploitation perpetrated by strangers, including foundational prevalence knowledge. This paper presents on EFFS prevalence estimation in the United States based on a systematic review and meta-analysis of state- and national-level population-based studies. Systematic review of the literature using multiple screeners/reviewers resulted in 12 eligible studies. To estimate EFFS prevalence, meta-analysis used generalized mixed modeling containing binomial error assumption and a logistic link function, with studies included as levels of a random classification factor. Overall EFFS prevalence (one- to five-year period) was 5.64% (95%CI: 4.04%-7.83%). Sub-analysis on study methodological differences revealed no significant effect on prevalence estimation. This study provides the most valid EFFS prevalence estimate to date, which is a necessary foundational piece for further research on the topic.

ELDER FINANCIAL ABUSE IN LOW- AND MIDDLE-INCOME COUNTRIES: AN UNCHARTED RESEARCH AGENDA

P. Lloyd-Sherlock, *University of East Anglia, Norwich, United Kingdom*

There is almost no published research on the financial abuse of older people in low and middle income country (LMIC) settings. This paper notes that, despite the absence of robust prevalence studies, individual and environmental risk factors indirectly indicate that the problem is widespread. For example, the number of people at old ages is growing rapidly and many have limited experience of managing personal finance. In many LMICs, increasingly extensive pension coverage and high rates of home ownership among elders contrast with limited livelihood opportunities for other age groups. The paper notes a reluctance to engage with this issue, among both national stakeholders and international development agencies, who focus overwhelming on the positive effects of extending pension coverage. Drawing on available evidence from Brazil, the paper identifies different forms of financial abuse and puts forward a strategy to stimulate research on this issue in LMICs.

FINANCIAL ABUSE IN ARGENTINA: A CASE OF ABUSOGENIC ENVIRONMENT

N. Redondo, 1. *Universidad Isalud, Buenos Aires, Argentina*, 2. *Maestria en Gestion de Servicios Gerontologicos, Universidad Isalud, Buenos Aires, Argentina*

This paper analyzes empirical evidence provided by data sources from the Argentina National System of Statistics as well as qualitative research carried out in two main cities of the country. On the basis of such evidence, the article described patterns of ownership, coverage of pensions, and type of households of the elderly population. It is argued that these patterns have combined to social factors such as the legal framework, macroeconomic instability, and downward social mobility contributing to generate an “abusogenic” environment for the elderly population. The fragility and dependence in instrumental activities of daily life are individual risk factors that contribute to financial abuse on their pensions and their properties, if any, mainly among widows or single women. The information provided by the qualitative research shows that abuse situations are not perceived as such by the elderly because the prevailing family relationships in society.

VALIDATION OF FINANCIAL EXPLOITATION PREDICTORS USING SUBSTANTIATION DECISION AS THE CRITERION

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This paper compares financial exploitation (FE) to physical abuse, emotional abuse, and neglect on theory-based predictors of abuse, including abuser risk factors, isolation, and victim vulnerabilities using data from the Elder Abuse Decision Support System study. The dataset contains assessments of elder abuse and its causes on 948 investigations of persons age 60 and older. Sensitivity and specificity analyses are presented of all *theoretical predictors* listed above and FE measures and items using caseworker substantiation decision as the criterion. Using specificity of greater than 30%, the best predictors of FE were selected. This procedure was repeated to test emotional/psychological abuse, physical abuse, and neglect measures and their best theoretical predictors and items. The three risk factor comparisons were examined to discern the unique characteristics of FE. The analyses provided empirical evidence from elder abuse investigations indicating which items are most predictive of FE. Such evidence may support prevention and intervention.

A BULL MARKET FOR ELDER FINANCIAL ABUSE IN NORTH AMERICA

S.D. Gresham, 1. *Brown University, Providence, Rhode Island*, 2. *Cornell University, New York, New York*

More than 30 years of financial market growth has helped spread the ownership of financial assets across a broad range of investors -- ushering in a new era of personal, empowered capitalism while increasing the opportunities for financial abusers. Stock and bond markets have flourished with the former rising 20-fold to over \$20 trillion market value in the US. Total financial assets owned by individual North American investors now exceed \$150 trillion and more than 50 million individuals directly manage their own retirement accounts. Additional trends increase the vulnerability of this

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newfound wealth, especially among the elderly, including the rise of self-directed accounts and the pervasiveness of online and mobile financial management.

SESSION 3380 (SYMPOSIUM)

ADDRESSING AGING ATTITUDES ACROSS THE LIFESPAN THROUGH INTERGENERATIONAL EDUCATION AND EXPERIENCES

Chair: C.R. Bolkan, *Washington State University, Oregon*

Discussant: R. Hanks, *University of South Alabama, Mobile, Alabama*

Ageism is prominent around the world. It significantly influences how we treat elders and how we respond to our own aging process. A growing body of evidence indicates that age stereotypes and negative perceptions about aging are strongly associated with later physical frailty. Further, age stereotypes can emerge very early in childhood and persist across the lifespan. As such, at a time when the world's population of people aged 60+ is expected to triple to almost 2 billion by 2050, it is imperative to increase gerontological/geriatric training and outreach, especially to children and young adults. This drastic population shift will also dramatically affect family configurations as increased life expectancy will mean longer intergenerational relationships between children and older family members, further underscoring a need for increased focus on intergenerational education and experiences. Although gerontological/geriatric education and training resources exist, they are underutilized. In addition, more evidence-based interventions and guidance regarding how to effectively implement intergenerational activities in a variety of contexts are needed to bridge the gap between science to practice. In this symposium, attendees will learn about four applied research examples of intergenerational education aimed to combat negative attitudes about aging from multiple perspectives. More specifically, we will highlight: (a) implications and interventions that address young children's attitudes on aging; (b) educational strategies to address attitudes of health profession students toward older adults, (c) international intergenerational programming efforts to explore aging attitudes in Nicaraguan youth; and (d) an intergenerational lifelong service-learning project to teach undergraduate students about aging.

TEACHING AGING THROUGH SERVICE LEARNING IN AN INTERGENERATIONAL LIFELONG LEARNING ENVIRONMENT

L.K. Donorfio, *University of Connecticut, Storrs, Connecticut*

The emergence of lifelong learning programs situated on College and University campuses over the last decade present an opportunity for intergenerational relationships, learning activities, service learning projects, and research. This presentation will describe the engagement of forty-two (42) undergraduate students in an Adulthood and Aging class who embarked on an intergenerational lifelong service-learning project with an Osher Lifelong Learning Institute (OLLI) on the university campus. Specifically, initial service-learning objectives will be shared, as well as the educational

methodology chosen, qualitative outcomes, and significant lessons learned. Qualitative findings from participants included an awareness and change related to bi-directional ageism, an understanding of andragogy and appreciation of lifelong learning, and positive influence on views of career options in the field of Aging. While intentional intergenerational interactions were initially aimed at demystifying older adults and the aging process, the final outcomes illuminated an appreciation of lifelong learning and an eradication of ageist attitudes.

CHILDREN'S ATTITUDES ON AGING: IMPLICATIONS AND INTERVENTIONS

S.L. McGuire, *University of Tennessee, Knoxville, Tennessee*

Numerous aging education resources to combat ageism exist that are powerful and inexpensive yet woefully underutilized. Chief among these are early children's literature (Preschool-Primary) and intergenerational activities. Research has consistently shown that young children evidence ageist attitudes that become more negative as children grow older, and ultimately become self-fulfilling prophecies. Today's children are living longer than ever before underscoring the urgency to promote positive aging. Lifespan aging education as an intervention to promote positive aging has been endorsed since the first White House Conference on Aging in 1960, however, little progress has been made. This presentation will facilitate utilization of these resources by integrating literature and experience about children's attitudes about aging, resources for early childhood educators about children's literature and aging, and guidance for selecting appropriate books that promote positive aging intergenerational activities. Gerontologists can and should be champions of combating ageism and preparing people for their increased longevity.

INTERGENERATIONAL EDUCATION AND TRAINING IN NICARAGUA

C.R. Bolkan¹, M.B. Neal², A. DeLaTorre², I. Wernher², ¹. *Washington State University, Vancouver, Washington*, ². *Portland State University, Portland, Oregon*

By mid-century, 80% of the world's older population will live in low/middle-income countries, many of which lack expertise in gerontology and geriatrics. As part of a study-abroad service-learning program focused on improving health and well-being of older adults in Nicaragua, students and faculty at Portland State University, in cooperation with in-country partners, developed and implemented evidence-based trainings in Nicaraguan communities to promote intergenerational relationships. Formal intergenerational programs do not exist in Nicaragua, despite expressed community interest. To date, we have trained over 100 community members (e.g., Rotary clubs, church groups), high school, and college students. This presentation will detail our intergenerational program efforts in Nicaragua, the qualitative results (e.g., insights gained about aging, increased empathy for older adults) as well as the results of a survey of college students (N = 483) about their perceptions on aging (e.g., students' age stereotyping despite significant time spent with older family members).

HEALTH PROFESSION STUDENTS' ATTITUDES TOWARD AND BELIEFS ABOUT OLDER ADULTS

L. White, *University of South Alabama, Mobile, Alabama*

Attitudes and beliefs of health profession students' toward older adults can influence their desire to join the geriatric healthcare workforce. Therefore, health profession educators are challenged to design educational interventions that positively impact these attitudes and beliefs. Studies on the effectiveness of educational interventions to change students' beliefs and attitudes toward older adults have yielded mixed results; however, common features of effective educational interventions are beginning to emerge. Students in the University of South Alabama Doctor of Physical Therapy program participate in a learning module on physical activity in older adults during a first-semester exercise physiology course. The module includes an experiential activity in which students exercise with older adults in group exercise classes at an intergenerational community center. Student evaluation of the module indicates increased interest in the topic and changes in beliefs about older adults' participation in physical activity.

SESSION 3385 (SYMPOSIUM)

LATE-LIFE CHANGES IN HOUSING: CHOICES, CONSTRAINTS, AND IMPACTS ON CARE

Chair: J. Byles, *The University of Newcastle, Newcastle, New South Wales, Australia*

Co-Chair: H. Barrie, *University of Adelaide, Adelaide, South Australia, Australia*

Discussant: V. Cornell, *University of Adelaide, Adelaide, South Australia, Australia*

This symposium is presented by the International Longevity Centre - Australia (ILC-AUS) – involving researchers, service providers, and advocacy organizations. It considers changes in housing in late life, and how housing affects people's access to care as they age. Individuals, service providers, and governments share a common goal to enable older people to remain at home for as long as possible. However, many older people need, or choose, to move to smaller or more supportive accommodation as they age and as they encounter changes in their needs and capacities. This symposium will discuss housing needs of older people, age friendly housing options, and how housing affects access to community supports and services. The symposium will also consider the increasing risk of homelessness among older people, and how the care needs of these people can be met. The discussion will pay particular attention to the needs of women, single older men, and people with precarious housing tenure.

HOME AND CARE: ANALYSIS OF 12 YEARS OF DATA FROM THE AUSTRALIAN LONGITUDINAL STUDY ON WOMEN'S HEALTH

J. Byles, *Research Centre for Generational Health and Ageing, The University of Newcastle, Newcastle, New South Wales, Australia*

We analysed data for 9575 women from the 1921–1926 cohort of the Australian Longitudinal Study of Women's Health, linked to Australian National Death Index, and aged care records. The aim was to assess changes in housing, and

how housing type affects the timing and type of aged services used by older women. Seven housing patterns were identified. Four stable patterns: living in a house for most surveys (47.0%), living in a house but with earlier death (13.7%), living in an apartment (12.8%), living in a retirement village (5.8%). Three patterns showing transition: downsizing - moving from a house to retirement village (6.6%), moving from an apartment/retirement village to residential care (7.8%), and from house to residential care (6.4%). Compared to living in a house, women in apartments were more likely to receive community services, while women in retirement villages were more likely to move into residential care.

HEARING OLDER PEOPLE'S VOICES: WHAT MATTERS IN HOUSING DESIGN?

A. Herd, A.F. Street, Y.D. Wells, *La Trobe University, Melbourne, Victoria, Australia*

This study sought older people's views on characteristics of their housing that support life satisfaction in order to assess the impacts of a range of housing settings and inform future age-specific housing design.

This study was part of a larger investigation of the impacts of housing and services on quality of life and social participation. Forty older people living in retirement villages, retirement apartments, and independent living units, or at home and receiving community support, were interviewed in-depth about their perceptions of their housing.

Key themes dealt with features that discretely support ageing in place, including functional design (acceptability, usability, maintenance, sustainability, and space), location (position, views and proximity to others), and neighborhood (especially walkability). Participants were keen to have more meaningful input into the planning and design of housing for older people. Older people want to be co-producers of their homes, not just end-users.

HEALTH AND WELFARE PROFILE OF AUSTRALIAN BABY BOOMERS WHO RENT—IMPLICATIONS FOR THE FUTURE

H. Barrie, 1. *Australian Population and Migration Research Centre, University of Adelaide, Adelaide, South Australia, Australia*, 2. *Australian Association of Gerontology, Melbourne, Victoria, Australia*

This study assessed socio-economic and health-related factors associated with renting. While some baby boomers have never owned a home, a proportion have also moved to rental accommodation as a result of changes in marital status, household composition, or due to economic and health related factors (sickness, disability, unemployment). Data from telephone interviews conducted monthly between 2007 and 2013 were combined, with 18,844 baby boomer respondents included in the analysis. Overall 17.4% were renting, either privately or using government subsidised housing. Renters of government housing were more likely to be female, be living alone, report being 'unable to work', have low education levels, be in the lowest quintile of socio-disadvantage, have a low income, and have a poorer health profile. This research provides empirical evidence of the considerable differences in health, socio-economic indicators and risk factors between baby boomers who rent and those who own, or are buying, their own homes.

A PROGRAM FOR HOMELESS PERSONS

D.P. Goeman, *RDNS Institute, Melbourne, Victoria, Australia*

A large community health care organisation expanded their community-based assertive outreach Homeless Persons Program (HPP) to address a significant level of unmet health care need among people experiencing homelessness in a south-eastern region of Victoria despite the presence of well established homeless and healthcare services.

Evaluation of HPP program showed that the majority of assisted clients were successfully referred to at least three services. Key to clients accessing the services was the strong advocacy provided by the HPP nurse. This program has also helped establish various initiatives to improve clients' social inclusion. The HPP model has positively impacted on clients' lives and improved their capacity to engage with health and welfare services. This engagement has led to an increased sense of self-belief, resilience and improved social connections which have helped in reclaiming aspects of their lives.

SESSION 3390 (SYMPOSIUM)

ENHANCING THE INFORMED CONSENT PROCESS IN CLINICAL DEMENTIA RESEARCH

Chair: J. Haberstroh, *Goethe University Frankfurt, Frankfurt am Main, DEUTSCHLAND, Germany*

Co-Chair: J. Vollmann, *Ruhr University Bochum, Bochum, Germany*

Discussant: J. Moye, *VA Medical Center, Jamaica Plain, Massachusetts*

The high number of people suffering from dementia will significantly increase in European countries and elsewhere in the coming decades. No treatments are currently available that can reverse or even halt the neurodegenerative process, and dementia is a considerable burden on patients and caregivers, as well as on societies as a whole. For this reason, there is a substantial need for further medical dementia research. People with dementia have the right to decide whether or not they want to participate in clinical research and to give their free, prior and informed consent. However, as dementia progresses, they can lose their ability to give informed consent to complex medical research because of an increasing loss of cognitive functions. At first sight, it seems ethically problematic to involve dementia patients in research, as people with impaired mental capacity must be protected against the risks of research participation. Furthermore, in contrast to informed consent to medical treatment, an individual benefit from participation in research can rarely be taken for granted. However, people with dementia also have a right to benefit from medical research in particular, so their categorical exclusion would appear to be ethically problematic too. High standards for the informed consent process and a thorough assessment of mental capacity are therefore important for the protection of research participants. In this Symposium, the international, interdisciplinary ENSURE project will be presented. This project aims to contribute towards achieving an adequate balance between autonomy and the protection of dementia patients in clinical research.

ENSURE PROJECT: SUPPORTED DECISION-MAKING AND CAPACITY ASSESSMENT IN CLINICAL DEMENTIA RESEARCH

J. Haberstroh, F. Oswald, J. Pantel, *Frankfurt Forum for Interdisciplinary Ageing Research, Goethe University Frankfurt, Frankfurt am Main, DEUTSCHLAND, Germany*

This talk opens the symposium "Enhancing the Informed Consent Process in Clinical Dementia Research" and gives an overview of the project "Enhancing the Informed Consent Process: Supported decision-making and capacity assessment in clinical dementia research" (ENSURE). ENSURE aims to provide interdisciplinary recommendations to support the development of an action model of an informed consent process in clinical dementia research that a) enhances the capacity to consent of people with dementia, b) improves the assessment of decision-making capacity, c) protects those who do not have the capacity to consent, and d) guarantees the ethically justified inclusion of research subjects in clinical dementia research. To achieve this, four international project partners cooperate on four interdisciplinary interlinked subprojects to be conducted in three successive phases. The disciplines involved are gerontology, ethics and law. In the symposium, the project partners will present the results of the first project phase of three of the subprojects.

OPPORTUNITIES AND RISKS OF SUPPORTED DECISION-MAKING IN DEMENTIA RESEARCH. AN ETHICAL ANALYSIS

J. Vollmann, J. Gather, M. Scholten, *Ruhr University Bochum, Bochum, Germany*

According to the interpretation of the Committee on the Rights of People with Disabilities (the Committee), article 12 of the United Nations Convention on the Rights of People with Disabilities (CRPD) represents a radical departure from the widely accepted functional approach to assessing competence, along with acknowledged procedures of substitute decision-making, in favor of a new paradigm of supported decision-making (SDM). Although sharing the Committee's concerns about the discrimination of mentally disabled people and welcoming the development of new measures for the enhancement of decision-making capacity, we have several reservations regarding the Committee's interpretation. Our main worry is that the SDM model runs the risk of failing to distinguish between substitute and supported decision-making. We therefore recommend a more limited and case-specific application of SDM with a clear and transparent idea of the individual competence of patients involved in clinical dementia research.

ETHICAL FRAMEWORK OF INFORMED CONSENT AND DECISION-MAKING IN DEMENTIA RESEARCH

A. Carvalho, P. Hernández-Marrero, *Instituto de Bioética, Universidade Católica Portuguesa, Porto, Portugal*

Impaired decision-making capacity is a symptomatic feature in a number of neurodegenerative diseases, but the nature of these decision-making deficits depends on the particular disease. The level of impairment that renders a patient unable to make valid decisions should ideally reflect a societal judgment about the appropriate balance between respecting the patient's autonomy and protecting the patient from the potentially negative consequences of such a decision.

Although many types of decision-making exist, studies of decision-making in patients with neurodegenerative diseases generally use two decision-making paradigms; decision-making under ambiguity and decision-making under risk. The main objective of this study is to determine the issues that should be taken into account during the informed consent process. This study encompasses two intertwined phases. The results will be integrated into an in-depth normative analysis of the conceptual and ethical issues raised by the informed consent process in clinical dementia research.

GERONTOLOGICAL DEMANDS AND ACTUAL CONDITIONS OF INFORMED CONSENT PROCEDURES IN DEMENTIA RESEARCH

M. Knebel, T. Wied, V. Tesky, *Goethe University Frankfurt, Frankfurt am Main, Germany*

In phase 1, the subproject Gerontology aims to identify the country-specific demands and actual conditions governing informed consent procedures in clinical dementia research in the participating countries. About 90 people with early stage dementia, and 90 caregivers/legal guardians (all involved in clinical dementia research) will be included. For the recruitment of potential subjects, we contact dementia researchers in Germany, Spain, and Portugal and ask them to share our online-study with their study participants. Semi-structured online-interviews are conducted over a period of 6 months. Participants are interviewed in order to gather information on existing informed consent conditions in clinical dementia research. Furthermore, participants are asked to formulate and rate their needs, whereby the emphasis lays on the assessment of p-e fit indices in the domains of spatial and social needs versus existing conditions. Phase 1 will be finished in June 2017. The results of phase 1 will be presented.

SESSION 3340 (SYMPOSIUM)

TOWARD THE DEVELOPMENT OF A PERSON-CENTERED INDEX OF AGING WELL IN CANADA AND MEXICO

Chair: E. Belanger, *Brown University, Providence, Rhode Island*

Co-Chair: U. Perez-Zepeda, *Instituto Nacional de Geriatria*

Discussant: M. Zunzunegui, *Universite de Montreal, Montreal, Quebec, Canada*

Despite a growing interest in successful aging among gerontologists, there remains a lack of consensus about the definition of this concept. The most common definition was proposed by Rowe & Kahn (1997): "a low probability of disease and disease-related disability, high cognitive and physical functional capacity, and active engagement with life" (p. 433). This appears unrealistic for the majority of older adults with no more than 11.9% percent of Americans, and a mean of 8.5% of older adults across European countries being free from major chronic diseases, physical disability, cognitive impairment, and participating in social and productive activities. When asked, the perspective of older adults themselves is broader, less medical, and more positive than those of the aforementioned researchers, and not dependent upon absence of disability or chronic illness. Literature reviews of lay perspectives confirm the importance of psychosocial components such as life satisfaction and

self-mastery. This symposium includes three presentations as well as a thorough introduction about different models of successful and positive aging, and their prevalence and limitations. The first presentation is a qualitative description of older adults' perceptions of aging well in Canada. The second concerns the development of a person-centered index of aging well and description of its distribution in Canada and Mexico, while the last addresses the individual and structural determinants of aging well from the perspective of older adults. Developing comprehensive measures of positive aging processes is important for health promotion if we are to tackle outcomes that truly matter to older adults.

OLDER ADULTS' LAY PERCEPTIONS OF AGING WELL: A QUALITATIVE STUDY IN CANADA

E. Belanger³, U. Perez-Zepeda², R.C. Castrejon-Perez², G. Moullec¹, 1. *University of Montreal, Montreal, Quebec, Canada*, 2. *Instituto Nacional de Geriatria, Mexico City, Mexico*, 3. *Brown University School of Public Health, Providence, Rhode Island*

Literature reviews about lay perspectives on successful aging suggest additional psychosocial components to the biomedical definition proposed by Rowe and Khan (1997). The research question guiding this study was: What is the perspective of older adults on aging well in Canada? A descriptive study was carried out, using inductive qualitative content analysis to explore the domains of aging well that Canadian older adults report on, as compared with existing literature on lay perspectives. A random sub-sample of 40 older adults was selected from the ongoing International Mobility in Aging Study at two Canadian sites (Saint-Hyacinthe and Kingston), using a stratified selection process to ensure a diversity of ages, genders and education levels. Forty semi-structured qualitative interviews were carried out with participants to explore their perspectives on aging well. The results confirm the importance of symptomatic health conditions including pain, as well as psychosocial components, such as attitude toward aging.

DEVELOPMENT OF A PERSON-CENTERED INDEX OF AGING WELL IN CANADA AND MEXICO

R.C. Castrejon-Perez², E. Belanger^{1,3}, U. Perez-Zepeda², M. Zunzunegui^{1,3}, 1. *University of Montreal, Montreal, Quebec, Canada*, 2. *Instituto Nacional de Geriatria, Mexico City, Mexico*, 3. *Public Health Research Institute (IRSPUM), Montreal, Quebec, Canada*

Starting from the results of a qualitative study in Canada and existing literature in different contexts, an index capturing most of the domains used in definitions of successful aging was constructed, with a particular focus on lay perspectives. The index was developed using data gathered in 2014 from 663 Canadian participants in the International Mobility in Aging Study (IMIAS) and 15,698 Mexican participants in the Mexican Healthy Aging Study (MHAS). It was computed as a continuous score (0 to 100) containing health-related components (ADL disability, mobility disability, pain, self-rated health, and cognitive function), and psychosocial components (mood, productive activities, social relations, life satisfaction, and self-mastery). Mean scores on aging well were 80 among Canadian older adults and 59 among Mexican participants. The detailed scores indicate aspects of

the health and psychosocial well-being that deserve improvement according to older adults themselves, particularly pain management in Canada and mobility disability in Mexico.

THE INDIVIDUAL AND STRUCTURAL DETERMINANTS OF AGING WELL IN CANADA AND MEXICO

U. Perez-Zepeda², R.C. Castrejon-Perez², E. Belanger^{1,3}, M. Zunzunegui^{1,3}, 1. *University of Montreal, Montreal, Quebec, Canada*, 2. *Instituto Nacional de Geriatria, Mexico City, Mexico*, 3. *Public Health Research Institute (IRSPUM), Montreal, Quebec, Canada*

The literature suggests that successful aging is largely determined by health behaviors and the social and physical environment of older adults. For this presentation, we examined the determinants of a person-centered index of aging well (0–100), as inspired by the determinants of the WHO concept of active aging, namely socioeconomic, behavioral, and environmental determinants. In both contexts, older participants were less likely to age well. Those with less than very sufficient income also had lower scores on the index. In Canada, smoking (past and present) was associated with lower scores, while physical exercise had a small but significant positive association. In Mexico, men aged well significantly more than women, as did those with more education and those who exercised at least 60 minutes a week. This presentation sheds light on modifiable determinants of aging well that can be addressed through health and social policies, particularly health behaviors and income sufficiency.

SESSION 3345 (SYMPOSIUM)

U.S. NATIONAL INSTITUTE ON AGING SYMPOSIUM FOR ESTABLISHED RESEARCHERS—A CHAT WITH SENIOR LEADERSHIP

Chair: M.A. Bernard, *NIA NIH, Maryland*

Co-Chair: R.J. Hodes, *National Institutes of Health*

Discussant: R.A. Barr, *National Institute on Aging*

The U.S. National Institute on Aging (NIA) at the National Institutes of Health, Department of Health and Human Services, is the federally designated lead agency on aging research, and has supported significant research on aging as a life-long process. In Fiscal Year 2016, NIA experienced a 33% increase in its budget. Although much of this funding was targeted to Alzheimer's disease research, there was an increase in funds allocated to non-AD research that was greater than the NIH average. This symposium will provide a forum for exploration of the implications of the budget increases for the general research community, including support of research developed by non-U.S. citizens. It will involve NIA's senior staff discussing research priorities and programs supported by the Institute. A question-and-answer session will follow brief introductory remarks on current funding and future priorities and research directions of NIA.

ADVANCES IN AGING BIOLOGY AND GEROSCIENCE

M.A. Bernard, F. Sierra, *NIA NIH, Bethesda, Maryland*

Felipe Sierra, director of the NIA Division of Aging Biology (DAB), will provide a brief overview of DAB research priorities, with particular attention to developments across NIH and beyond in geroscience.

NIA BEHAVIORAL AND SOCIAL SCIENCE ADVANCES AND PRIORITIES

M.A. Bernard, J. Haaga, *NIA NIH, Bethesda, Maryland*

Dr. John Haaga, director of the NIA Division of Behavioral and Social Science Research (BSR), will briefly outline BSR research priorities and recent science advances, many of which involve international collaborations and comparisons.

RESEARCH DIRECTIONS IN GERIATRICS AND CLINICAL GERONTOLOGY

M.A. Bernard, E. Hadley, *NIA NIH, Bethesda, Maryland*

Evan Hadley, director of NIA's Division of Geriatrics and Clinical Gerontology (GCG), will provide a brief overview of GCG's research priorities and advances, including those areas with international ramifications

NIA NEUROSCIENCE ADVANCES AND PRIORITIES, INCLUDING ALZHEIMER'S DISEASE

M.A. Bernard, E. Masliah, *NIA NIH, Bethesda, Maryland*

Dr. Eliezer Masliah, director of the Division of Neuroscience (DN) at NIA, will provide a brief overview of neuroscience advances and priorities. He will also highlight Alzheimer's disease funding and research opportunities for U.S. and non-U.S. based researchers.

SESSION 3395 (SYMPOSIUM)

THE CANADIAN LONGITUDINAL STUDY ON AGING (CLSA): A PLATFORM FOR RESEARCH ON AGING

Chair: S. Kirkland, *Dalhousie University, Halifax, Nova Scotia, Canada*

Discussant: A. Wister, *Simon Fraser University, Vancouver, British Columbia, Canada*

Over the next twenty years, the Canadian Longitudinal Study on Aging (CLSA) will generate a wealth of information to contribute to the advancement of the science of aging and policy development. As a study, CLSA objectives are to examine aging as a dynamic life-course process; investigate the inter-relationship among intrinsic and extrinsic factors from mid-life to older age; and capture the transitions and trajectories of aging-related processes. As a platform, CLSA objectives are to provide infrastructure and build capacity for state-of-the-art, interdisciplinary, population-based research and evidence-based decision making to support the nation as it transitions into several decades of rapid population aging. Information on the changing biological, physical, psychological, and social aspects of people's lives is being collected to understand how, individually and in combination, they influence the maintenance of health and well-being, and the development of disease and disability as people age. The CLSA is one of the most comprehensive studies of its kind undertaken to date. Its large sample, multidisciplinary focus, and longitudinal design provide ongoing research opportunities unprecedented in Canada and internationally.

Recruitment of over 50,000 participants is now complete, and baseline data are available to the research community. The objectives of this Symposium are to: 1) Update on study progress and milestones achieved; 2) Report on key methodological aspects of recruitment, sampling, data collection, outcomes ascertainment; 3) Present findings from initial projects using CLSA data; and 4) Give researchers an

understanding of the scope and potential of the CLSA as a platform for research on aging.

THE CANADIAN LONGITUDINAL STUDY ON AGING: STUDY DESIGN AND METHODS

S. Kirkland¹, C. Wolfson³, P. Raina², L. Griffith², M. Oremus⁴, 1. *Dalhousie University, Halifax, Nova Scotia, Canada*, 2. *McMaster University, Hamilton, Ontario, Canada*, 3. *McGill University, Montreal, Quebec, Canada*, 4. *University of Waterloo, Waterloo, Ontario, Canada*

The Canadian Longitudinal Study on Aging is following 50,000 men and women aged 45–85, every three years for at least 20 years. Of the total, 20,000 (Tracking participants) are randomly selected within age/sex strata in each province, and 30,000 (Comprehensive participants) are randomly selected within age/sex strata from within 25–50 km of 11 sites across the country (Victoria, Vancouver, Surrey, Calgary, Winnipeg, Ottawa, Hamilton, Montreal, Sherbrooke, Halifax, and St. Johns). Data collection methods include telephone and face-to-face interviews, physical assessments, biological samples, and linkage to administrative databases. Initiated in 2010, the second wave of data collection is currently underway. The CLSA has engaged in a number of “firsts” in Canada. In this presentation we will highlight the study design and content, sampling, recruitment, baseline data collection, and ascertainment of health outcomes. Ethical legal and social issues, as well as accommodation strategies to improve retention in future waves will be presented.

MULTIPLE CHRONIC CONDITIONS IN RELATION TO DISABILITY AND SOCIAL PARTICIPATION: DATA FROM THE CLSA

L. Griffith¹, A. Gilsing¹, E. van den Heuvel², S. Nazmul¹, P. St. John³, P. Raina¹, 1. *McMaster University, Hamilton, Ontario, Canada*, 2. *Eindhoven University of Technology, Eindhoven, Netherlands*, 3. *University of Manitoba, Winnipeg, Manitoba, Canada*

While much is known about the effect of individual chronic conditions (CCs) on people's ability to undertake their everyday activities, less is known about effect of having multiple CCs. We will present data from over 20,000 Canadian men and women on population patterns of self-reported CCs and how different combinations of CCs impact disability and social participation. Preliminary data suggest that although the proportion of people with 2+ CCs increases with age (22% in 45–54 vs. 52% in 75–89 year olds) and tends to be higher in females than males (36% vs. 30%), the difference between genders narrows with age. As well, combinations of chronic conditions with the same disease count differentially impact activities of daily living and social participation in men compared to women, and in middle-aged compared to older adults. Understanding these differences could help to increase the efficiency and quality of clinical care and improve public health.

ASSOCIATIONS BETWEEN SENSORY LOSS AND SOCIAL NETWORKS, PARTICIPATION, SUPPORT, AND LONELINESS

P. Mick¹, M. Pichora-Fuller², W. Wittich³, 1. *University of British Columbia, Kelowna, British Columbia, Canada*,

2. *University of Toronto, Toronto, Ontario, Canada*, 3. *Université de Montreal, Montreal, Quebec, Canada*

The effects of sensory loss on social structure and function in different age and sex groups are poorly understood. We analyzed a population based sample of 21,241 Canadian adults to determine if hearing loss (HL), vision loss (VL) or dual sensory loss (DL) were associated with social network size, social participation, availability of social support, and loneliness, respectively, and whether age or sex modified the associations. VL was associated with reduced social network size in males and low social participation in all age/sex groups. DL was associated with reduced network size and participation in 65–85 year olds. All forms of sensory loss were associated with reduced social support and loneliness. The results might be explained by mobility challenges resulting from VL and DL, and communication problems arising from HL, VL and DL. Individuals with sensory impairments should be targeted for interventions that increase social engagement and support and reduce loneliness.

UNDERSTANDING INEQUALITIES AND INEQUITIES IN HEALTH AND WELLNESS AMONG OLDER CANADIANS

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This presentation focuses on equity in successful aging among older Canadians. By taking advantage of rich information offered by a new, national flagship study, the Canadian Longitudinal Study on Aging (CLSA) and by advancing the health inequity measurement approach that we have developed, we report inequalities and inequities in health and wellness of older Canadians. Results of our study provide rich understanding of the diverse experience of and heterogeneity in health and wellness among older Canadians. Our study also lays the methodological foundation for tracking inequalities and inequities in successful aging of the Canadian population over time as follow-up data become available in the coming years. Moreover, by examining multiple dimensions of successful aging, this study informs policy interventions with respect to some of the key priority health areas among older Canadians, such as frailty and overall strength.

SESSION 3400 (SYMPOSIUM)

IAGG NORTH AMERICAN REGION: FALLS PREVENTION—NEW INITIATIVES FROM THE CANADIAN GERIATRICS SOCIETY FALLS SPECIAL INTEREST GROUP

Chair: M. Montero Odasso, *University of Western Ontario, London, Ontario, Canada*

Discussant: D.B. Hogan, *University of Calgary, Calgary, Alberta, Canada*

Falls are a quintessential geriatric syndrome. Its study and the approaches developed for their prevention contributed to the establishment of geriatric medicine as a distinct field

of specialty practice. Despite the myriad of studies aimed at improving our understanding of their pathophysiology and the clinical trials designed to establish effective strategies to prevent falls and fall-related injuries, there are still important gaps in what we know about this challenging and complex syndrome. This symposium will outline some of the work on fall prevention being done by members of the Falls Prevention Group, a national initiative designed to address knowledge gaps in falls prevention started by the Canadian Geriatrics Society.

The Falls Prevention Clinics (University of British Columbia) have developed a physiological approach to falls prevention focusing on an innovative use of the Physiological Fall Profile and new methods of addressing syncopal etiologies of falls such as orthostatic hypotension and postprandial hypotension.

The Gait and Brain Laboratory (University of Western Ontario) focuses on the complex interplay between gait, cognition and fall risk. This group will discuss how gait assessment provides a window into future interventions to prevent falls in cognitively impaired patients, a group of patients that have been notoriously resistant to standard preventative interventions.

The Calgary Falls Prevention Clinic (Alberta Health Services – Calgary Zone) has developed a standardized approach to preventing falls in older adults. The success and challenges of implementing this protocol for community-dwelling older adults and integrating its activities within the health care system will be presented.

CANADIAN GAIT AND BRAIN STUDY: COGNITION, GAIT AND THE RISK OF FALLING

M. Montero-Odasso, 1. *University of Western Ontario, London, Ontario, Canada*, 2. *Gait and Brain Laboratory, London, Ontario, Canada*

One of the main goals of geriatric medicine is to reduce the gap between overall life expectancy and disease free life expectancy. Two of the main contributors to this gap are increased rates of cognitive impairment and gait impairment. Older adults with cognitive impairment have a higher risk of falls, have twice the fall rates of cognitively normal older adults, and are notoriously resistant to fall prevention interventions. The precise mechanisms underlying the complex interplay between gait and cognitive impairment are poorly understood, and are the focus of the Gait and Brain Laboratory (The University of Western Ontario). This session will present evidence from the Canadian Gait and Brain Study showing that even mild cognitive impairment can affect gait and balance and the implications this has for fall prevention strategies in older adults with cognitive deficits.

IMPLEMENTING EVIDENCE-BASED FALL PREVENTION IN THE COMMUNITY SETTING

D.B. Hogan, *University of Calgary, Calgary, Alberta, Canada*

Evidence-based recommendations for the prevention of falls have been developed, but adherence to them by physicians, community service providers and older persons is generally poor. The Calgary Fall Prevention Clinic is a team-based

service that assesses upon request older persons in their own homes who are at risk for falls. Based on a comprehensive assessment, a care plan is developed that is shared with the older person and their primary care provider. A consultative approach that respects the prerogatives of primary care and utilizes existing community resources is taken. Drawing on our 20 years of experience, this session will focus on the challenges we faced in implementing a fall prevention service and integrating its activities with other components of the health care system involved in the assessment and management of older persons experiencing falls and fall-related injuries.

SESSION 3405 (SYMPOSIUM)

H-TYPE HYPERTENSION, GENE, FOLATE: CHINA STROKE PRIMARY PREVENTION TRIAL

Chair: X. Wang, *Johns Hopkins University, Baltimore, Maryland*

Co-Chair: X. Li, *Chinese General Hospital of PLA, Beijing, China*

Hypertension, as a major modifiable risk factor for CVDs, is fairly common among adults in China. The treatment and control of prevalent hypertension have been improved in many high-income countries. By contrast, although the treatment and control rates of hypertension have increased, it remains unacceptably low in China. This symposium consists of four abstracts which will mainly deal with the trend in the prevalence of hypertension as well as in the treatment and control rates of prevalent hypertension. The first one will discuss the controversies related to folic acid supplementation in cardiovascular disease and stroke, focusing on the new evidence of effect of folic acid therapy on incident stroke and key genetic and nutrition modification. Another talk will provide an overview of recent advances in this field; highlight the findings from a sub-study of the China Stroke Primary Prevention Trial (CSPPT) and focus on the effect of folic acid therapy on renal endpoints. The third presentation will discuss the perennial interest in and debate on blood pressure control targets and the notion of a “J” shaped curve. It will also present findings from several groundbreaking studies in eastern and western populations. The last presentation will describe the *MTHFR* C677T gene polymorphism and the concept of gene-nutrition interaction and illustrate the concept by presenting the findings from the CSPPT, which has clearly demonstrated the interactive effect of *MTHFR* C677T polymorphism and folic acid on serum homocysteine (Hcy) levels and lowering in response to folic acid therapy among Chinese hypertensive adults.

EFFICACY OF FOLIC ACID SUPPLEMENTATION ON REDUCING THE RISK OF STROKE AMONG HYPERTENSIVE PATIENTS

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Neurology, Guangdong Provincial Hospital of Chinese Medicine, Guangzhou, China, 6. Department of Cardiology, Peking University First Hospital, Beijing, China, 7 4. Department of Neurology, First People's Hospital of Lianyungang, Lianyungang, China, 8. Department of Cardiology, First People's Hospital of Lianyungang, Lianyungang, China, 9. Institute for Biomedicine, Anhui Medical University, Hefei, China

There has been long-standing debate over whether folic acid supplementation, which corrects folate insufficiency and lowers homocysteine, can prevent stroke. Although early epidemiologic studies showed a dose-response association between homocysteine(Hcy) levels and cardiovascular diseases(CVD), subsequent randomized trials failed to show a beneficial effect of folic acid supplementation in preventing CVD. Such discrepancy could be due to two important reasons: (1)most recent trials were conducted in populations already undergoing folic acid fortification, and there has been a particular lack of studies in low folate regions; and (2)most studies have focused on CVD rather than stroke as primary end points. The China Stroke Primary Prevention Trial(CSPPT) is the first and largest randomized trial to test the efficacy of folic acid supplementation in the primary prevention of stroke in a country without folic acid fortification. The CSPPT was conducted among 20,702 Chinese hypertensive adults(>60 years) without pre-existing stroke and myocardial infarction, with a median treatment period of 4.5 years. The CSPPT demonstrated that enalapril-folic acid therapy, compared with enalapril alone, significantly reduced the risk of first stroke by 21%(HR, 0.79; 95%CI: 0.68–0.93). Although the stroke risk increased with the increasing age, age(45–<55, 55–<65, 65–<75 years) did not substantially affect the beneficial effect(P for interaction=0.427).In light of the growing aging population in the world, and large number of individuals with hypertension and at high risk for stroke in China, other Asian countries and worldwide, the public health benefit of folic acid as a simple, effective, and safe intervention could be substantial.

EFFECT OF FOLIC ACID THERAPY ON RENAL FUNCTION IN HYPERTENSIVE ADULTS

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This renal sub-study of the China Stroke Primary Prevention Trial (CSPPT) included 15104 participants (mean age: 59.4 years) with hypertension who were randomized to receive a daily single tablet containing either 10mg enalapril and 0.8mg folic acid (n=7545), or 10mg

of enalapril alone (n=7559). The primary outcome was CKD progression, defined as a decrease in eGFR of $\geq 30\%$ and to a level of $<60 \text{ ml/min/1.73m}^2$ if the baseline eGFR was $\geq 60 \text{ ml/min/1.73m}^2$, or a decrease in eGFR $\geq 50\%$, or ESRD if the baseline eGFR was $<60 \text{ ml/min/1.73m}^2$. After a median follow-up of 4.4 years, compared with enalapril alone, enalapril-folic acid significantly increased serum folate and decreased Hcy concentrations. Furthermore, the enalapril-folic acid group had a 21% reduction in the adjusted risk of CKD progression (OR, 0.79; 95% CI, 0.62–1.00). More importantly, among those with CKD at baseline, the enalapril-folic acid group had a 56% reduction (OR, 0.44; 95% CI, 0.26–0.75) in the adjusted odds of CKD progression, as compared with the enalapril group. Although the risk of CKD progression increased with the increasing age (P for trend<0.01), age (45–<55, 55–<65, 65–<75 years) did not substantially affect the beneficial effect (P for interaction=0.73).Furthermore, folic acid therapy has shown benefits in significantly preventing new-onset proteinuria in hypertensive patients with diabetes, and significantly reducing uric acid concentrations among hypertensive patients. Taken together, in the CSPPT, folic acid therapy can reduce the incidence and progression of CKD and lower proteinuria and uric acid in hypertensive patients.

IDENTIFYING AN OPTIMAL BLOOD PRESSURE TARGET: DOSE ONE TARGET FIT ALL?

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The Action to Control Cardiovascular Risk in Diabetes (ACCORD) trial showed no significant difference in cardiovascular events between a systolic BP target of less than 120 mm Hg vs. less than 140 mm Hg among patients with type 2 diabetes. In contrast, the SPRINT study strongly supports a systolic goal of less than 120 mm Hg for people at high cardiovascular risk, particularly in those aged ≥ 75 years. The post-hoc analyses of the CSPPT indicated that a BP goal (120–130 mmHg) that is lower than that recommended by the existing guidelines may be associated with a greater reduction in risk of stroke and all-cause mortality in general hypertensive patients (mean age: ~60 years) without history of stroke and myocardial infarction. The beneficial results were consistent across the age (<60 versus ≥ 60 years; <65 versus ≥ 65 years). These findings raise new questions for future research and challenge us to improve BP management. Given that the risk of hypertension and stroke are particularly high in Chinese populations compared to western populations, future

research should include diverse populations and important epidemiological and clinical characteristics: race/ethnicity, environment, nutritional status, lifestyle, and co-morbidities. It is expected that this line of research will provide evidence-based guidelines for BP targets that are tailored for specific populations and individuals.

THE INTERACTION OF THE MTHFR GENE AND FOLIC ACID ON HOMOCYSTEINE AMONG HYPERTENSIVE ADULTS

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Blood homocysteine(Hcy) levels, a known risk factor for cardiovascular diseases, are affected by folate intake and genetic factors. Individuals with the methylenetetrahydrofolate reductase(MTHFR) TT genotype(a functional mutation affecting enzyme activity) are more likely to have elevated Hcy. Folic acid(FA) treatment can lower Hcy, but the effect of gene-folate interaction on Hcy lowering has not been evaluated in a large randomized trial.

In this post-hoc analysis of the CSPPT, we sought to 1) assess individual variability in Hcy-lowering response after a median of 4.5 year 0.8mg daily FA therapy in Chinese, hypertensive adults with no history of stroke and myocardial infarction, and 2) identify important effect modifiers including MTHFR C677T genotypes and folate levels.

In the CSPPT, eligible participants, stratified by MTHFR C677T genotype(CC, CT and TT), were randomly assigned to two double-blind treatment groups: a daily, single tablet containing 10mg enalapril and 0.8mg FA(enalapril+FA group, n=10,348) or a daily, single tablet containing only 10mg enalapril (enalapril group, n=10,354). The analysis included 16,867 participants(mean age: ~60 years) with complete data on serum Hcy measurements at baseline and exit visits. MTHFR TT genotypes, individually and interactively with folate levels (quartile) or age(<55, 55-<65, and ≥65 years), affected serum Hcy levels and the degree of Hcy lowering.

The CSPPT provides new evidence for precision folic acid therapy: individuals with TT genotype need to maintain serum folate levels above 15ng/mL in order to overcome the enzyme defect due to a TT mutation. This group is also more likely to respond to FA therapy.

SESSION 3410 (PAPER)

RISKS AND OUTCOMES ASSOCIATED WITH DECLINE IN MOBILITY

ANTIHYPERTENSIVE MEDICATION AND INCIDENT DISABILITY IN OLDER ADULTS—A LONGITUDINAL STUDY

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There is concern regarding the safety of antihypertensive medication use among older adults. This study aimed to evaluate whether antihypertensive medications are associated with incident disability in older adults, using a longitudinal cohort design.

Participants of two ongoing cohort studies of community dwelling older adults were recruited between 1993–2015 (n=3091). Self-reported disability was assessed using three scales: basic activities of daily living (ADL), mobility, and functions required for independent living (IADL). All medications received by participants were inspected and identified. Demographic characteristics and medical history were obtained by detailed interview and medical examinations. Motor and cognitive function were summarized using composite scores of several tests.

We used time varying multivariable cox models to assess the association between antihypertensive medications and incident disability. Models included adjustments for differences in demographics, comorbidity, and baseline motor and cognitive function. Analyses excluded participants with dementia or disability at baseline.

Our study found that individuals receiving antihypertensive medications had an increased risk for the development of disability in basic activities of daily living, and in mobility, compared with individuals not receiving these medications, after adjusting for differences in age, sex, and education (Hazards Ratios [95% Confidence Interval]: ADL 1.29 [1.12–1.47], IADL 1.06 [0.94–1.21], Mobility 1.24 [1.09–1.41]). Further analyses demonstrated that these associations were independent of baseline cognitive and motor function, and of cardiovascular comorbidity (hypertension, diabetes, stroke, heart disease, etc.). However, increased age modified these associations, such that no association was found between antihypertensive use and disability among participants aged 80 and over at baseline.

DOES ADDITIONAL PHYSICAL ACTIVITY IMPROVE WALKING IN OLDER PEOPLE DURING INPATIENT REHABILITATION?

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Older people with a variety of health conditions are often admitted for inpatient rehabilitation to improve mobility, but it is not known how to maximize their recovery. The purpose of this single blinded, multisite randomized controlled trial was to determine whether providing increased physical activity to older people receiving inpatient rehabilitation leads to better mobility outcomes at discharge. Older people ($n = 198$, median age 80.9 years, IQR 76.6–87.2) undergoing inpatient rehabilitation to improve mobility were recruited from geriatric rehabilitation units at two Australian hospitals. All participants received multidisciplinary usual care, including physical therapy. Participants were randomized to either an intervention group, which received additional daily physical therapy sessions focused on mobility activities or control group, which received social activities. Self-selected gait speed was measured using a 6-meter walk test at discharge by an assessor blinded to group. An intention-to-treat analysis was performed using a linear regression model, with baseline gait speed as a co-variate. The intervention group received a median of 20 additional minutes per day (IQR 15.0–22.5) of standing or walking activities throughout their inpatient stay; median 16.5 days (IQR 10.0–25.0). Gait speed improved in both groups, but there was no difference between groups at hospital discharge [median intervention 0.52 m/s (IQR 0.35–0.73); control 0.59 m/s (IQR 0.41–0.74); $p = 0.145$]. This suggests while clinically significant gains in mobility were achieved by older people receiving in-patient rehabilitation, additional physical activity sessions did not lead to better walking outcomes at discharge.

ATTENTION MEDIATES THE RELATION BETWEEN PAIN AND GAIT IN OLDER ADULTS

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With aging, walking becomes more and more of a conscious effort. Chronic pain in older adults contributes to gait limitations and falls possibly by drawing attention away from the task of walking, leading to slow gait and gait variability. We studied 249 adults aged 71–99y (mean=83.9y, 64.7%female) in the MOBILIZE Boston Study II to evaluate the potential mediating role of attention in the relation between pain and gait performance. Attention was assessed using the Test for Everyday Attention (TEA), measuring selective attention, sustained attention and attentional switching. Gait speed and variability were measured using a gait mat (CIR Systems, Inc., Franklin, NJ). Means adjusted for age, sex and education were derived from GLM models. Mediation was assessed comparing direct and indirect effects of joint pain on gait performance by adding TEA measures to the models. Gait was slower among those with multisite pain compared to single site or no pain (mean gait

speed, 0.77 ± 0.02 ms in multisite pain, 0.8 ± 0.03 ms in single site pain, 0.92 ± 0.02 ms in no pain, p -value<0.001), and more variable (mean stride length CV, 4.95 ± 0.21 in multisite pain, 4.81 ± 0.27 in single site pain, 4.18 ± 0.24 in no pain, p -value<0.001). Adjustment for selective attention but not sustained attention or attentional switching, attenuated nearly all associations between multisite pain and gait performance (Sobel test for mediation, p -value<0.05). These findings suggest that chronic pain may contribute to gait limitations in part due to distracting effects of pain. Attentional challenges related to pain may offer a potential novel target for mobility interventions in older adults.

A CRITICAL REVIEW OF THE LONG-TERM DISABILITY OUTCOMES FOLLOWING HIP FRACTURE

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Hip fractures are a common consequence of falls and are associated with a high risk of death and reduced function. This review aims to quantify the impact of hip fracture on older people's abilities and quality of life (QOL) over the medium to long term. Cohort studies of hip fracture patients reporting outcomes three months post-fracture or longer were reviewed. Outcomes of mobility, participation in domestic and community activities of daily living (ADLs), health or quality of life were categorised according to the World Health Organization's International Classification of Functioning. Risk of bias was assessed based on the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement. The review included 38 studies, most followed participants from the time of fracture and included a clearly defined sample. This review showed that most recovery occurs within six months after fracture; 40–60% of survivors recover their pre-fracture level of mobility and ability to perform instrumental ADLs and 40–70% regain their level of independence for basic ADLs. For survivors independent in self-care pre-fracture, 20–60% require assistance for various tasks 1–2 years after fracture. Hip fracture has a significant impact on QOL; 10–20% of survivors are institutionalised following fracture, with poorer outcomes for people living in residential care pre-fracture. These studies indicate the range of current outcomes rather than potential improvements with different interventional approaches. Future studies should measure impact on life participation and determine the proportion of people that regain their pre-fracture level of functioning to investigate strategies for improving these important outcomes.

MOBILITY DOES NOT PREDICT DECLINES IN COGNITIVE FUNCTION IN COMMUNITY-DWELLING OLDER ADULTS

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Slow gait speed has been associated with longitudinal decline in cognitive function, however few studies have examined the longitudinal relationship between Timed Up-and-Go (TUG) and cognitive function. In this analysis, we examine if slow TUG and gait speed at baseline are associated with poorer cognitive function at four years follow-up. This analysis is based on data from Waves 1 and 3 of The Irish Longitudinal Study on Ageing (TILDA). Participants completed a home-based interview and a health centre- or home-based health assessment at both waves. Community-dwelling adults aged ≥ 65 years (mean age 71.4 years; range 65–93 years), with a Mini Mental State Examination (MMSE) score ≥ 18 and no history of memory impairment, dementia, Alzheimer's disease or Parkinson's disease were included ($n=2,250$). TUG and usual gait speed were measured at baseline while choice reaction time and Colour Trails Test was assessed at baseline and follow-up. Individual mixed effects Poisson regression models were used to determine longitudinal associations between TUG/gait speed and each cognitive test, adjusting for socio-demographics, physical and mental health. There was very little evidence of an association between mobility measures and cognitive function based on the size and pattern of associations across this range of cognitive measures. TUG and UGS are not sensitive predictors of cognitive decline in this high functioning, community-dwelling sample suggesting that more challenging mobility tasks and longer follow-up is required.

SESSION 3415 (PAPER)

THE ROLE OF CAREGIVERS IN IMPROVING OUTCOMES

CAREGIVERS INCLUDED IN DISCHARGE PLANNING REDUCES HOSPITAL READMISSIONS: A META-ANALYSIS

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Proposed Medicare regulations require hospitals to engage caregivers in the discharge planning processes. The purpose of this meta-analysis was to examine the influence of integrating caregivers into discharge planning process on hospital readmission rates among older adults. We searched

MEDLINE, EMBASE and the Cochrane Library databases for all English language articles published between 1990 and April 2016. We included randomized trials that examined discharge-planning interventions from hospitals to the community for older adults. All included interventions began prior to patient discharge, addressed at least one discharge planning element with a caregiver, and evaluated efficacy of discharge plan elements on hospital readmissions. We incorporated two levels of screening by three primary reviewers on 10,715 references. Study quality was assessed with the Cochrane risk of bias tool. We used a random-effects meta-analysis of pooled data to assess effect of the discharge planning interventions on hospital readmission rates. Fifteen studies met the inclusion criteria. Eleven studies provided sufficient detail to calculate readmission rates for treatment and control. Discharge planning with caregiver inclusion was associated with a 25 percent reduction in readmissions at 90 days (Relative Risk [RR], .75 [95% CI, .62-.91]) and a 24 percent reduction in readmissions at 180 days (Relative Risk [RR], .76 [95% CI, .64-.90]) compared to controls. The inclusion of caregivers into the discharge planning process reduces the risk of hospital readmission rates for older, hospitalized adults. These findings suggest that policies that incentivize and require inclusion of caregivers may benefit the patients and payers.

PERCEPTION IS IMPORTANT: THE MODERATING ROLE OF RESOURCE ADEQUACY ON FAMILY CAREGIVER OUTCOMES

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Caring for a loved one is a universal and common occurrence, with 70–80% of community care for older adults being provided by family caregivers. Previous research has established caregiving can have negative effects on the caregivers' mental and physical health. Culminating in perceived burden, these negative outcomes have been associated with premature institutionalization and unmet needs for the older adults receiving the care. What is less well known, however, is how resources, both utilization and perception of adequacy, in the caregiving role may improve family caregiver outcomes. Using the Conservation of Resources Model, this study examined if resource utilization and perception of adequacy moderate the relationship between caregiving demands and the outcomes of caregiver satisfaction and strain. Secondary analysis of the Informal Caregiver Survey, ($n = 1,907$) which examines family caregivers of older adults residing in the community, was conducted using hierarchical multivariate regression with moderation. No significant relationships were found for caregiver satisfaction. Resource utilization revealed a positive relationship with caregiver strain ($\beta = .221$, $t=10.594$, $p<.001$). Resource adequacy revealed a negative relationship with caregiver strain ($\beta = -.076$, $t=-3.803$, $p<.001$) and moderated the relationship between caregiving demands and strain ($\beta = -.040$, $t=-2.007$, $p<.05$). Findings from this study contribute to the importance of providing targeted resources and support to family caregivers, which may be especially salient for those whose needs are unmet in the caregiving role. Policies and practices need to promote improving caregiver outcomes so they may remain and thrive in their critical role.

COMMUNICATION OUTCOMES OF A PROGRAM TO SUSTAIN RELATIONSHIPS IN COUPLES AFFECTED BY DEMENTIA

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In the future, more persons with AD will be cared for by spouses. Spouses report that communication with partners with dementia causes considerable relationship strain. The purpose of the study was to examine the effects of a 10-week, home-based, psychoeducational intervention to support marital relationships on caregiver (CG) and care receiver (CR) communication. Fifteen couples aged 55+, community-dwelling, with mild-moderate dementia participated. Weekly, 10-minute video-recorded conversations over 10 weeks resulted in 118 recordings for the analysis. Observer rated communication was analyzed using Verbal/Nonverbal Interaction Scale. Communication breakdowns/resolutions were measured as described by Orange (1998). Marital quality was measured with Norton's Marital Quality Index.

Spouse caregiver (CG) disabling communication was associated with communication breakdowns ($r = .87$, $p < .01$) and fewer resolutions ($r = -.80$, $p < .01$). Spouse's ratings of marital quality were negatively associated with disabling nonverbal ($r = -.32$, $p < .05$) and verbal ($r = -.27$, $p < .05$) communication. Controlling for CR MMSE, the ratio of social to unsocial CR communication showed significant improvement across sessions-average of 4.46 points per session [$\beta = 4.46$, $t(10) = 1.96$, $p = .039$]. Disabling CG communications decreased significantly with approximately .65 decrease in negative comments per session [$\beta = 0.654$, $t(11) = -2.61$, $p = .024$]. The improvement in ratio of positive to negative CG comments was greater for CR with a lower MMSE (14–16) compared to those with higher MMSE (21). Creative interventions for couples are needed to help them sustain their relationships and maintain their health.

FAMILY CAREGIVER PERCEPTIONS ABOUT MOBILITY SUPPORT OF OLDER ADULTS DURING AND AFTER HOSPITALIZATION

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Purpose: Informal family caregivers are a natural group to assist in mobilizing older hospitalized adults. However, little is known about the perceptions and needs of informal family caregivers related to mobility or functional support for their older loved one during acute hospitalization for illness and after hospital discharge. This study sought to understand these experiences of the informal caregiver.

Methods: Informal family caregivers (N=30, mean age=63.03 ± 13.15 years; 46.7% spouse, 46.7% adult child) of recently hospitalized older adults with cardiac or medical diagnosis (N=30, mean age=79.10 ± 7.12) completed the Caregiver Burden Scale (CBS), Caregiver Strain Index (CSI) and were interviewed about their perceptions and needs regarding mobility and functional support of their older loved one during and after hospitalization. Mixed-methods analyses using thematic content analysis of interview data were conducted.

Results: Caregivers reported low to moderate burden (CBS mean=39.83 ± 2.04, range 17–68) and low to moderate caregiver strain (CSI mean=3.77 ± 2.91, range 0–10). Caregivers of older family members with a longer hospital stay (≥4 days) reported significantly higher strain, $t(28) = -2.30$, $p = 0.03$. Themes included positive and negative constructs surrounding caregiver encouragement for continued activity, confidence in mobility assistance techniques, activity discussion/assistance from nurses, and temporary role adjustments at home.

Conclusions: Family caregivers described challenges in the hospital including informational support from staff. Caregivers felt more confident assuming mobility support roles at home after discharge. Hospitals should prepare caregivers and patients with information, resources, and encouragement regarding mobility and functional activities during hospitalization and after discharge.

SESSION 3420 (SYMPOSIUM)

APPROPRIATE PRESCRIBING AS A PART OF MULTI-MORBIDITY CARE OF COMPLEX OLDER ADULTS

Chair: D. Gnjdjic, *University of Sydney, Sydney, New South Wales, Australia*

Co-Chair: H. Allore, *Yale University, New Haven, Connecticut*

Discussant: S.N. Hilmer, *The University of Sydney and Royal North Shore Hospital, St Leonards, New South Wales, Australia*

Older adults with multi-morbidity, including cognitive impairment, continue to be prescribed medications for which the risks may outweigh the benefits. This symposium of multidisciplinary international presenters, and GSA members spanning across Behavioral, Social and Health Sciences interest groups, will draw on expertise in (pharmaco)epidemiology, advanced biostatistical methods, geriatric medicine, clinical and geriatric pharmacology to discuss new research and application to the practice of prescribing among complex older adults with multi-morbidity and geriatric syndromes.

Dr Gnjdjic (Pharmaco-epidemiologist, Sydney, Australia) will discuss the pharmaco-epidemiology research about the complex interactions between multi-morbidity including dementia and polypharmacy.

Professor Allore (founder of Gerontologic Biostatistics, Yale, USA) will present work that investigates the role of new innovative method for determining individualized absolute risk calculations by presenting the probabilities of outcomes in absolute terms to inform treatment decisions among patients with multi-morbidity.

Assistant Professor Moga (Pharmaco-epidemiologist, University of Kentucky, USA) will discuss her recent work that investigates the relationship between dementia diagnosis and prescribing practices in older people, and multidisciplinary interventions used to minimize inappropriate polypharmacy in older adults.

Associate Professor Husebo (Anesthesiologist and Nursing Home Physician, Bergen, Norway) will present the findings of a cluster randomized clinical trial investigating the complex interplay of pain and behavioral symptoms among people with dementia residing in nursing homes.

Professor Petrovic (Geriatrician and Clinical Pharmacologist, Ghent, Belgium) will discuss prescribing considerations for people with multi-morbidity and polypharmacy. Professor Hilmer, Discussant (Geriatrician and Clinical Pharmacologist, Sydney, Australia), will summarize and discuss the application of these concepts to the treatment of complex older patients.

MULTI-MORBIDITY, GERIATRIC SYNDROMES, AND POLYPHARMACY IN OLDER ADULTS: UNTANGLING THE EVIDENCE

D. Gnjdjic, *Faculty of Pharmacy, University of Sydney, Sydney, New South Wales, Australia*

Multimorbidity (≥ 2 chronic conditions), polypharmacy (≥ 5 medicines) and geriatric syndromes (e.g. frailty) are common in older adults. Evidence from pharmaco-epidemiological studies suggests that polypharmacy contributes to risk of developing geriatric syndromes including frailty and cognitive impairment. In our study of community-dwelling men, we found that increasing medication burden was associated with transition to frailty states, namely from robust to frail state and subsequent increased risk of mortality in older people. Recently, efforts have been made to quantify complex patterns of multimorbidity and polypharmacy in older adults using novel analysis such as Association Rule and Frequent-set analysis. In our study, using the Association Rule methodology we found several morbidity clusters. In relation to polypharmacy exposure, Frequent-set analysis showed that medication combinations differed according to geriatric syndrome status. Observational studies continue to provide important evidence on outcomes to evaluate medicine use in older adults.

INDIVIDUALISED ABSOLUTE RISK CALCULATOR FOR PERSONS WITH MULTIPLE CHRONIC CONDITIONS

H. Allore^{1,3}, G.J. McAvay¹, T.E. Murphy¹, G. Agogo¹, C. Frago^{1,2}, 1. *Internal Medicine, Yale University, New Haven, Connecticut*, 2. *Veterans Affairs Medical Center, West Haven, Connecticut*, 3. *Yale School of Public Health, New Haven, Connecticut*

Few treatment guidelines exist for multi-morbid patients. Individualized absolute risk calculators for competing patient-centred outcomes are a way to help with treatment decisions that account for patient preferences. The absolute risk of an outcome is the probability that a person receiving a given treatment will experience that outcome within a pre-defined time interval, during which they are simultaneously at risk for other competing outcomes. We developed an individualized absolute risk calculator for competing outcomes using doubly robust propensity scoring that strengthen causal inference for specific treatments. Heterogeneous treatment effects among multi-morbid patients largely depends on coexisting conditions and patient characteristics which are explanatory factors used in estimating the treatment effects. This innovative method has wide-spread application for determining individualized absolute risk calculations by presenting the probabilities of outcomes in absolute terms to help the increasing population of patients with multi-morbidity facing complex treatment decisions.

FROM OBSERVATION TO MAKING A CHANGE: ADDRESSING INAPPROPRIATE MEDICATION USE IN OLDER ADULTS

D. Moga, *Pharmacy Practice and Science, University of Kentucky, Lexington, Kentucky*

Pharmacotherapy, although a fundamental component of care of older patients with multi-morbidity, is often inappropriate. Despite careful review, medication counseling, and medical care provisions by licensed prescribers involved in the National Alzheimer's Coordinating Center (NACC), 44% of the enrollees ≥ 65 years reported at least one, and about 31.5% used multiple anticholinergic drugs between 2005–2013. Furthermore, anticholinergic drugs were frequently used together with cognitive enhancers or antipsychotics. Our pharmacist-physician intervention reduced anticholinergic use in 56% of those in the intervention arm as opposed to 8% in the control arm and improved medication appropriateness index (mean difference from baseline 4.16 vs 1.13). Our follow-up intervention will address the entire spectrum of potentially inappropriate medications (Beers 2015 list) and will evaluate its impact on expanding cognitive reserve. Finding the right balance between treating multi-morbidity and avoiding medication-related negative effects, an important objective for healthcare providers, might be hard, but not impossible to achieve.

INTERACTIVE RELATIONSHIP BETWEEN PAIN, PSYCHOSIS, AND AGITATION IN PEOPLE WITH DEMENTIA: AN RCT TRIAL

B.S. Husebø¹, T. Habiger¹, W. Achterberg², E. Flo¹, 1. *University of Bergen, Bergen, Hordaland, Norway*, 2. *University of Leiden, Leiden, Netherlands*

Neuropsychiatric symptoms are common in people with dementia, and pain is thought to be a relevant underlying factor for increased agitation and depression. The association between pain and psychosis, and the effect of pain management on psychosis as a possible trigger for psychosis, is unclear. This cluster-randomised controlled trial, including 352 patients with advanced dementia and agitation from 18 Norwegian nursing homes (NH), investigates the efficacy of a stepwise protocol for treating pain (SPTP) on psychosis and agitation measured with the Neuropsychiatric Inventory – Nursing Home version (NPI-NH), and tested the effect of opioid analgesics on psychosis. Pain was associated with disinhibition (adjusted OR: 1.21; 95% CI: 1.10–1.34) and irritability (adjusted OR: 1.10; 95% CI: 1.01–1.21), at baseline. SPTP reduced agitation ($p < 0.001$) and aberrant motor behaviour ($p = 0.017$). Psychosis was reduced in people with at least one symptom at baseline ($p = 0.034$), and opioid analgesics did not increase psychotic symptoms.

CLINICAL CHALLENGES OF CARING FOR OLDER ADULTS WITH MULTI-MORBIDITY AND POLYPHARMACY

M. Petrovic, *Geriatrics, Ghent University, Ghent, Belgium*

Older adults with multi-morbidity, geriatric syndromes and polypharmacy are susceptible to adverse drug-related events. The available measures to ensure appropriate and patient tailored pharmacotherapy enclose adverse drug reaction risk and medication assessment tools, and specific interventions to tackle inappropriate prescribing. These

interventions include: educational interventions, computerized decision support systems, pharmacist-based interventions, and comprehensive geriatric assessment.

Screening to identify older adults at risk of adverse drug reactions is the initial step within a multistep approach to geriatric pharmacotherapy.

The integrative pharmaceutical care consists of four steps, i.e. identification of all medications that the patient is taking, medication appropriateness assessment, design and the follow-up of a pharmaceutical care plan.

None of the existing interventions shows a clear positive effect on patients' health outcomes if applied separately. But, when these interventions are combined within the context of a multidisciplinary teamwork and comprehensive geriatric assessment, positive effects on patients' health outcomes might be expected.

SESSION 3425 (SYMPOSIUM)

THE CANDRIVE/OZCANDRIVE PROSPECTIVE OLDER DRIVER COHORT STUDY RESULTS

Chair: S. Marshall, *Ottawa Hospital Research Institute, Ottawa, Ontario, Canada*

Co-Chair: J. Charlton, *Monash University, Melbourne, Victoria, Australia*

This symposium will describe results for the Candrive/Ozcandrive Prospective Older driver Study. The Candrive study involves 928 actively driving older adults (age 70 and above) who were recruited across 7 Canadian sites to participate in a 5 year prospective study of older drivers. The linked Ozcandrive study includes 257 older drivers (age 75 and older) from Australia and New Zealand. All participants had comprehensive annual assessments and driving patterns were monitored using in car recording devices with GPS tracking capabilities. This symposium will confirm that the Canadian population of older drivers recruited is similar to the older Canadian driving population by comparison with the Canadian Community Health Survey. Changes in driving patterns over the course of the study for the Australian Ozcandrive participants will be described. Similarly, for Canadian drivers results will be presented in relation to preparation and readiness to transition from active driving to cessation. This cohort provided the unique opportunity to link driver reaction time measured through the Attention Network Test to traffic violations where it was demonstrated that drivers with faster reaction times had higher rates of traffic violation. Finally, the investigators will report on the predictors for at-fault collisions in older drivers that will ultimately contribute to the derivation of an older driver risk stratification tool.

DOES SAMPLE ATTRITION DECREASE THE GENERALIZABILITY OF THE FINDINGS IN THE CANDRIVE II COHORT STUDY?

S. Gagnon¹, A. Stinchcombe^{2,1}, Y. Kadulina¹, B. Mazer³, M.J. Rapoport⁴, M.M. Porter⁵, S. Marshall^{6,1}, B. Vrkljan⁷,
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University of Manitoba, Winnipeg, Manitoba, Canada, 6. *OHRI, Ottawa, Ontario, Canada*, 7. *McMaster University, Hamilton, Ontario, Canada*

The Candrive II cohort researchers have followed a convenient sample of older drivers, aged 70 and older, for five to seven years. One of the goals of this study consists in developing a risk stratification tool that would help identify unsafe older drivers. The validity of such tools depends on how representative the study sample is. We have demonstrated that the Candrive II sample at baseline was representative of older Canadian driver through demonstration of equivalence on variables extracted from the Canadian Community Health Survey – Healthy Aging (CCHS-HA). At baseline, 928 older drivers (mean age = 76.21 5) volunteered in the Candrive II study with 583 of them remaining 5 years later (mean age = 79.8). We make again use of the equivalence testing approach to compare Candrive II sample at year 5 to CCHS-HA drivers of the same age.

CHANGES IN DRIVING PATTERNS OF OLDER AUSTRALIANS: FINDINGS FROM THE CANDRIVE/OZCANDRIVE COHORT STUDY

J. Charlton¹, S. Koppel¹, P. Darzins², M. Di Stefano³, W. Macdonald³, M. Odell⁴, A. D'Elia¹, M.M. Porter⁵, 1. *Monash University Accident Research Centre, Monash University, Victoria, Australia*, 2. *Eastern Health, Burwood, Victoria, Australia*, 3. *LaTrobe, Bundoora, Victoria, Australia*, 4. *Victorian Institute of Forensic Medicine, Melbourne, Victoria, Australia*, 5. *University of Manitoba, Winnipeg, Manitoba, Canada*

This paper describes changes in driving patterns for a cohort of older Australians. In-vehicle data-loggers installed in participants' own vehicles monitored spatio-temporal characteristics of driving trips across three years for 164 participants aged 75+ years (Year 1: Male = 68.9%; Mean Age = 79.5 years, SD = 3.4 years, Range = 75 - 88 years). The majority (60–65%) of trips were within 5km from home across the three years. On average, in Year 1, participants drove 1,276 trips (SD = 479), totalling 9,468km (SD = 5,215) annually, decreasing significantly to 1,175 trips (SD = 541) and 8,253km (SD = 4,813) annually in Year 3. Generalised Estimating Equations revealed that reduced driving (annual distance, trip frequency, night-time trips, peak-traffic trips) were associated with: increased age, being female, reduced cognitive function, poorer contrast sensitivity, and those that discontinued driving for health reasons. Results are considered in terms of implications for safe mobility.

CHANGES IN DRIVERS' READINESS FOR MOBILITY TRANSITION, SELF-RESTRICTION, AND HEALTH

A. Stinchcombe¹, H. Maxwell^{1,8}, N. Mullen¹, B. Weaver^{1,9}, H.A. Tuokko², G. Naglie^{3,4,5}, S. Marshall^{6,7}, M. Bedard^{1,8,9},
1. *Centre for Research on Safe Driving, Lakehead University, Thunder Bay, Ontario, Canada*, 2. *Centre on Aging, University of Victoria, Victoria, British Columbia, Canada*, 3. *Department of Medicine and Rotman Research Institute, Baycrest Health Sciences, Toronto, Ontario, Canada*, 4. *Research Department, Toronto Rehabilitation Institute, University Health Network, Toronto, Ontario, Canada*, 5. *Department of Medicine and Institute of Health Policy, Management and Evaluation, University of Toronto,*

Toronto, Ontario, Canada, 6. University of Ottawa, Ottawa, Ontario, Canada, 7. Ottawa Hospital Research Institute, Ottawa, Ontario, Canada, 8. Centre for Applied Health Research, St. Joseph's Care Group, Thunder Bay, Ontario, Canada, 9. Northern Ontario School of Medicine, Thunder Bay, Ontario, Canada

Many older drivers will eventually stop driving. Increased readiness to transition to non-driving status mitigates some of the adverse consequences of driving cessation. The Assessment of Readiness for Mobility Transition (ARMT; Meuser et al., 2011) measures attitudinal and emotional preparedness to transition to non-driving. Using data from the Candrive cohort study, we examined changes over time in older drivers' readiness to transition to non-driving in relation to changes in driving and health-related variables. A sub-sample of the Candrive cohort was recruited from 4 Canadian sites ($N=183$, mean age at baseline = 77.60 years, $SD=4.52$). Participants completed a set of measures annually for three years, including the ARMT, health-related measures (e.g., medications, medical conditions), Activities of Daily Living (ADLs), driving restriction, and driving situational avoidance. There were no statistically significant changes in ARMT scores over the 3-year period, $F(2, 298)=.51$, $p=.603$. However, there were statistically significant changes in health status as evidenced by an increase in daily medications, $F(2, 286)=5.18$, $p=.006$, and medical conditions, $F(2, 286)=13.28$, $p<.001$, as well as a decrease in ADLs, $F(2, 286)=5.04$, $p=.007$. There was also a statistically significant increase in self-restriction of driving to avoid complex situations, $F(3, 274)=10.99$, $p<.001$. No statistically significant associations were observed between changes in ARMT scores and changes in either health or driving-related variables. Unlike health and driving-related variables, ARMT scores were relatively stable over a three-year period. Change in ARMT scores over time appears to be independent from changes in other variables known to be associated with driving.

REACTION TIMES ON THE ATTENTION NETWORK TEST ARE ASSOCIATED WITH TRAFFIC VIOLATIONS

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The Attention Network Test (ANT) measures choice response time (RT) and the efficiency of three functions of attention (alerting, orienting, and executive function). Using data from the Candrive cohort study, we looked for associations between overall median RT from the ANT and traffic violations. Participants ($N = 451$) were aged ≥ 70 . Violations data were obtained from provincial ministries of transportation and dichotomized as the primary outcome measure (yes/no). Our logistic regression included ANT median RT, gender, number of self-reported medical conditions, and self-reported kilometers driven (low = 1–10,000km/year, high = >10,000km/year) as explanatory variables. In the adjusted model, drivers with higher RT had greater odds of traffic violations ($OR=1.32$, $p < .001$) as did participants who drove greater distances ($OR=2.67$, $p < .001$). Gender

and the number of medical conditions were not associated with violations. These results suggest the ANT may provide insight into cognitive processes supporting safe driving.

CANDRIVE OLDER DRIVER STUDY: OBJECTIVE VARIABLES PREDICTIVE OF AT-FAULT COLLISION

S. Marshall^{1,2}, G. Naglie^{4,9}, B. Vrkljan³, I. Gelinas⁵, M. Bedard⁶, H.A. Tuokko⁷, M.M. Porter⁸, M.J. Rapoport⁴, 1. Medicine, Ottawa Hospital Research Institute, Ottawa, Ontario, Canada, 2. University of Ottawa, Ottawa, Ontario, Canada, 3. McMaster University, Hamilton, Ontario, Canada, 4. University of Toronto, Toronto, Ontario, Canada, 5. McGill University, Montreal, Quebec, Canada, 6. Lakehead University, Thunder Bay, Ontario, Canada, 7. University of Victoria, Victoria, British Columbia, Canada, 8. University of Manitoba, Winnipeg, Manitoba, Canada, 9. Baycrest, Toronto, Ontario, Canada

One of the aims of the Candrive Prospective Older Driver Study was to prospectively identify older drivers who were medically at risk for driving. 928 active older drivers were recruited across 7 Canadian sites and followed up to 7 years. The primary outcome was at-fault collision. Using Generalized Estimating Equations univariate analysis revealed 81 variables with a significance of $p<0.1$. Multivariate analysis of objective variables with adjustment for driving exposure resulted in a model where 6 variables including MVPT correct responses ($p=0.008$), previously being pulled over by police ($p=0.023$), previous crash involvement ($p=0.006$), left rapid foot taps ($p=0.024$), left wrist extension strength ($p=0.020$) and overall calmness ($p=0.023$) significantly contributed to identifying medically at risk older drivers. With further ongoing analysis these variables will assist in deriving an objective risk stratification tool that can be used by clinicians in an outpatient clinic setting.

SESSION 3430 (SYMPOSIUM)

INTERDISCIPLINARY DRIVERS FOR QUALITY AGED CARE: THE WICKING TEACHING AGED CARE FACILITY PROGRAM

Chair: A.L. Robinson, University of Tasmania, Hobart, Tasmania, Australia

The residential aged care sector is challenged to provide high quality care to increasingly frail residents. Central to this is developing new models of interdisciplinary practice to support holistic person centred care. The Wicking Teaching Aged Care Facilities Program (TACFP), implemented in six Australian Residential Aged Care facilities (RACFs), drives an innovative interdisciplinary aged care agenda by bringing together large numbers of students from different disciplines to undertake aged care clinical placements. The students' placement program is underpinned by an action research framework, that supports the development of inter-professional learning and inter-disciplinary engagement in resident care. To ensure sustainability a second TACFP strand was implemented concurrently to build leadership structures and processes to facilitate organisational engagement in the innovative program. This involved undertaking a systematic organisational review and redesign in each RACF to drive a high performance culture that could sustain clinical

innovation and build research readiness. Since its implementation in 2011, the outcome of the TACFP has seen expanding numbers of inter-disciplinary students on placement in the RACFs and an appetite to move into a third TACFP strand to develop programs of inter-disciplinary research that focus on care redesign to model evidence based care that will support improved quality of life and clinical outcomes for residents. This symposium will involve an inter-disciplinary group of presenters who will provide an overview of the program and its broad outcomes, a case study to address inter-disciplinary student placements and two case studies which address the emergent program of care redesign.

INTERDISCIPLINARY INNOVATION IN AGED CARE: THE WICKING TEACHING AGED CARE FACILITY PROGRAM

A.L. Robinson, E. Lea, K. Elliott, M. Annear, C. Eccleston, K.V. Doherty, *Wicking Dementia Research and Education Centre, University of Tasmania, Hobart, Tasmania, Australia*

In 2011 the Wicking Centre at UTAS initiated a program to develop Teaching Aged Care Facilities (TACF). The TACF program deployed an action research approach to support the implementation of large scale multi-disciplinary student placements, while concurrently executing a program of organisational development. The program findings reveal a 1400% increase in student placements, involving nine disciplines and 716 students across six RACFs over four years. Moreover, in four RACFs student placements have not only been sustained since 2014, but have expanded to include additional disciplines. Evidence of statistically significant improvements in dementia knowledge ($p=.01$) (DKAT2) and improvements in students' collaborative practice ($p=.01$) and inter-professional attitudes ($p=.02$) (UWEIPQ) are apparent, while qualitative data indicates improved care for residents. A key outcome has been enhanced organisational research readiness, with 72 staff functioning as active research participants, such that it now includes a third stream related to care redesign.

THE VALUE OF SYSTEMATIC INTERPROFESSIONAL EDUCATION FOR EFFECTIVE PRACTICE IN DEMENTIA CARE

L. Goldberg¹, C. Eccleston¹, E. Lea¹, D. Griffiths², A.L. Robinson¹, 1. *Wicking Dementia Research and Education Centre, University of Tasmania, Hobart, Tasmania, Australia*, 2. *Curtin University, Perth, Western Australia, Australia*

In line with the emerging focus on the need for interprofessional, evidence-based care for adults in residential communities, the Wicking Teaching Aged Care Facilities program provides a systematic and effective approach. As an example, in multiple, 3-day per week placements, 6 speech pathology, 48 nursing, 12 occupational therapy, 10 physiotherapy, and 22 pharmacy students worked together. Weekly IPE learning opportunities included rounds led by a General Practitioner, 3.5-hour case study and reflection sessions, and 2-hour clinical meetings. Onsite IPE mentors from varying professions provided ongoing support and feedback. Qualitative analysis of students' reflective comments documented competencies under all four core domains needed for interprofessional

collaborative practice. Quantitative analysis of students' responses to validated interprofessional competency and dementia knowledge scales, pre- and post-placement, documented significant ($p < .05$, moderate effect size) increases in their perceptions of the importance of communication, teamwork, interprofessional interaction, evidence-based care, and knowledge of dementia.

OPTIMISING NUTRITION FOR ADULTS WITH DEMENTIA: RESIDENTIAL COMMUNITIES' CARE REDESIGN OPPORTUNITIES

E. Lea, L. Goldberg, A. Price, L. Tierney, F. McInerney, *Wicking Dementia Research and Education Centre, University of Tasmania, Hobart, Tasmania, Australia*

Malnutrition is highly prevalent amongst aged care facility residents, with dementia increasing malnutrition risk. The severity of this situation has been recognised for many years, but translation of knowledge into provision of evidence-based, person-centred care practices to improve nutrition care has not occurred. One of the first projects in the Wicking Teaching Aged Care Facilities Program's care redesign stream was an ethnographic case study conducted by an inter-disciplinary team in one Australian facility to examine care practices. This included a facility document audit, observations of 7 residents with dementia, and 7 family- and 11 staff-member interviews. Study findings identified a range of barriers to evidence-based, person-centred care practices. Barriers included lack of monitoring of body mass index, ineffective prompting to encourage eating/drinking, absence among staff of a 'big picture' view of the relationship between nutrition/hydration and key clinical health indicators, and eating/drinking viewed as tasks rather than enjoyable social activities.

TOWARD EFFECTIVE MANAGEMENT OF CHRONIC RESPIRATORY CONDITIONS IN RESIDENTIAL AGED CARE

K.V. Doherty, E.H. Walters, L. Tierney, K. Elliott, M. Annear, A.L. Robinson, *Wicking Dementia Research and Education Centre, University of Tasmania, Hobart, Tasmania, Australia*

Chronic respiratory conditions are poorly managed in residential aged care settings. As part of the Respiratory Care Redesign research stream, our team (respiratory physician, aged care specialist, psychologist and health services researchers) has demonstrated that chronic respiratory conditions are incorrectly diagnosed in 78% of cases, severity is underestimated in 52%, and treatment is inadequate or inappropriate in 82%. To further inform redesign of respiratory care, we assessed the perceptions of residents' respiratory status from the perspective of residents, nurses, careworkers and family members. Interviews and focus groups revealed that all groups under-estimated the importance of chronic respiratory symptoms despite their impact on daily living; there was no systematic approach to management or review and there was an identified need for education, particularly for careworkers. In response to this we have now developed an Optimising Respiratory Care educational module to reduce impact of poor respiratory health through better management strategies.

SESSION 3435 (SYMPOSIUM)

CO-HOST AFAR: TARGETING AGING—THE NEXT BIG MEDICAL BREAKTHROUGH

Chair: S.N. Austad, *The University of Alabama at Birmingham, Gardendale, Alabama*

Co-Chair: O. van der Willik, *American Federation for Aging Research*

Aging underlies all the major causes of death and disability in humans. Over the past two decades, basic researchers have been remarkably successful in identifying the underlying processes of aging, and by modifying those processes have discovered multiple methods of extending life and preserving health in experimental laboratory animals. Although early work relied mostly on dietary or genetic interventions, recently a number of pharmaceutical treatments also appear to slow aging in the laboratory. These successes, combined with the demographic imperative of an aging globe, suggest that it is time to begin to translate these successes into human therapies that in principle could delay many or most diseases and debilitating conditions of later life. Symposium participants will present recent research illuminating the promise for human health. Dr. Austad will present a brief overview of the current state of basic aging research. Dr. Kaeberlein will describe how inhibition of a key biochemical network in mice has already been successfully used to dramatically improve health and how its use in dogs is preparing the stage for human trials. Dr. Kirkland will describe the remarkable health effects brought about by eliminating senescent cells in mice. Finally, Dr. Barzilai will outline the rationale and a specific research plan for the first drug trial in humans aimed at delaying aging.

TRANSLATIONAL GEROSCIENCE: TARGETING MTOR SIGNALING TO PROMOTE HEALTHY LONGEVITY

M. Kaeberlein, *University of Washington*

The FDA approved drug rapamycin delays aging and increases lifespan in yeast, nematodes, fruit flies, and mice. Nevertheless, important questions exist regarding the translational potential of rapamycin and other mTOR inhibitors for human aging, and the optimal dose, duration, and mechanisms of action remain to be determined. Here I will report on the effects of short-term treatment with rapamycin in middle-aged mice and companion dogs. We find that transient treatment with rapamycin is sufficient to increase life expectancy by more than 50% and improve measures of healthspan in middle-aged mice. This treatment is associated with a remodelling of the gut microbiome and a dramatic shift in the cancer spectrum of female mice. In dogs, we have defined a dose of rapamycin that is well tolerated, and initial results are consistent with improvements in age-associated cardiac function. These data suggest that a transient treatment with rapamycin may yield robust health benefits in mice, dogs, and perhaps humans.

THE PATH TOWARD TRANSLATING SENOLYTIC DRUGS INTO CLINICAL TREATMENTS

J.L. Kirkland, *Mayo Clinic Kogod Center on Aging, Rochester, Minnesota*

Senescent cells, which can secrete inflammatory cytokines, immune cell chemokines, tissue-damaging proteases, and factors causing stem cell dysfunction, accumulate with aging

and at sites of chronic disease pathology. Senolytic drugs promote selective removal of senescent cells, some by interfering with pathways that confer apoptosis-resistance to senescent cells. Genetically- or pharmacologically-removing senescent cells increases life- or health-span, restores stem cell function, alleviates age- or disease-related cardiovascular, joint, bone, pulmonary, and cognitive dysfunction, frailty, and radiation- and chemotherapy-induced damage, among other effects. Some senolytic drugs are more effective in eliminating particular senescent cell types than others. Senolytics are entering or will soon enter short-term proof-of-concept clinical trials for a range of indications, including certain senescence-associated disabilities and diseases, alleviation of cancer treatment side-effects, restoration of stem cell function, and frailty, among others. If effective and free of serious side-effects, senolytic agents and other drugs that target fundamental aging mechanisms could be transformative.

TARGETING AGING WITH METFORMIN (TAME)

N.R. Barzilai, *Albert Einstein College of Medicine, Bronx, New York*

Metformin is one drug that targets the biology of aging and extends life- and health-span in animals. It is used for the treatment of and to delay type 2 diabetes mellitus (T2DM), with an over 60 years outstanding safety record. Metformin use is also associated with lower rates of cancer, CVD, all-cause mortality and possibly less cognitive decline. We designed TAME, a placebo controlled, multi-center study in ~3000 elderly aged 65–79, with a novel primary outcome of delaying the incidence of a composite of multiple age-related diseases. Additional outcomes relate to geriatric syndromes and functional health. The study was developed in consultation with the FDA to obtain a new FDA indication to target aging. This indication would allow industry to justify the development of next-generation drugs to target aging and will further extend healthy life span in the next decade, utilizing the experimental template provided by TAME.

SESSION 3440 (SYMPOSIUM)

REPRODUCTIVE AND PARENTAL CORRELATES OF CARDIOMETABOLIC RISK IN GLOBAL POPULATIONS OF OLDER ADULTS

Chair: C.M. Pirkle, *University of Hawaii- Manoa, Honolulu, Hawaii*

Co-Chair: Y. Wu, *University of Hawaii at Manoa*

Discussant: M. Zunzunegui, *Universite de Montreal, Montreal, Quebec, Canada*

A substantial body of research investigates potentially-modifiable individual risk factors for cardiovascular (CVD) diseases including tobacco use, physical inactivity, and clustered metabolic risk factors. In older adults, however, many of these “modifiable” factors are conditioned by exposure to a lifetime of socially- and culturally-established determinants. Some of the most intractable are tied to gender norms, which strongly influence reproductive timing and frequency and are among the most life-altering events in the human experience, both physiologically (women) and socially. To date, numerous studies investigate female lifetime parity and CVD, as well as adolescent childbirth and all-cause mortality. Many observe robust associations and attribute the findings

to the physiological consequences of pregnancy. Almost all of this research takes place in high-income settings and few interrogate the complex constellation of influences on reproduction and its long-term health consequences. Very few look at male populations.

In this symposium, we present findings from middle and high-income populations investigating age at first childbirth (AFB) and number of children on cardiometabolic diseases. We begin with results of a systematic review investigating associations between AFB and CVD. It highlights conceptual and methodological gaps in previous approaches to the topic. The next two studies present results from an international cohort of community-dwelling older adults with sites in Canada and middle-income countries, each characterized by divergent gender norms and human development indices. Finally, we present results on lifetime number of children in men and women in the United States and associations with heart disease and stroke.

MATERNAL AGE AT FIRST BIRTH AND RISK OF LATER-LIFE CARDIOVASCULAR DISEASE: A SYSTEMATIC REVIEW

C.M. Pirkle, N.T. Rosendaal, *Office of Public Health Studies, University of Hawaii, Honolulu, Hawaii*

Review of the literature on age at first childbirth (AFB) and CVD, including hypothesized causal pathways. PubMed and Web of Science databases were searched for observational studies published between 1980–2015. Data were extracted using a pre-defined list. 19 publications, reporting on 30 associations, were included in the review, all from high-income settings. Eight of 13 studies that defined young AFB as ≤ 20 found a positive association between early AFB and CVD, while two reported a positive association between later first childbirth and CVD. Substantial methodological limitations were observed related to: operationalization of risk categories, choice of reference category, sample size, follow-up time and statistical over-adjustment. Only two studies explicitly reported employing a theoretical framework when investigating the relationship. Early AFB is possibly related to CVD. Better conceptualization of causal pathways linking reproductive timing to CVD risk is needed.

EARLY AGE AT FIRST BIRTH ASSOCIATED WITH GREATER FRAMINGHAM RISK SCORES FOR CARDIOVASCULAR DISEASE

C.M. Pirkle, Y. Wu, N.T. Rosendaal, *University of Hawaii, Honolulu, Hawaii*

Investigate the association of age at first childbirth (AFB) with Framingham Laboratory Risk Scores (FRS) for CVD. Multivariate linear regression analyses were conducted with baseline data from a multisite study of community-dwelling older female adults ($N=868$). Women with adolescent childbirth (AFB <19) were compared to those with AFB of 19–24, 25–29, 30+ and nulliparous women. Lifetime parity was considered. Adolescent childbirth was positively associated with FRS. Women with adolescent childbirths had 6.8 points higher mean FRS (95%CI 3.8–9.9) than women in the lowest AFB risk-group (25–29yr). Women with adolescent childbirths also had significantly higher scores compared to women with AFB 19–24, AFB 30+ and nulliparous women ($\beta 4.4$, $\beta 4.3$, $\beta 7.1$, respectively). No association with parity was observed. To our knowledge, this is the first study to document a positive

association between young AFB and greater FRS in later life. Young AFB in women may contribute to later life CVD risk.

MODEL-BASED RECURSIVE PARTITIONING IDENTIFIES RISK CLUSTERS FOR METABOLIC SYNDROME AND ITS COMPONENTS

Y. Wu¹, C.M. Pirkle¹, M. Zunzunegui², 1. *Office of Public Health Studies, University of Hawaii- Manoa, Honolulu, Hawaii*, 2. *Universite de Montreal, Montreal, Quebec, Canada*

Examine risks clusters for metabolic syndrome (MetS) and its components (hypertension, abdominal obesity, dyslipidemia, insulin resistance) in highly distinct societies (St. Hyacinthe and Kingston, Canada; Tirana, Albania; Manizales, Colombia; Natal, Brazil). With baseline data from a multisite study ($N=1587$), we employed model-based recursive partitioning to cluster subjects into age-adjusted groups according to: sex, living arrangements, smoking, childhood adversity, education, income and work status. Women were separately analyzed to investigate if age at first childbirth and parity contributed to clustering. MetS was observed in 43% of participants. The highest predicted prevalence was among women from middle-income sites (58–69%). For all components, except high density lipoprotein, study site was the primary partitioning variable, followed by sex. MetS was particularly prevalent among middle-income women, but female reproductive characteristics were not explanatory variables. Individual risk characteristics appeared to so strongly conditioned by study site that they could not be captured in the models.

SOCIAL PATHWAYS LIKELY LINK PARENTHOOD TO HEART DISEASE AND STROKE IN UNITED STATES OLDER ADULTS

Y. Wu, N.T. Rosendaal, C.M. Pirkle, *Office of Public Health Studies, University of Hawaii- Manoa, Honolulu, Hawaii*

Examine the association of number of lifetime children with heart disease and stroke in United States older adults. We analyzed the 2012 wave of the Health and Retirement Study, a representative study with six cohorts born between 1890–1959. Participants self-reported number of children and doctor-diagnosed heart disease/stroke. In two sex-stratified logistic regression models ($n \approx 19000$), we included: cohort, census region, race/ethnicity, and then education. Compared to nulliparous women, those with 3–4, 5–6, and 7+ children had 1.21, 1.26, & 1.46 the odds of heart disease ($p < 0.05$). With education, parity was no longer associated to heart disease. Similar results were observed for stroke. In men, compared to no children, having 3–4 and 5–6 children was significantly positively associated with heart disease (OR:1.20 & 1.56). For stroke, an association was only observed for 5–6 children. Adding education did not change the results. Findings suggest social pathways linking parenthood to cardiovascular health.

SESSION 3445 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: COLLABORATIVE URBANISM AND COPRODUCTION: GLOBAL PERSPECTIVES ON BUILDING AGE-FRIENDLY COMMUNITIES

Chair: T. Buffel, *The University of Manchester, United Kingdom*

Co-Chair: C. Phillipson, *The University of Manchester*

IAAG 2017 World Congress

There are now over 300 members of the World Health Organization's Global Network of Age-friendly Cities and Communities. The growth of the network since its establishment in 2010 has raised a variety of social, organizational and political challenges in respect of implementing the age-friendly approach. This symposium will develop a new framework for analyzing opportunities and barriers to implementing the age-friendly model in a variety of urban contexts in North America and Europe. The approach taken develops the concepts of 'collaborative urbanism' and 'coproduction' with older people, these highlighting the importance of partnerships between older people, families, and statutory and non-statutory organisations. This symposium brings together presentations from different social and cultural settings: (1) Chris Phillipson and Tine Buffel will provide a critical perspective on the development of age-friendly cities by exploring this approach in the context of urban processes affected by globalisation, urban regeneration and economic austerity. (2) Lindsay Goldman will examine recent developments in the implementation of Age-Friendly New York City, reviewing challenges associated with ownership, funding, and sustainability through political change and shifting priorities. (3) Samuele Remillard-boilard will compare age-friendly policies and initiatives in Manchester (UK), Montreal (Canada) and Brussels (Belgium), focusing on the challenges for developing age-friendly environments in socially and ethnically diverse cities. (4) Finally, Liesbeth De Donder and An-Sofie Smetcoren will reflect on the challenges and opportunities of using a co-construction approach in developing age-friendly communities in disadvantaged urban neighbourhoods in Belgium.

ARE AGE-FRIENDLY CITIES PLANNING FOR DIVERSITY? CASE STUDIES FROM MANCHESTER, MONTREAL, AND BRUSSELS

S. Remillard-Boilard, 1. *The University of Manchester, Manchester, United Kingdom*, 2. *Manchester Urban Ageing Research Group, Manchester, United Kingdom*

This paper compares age-friendly policies and initiatives in Manchester (UK), Montreal (Canada) and Brussels (Belgium). Drawing on in-depth interviews with key stakeholders (e.g. policymakers, researchers, practitioners, older people), this paper focuses on the challenges for developing age-friendly environments in socially and ethnically diverse cities. This theme is developed by, first, exploring how each city has addressed the notion of diversity following their admission to the World Health Organization's Global Network of Age-Friendly Cities and Communities. Second, through a comparison of the mechanisms adopted for implementing age-friendly policies. Third, by examining the extent to which each city has integrated different groups within their ageing strategies. Planning for diversity, it is argued, is essential to the creation of supportive and inclusive environments for older citizens. The paper concludes by discussing the need for age-friendly developments to reflect a wide variety of ageing experiences and presents possible strategies to achieve this goal.

CAN GLOBAL CITIES BE AGE-FRIENDLY CITIES? URBAN DEVELOPMENT AND AGEING POPULATIONS

C. Phillipson, T. Buffel, *The University of Manchester, Manchester, United Kingdom*

IAGG 2017 World Congress

Understanding the relationship between population ageing and urban change has become a major issue for public policy. An emerging theme has concerned the need to develop supportive urban communities for older citizens. This paper provides a critical perspective on the development of 'age-friendly cities and communities' by exploring such policies in the context of urban change arising from globalisation, urban regeneration and austerity. A key argument is that research and policies on age-friendly cities require stronger integration with analyses of the impact of global forces transforming the physical and social context of cities. This theme is developed by examining: first, the arguments behind the development of the 'age-friendly' approach; second, the pressures affecting urban environments; and third, challenges for improving the urban environment for older populations. The article concludes by discussing the need to combine a conceptual model of 'age-friendliness' with analysis of the economic and social forces transforming urban environments.

CO-CONSTRUCTION WITH OLDER PEOPLE IN DISADVANTAGED NEIGHBOURHOODS: TOWARDS A CONCEPTUAL FRAMEWORK

L. De Donder, A. Smetcoren, *Adult Educational Sciences, Vrije Universiteit Brussel, Brussel, Belgium*

This contribution seeks to reflect on the challenges and opportunities of using a co-construction approach in developing age-friendly communities. In particular we aim to identify what professionals understand under co-construction (1); which different forms of co-construction can be distinguished (2); and if and how co-construction with older people can be realised in disadvantaged neighbourhoods (3)? This paper uses qualitative data collected from 24 neighbourhood professionals working in urban care living labs in Belgium. The argument will be developed that although all the project proposals stress the central role of the user in the research, development and innovation, professionals lack a common vision, knowledge and experience in executing such a co-construction approach. Based on the interviews and feedback of the participants, the paper develops a conceptual "co-construction framework" along 3 key-labels: who (openness - ownership), how (type of sessions - intensity of participation) and results (capacitybuilding - knowledge/action).

COMPETITIVE OR COMPLEMENTARY: AGE-FRIENDLY NYC AND MOVEMENTS FOR URBAN HEALTH, SOCIAL JUSTICE AND EQUITY

L. Goldman, *Center for Health Policy and Programs, New York Academy of Medicine, New York, New York*

Founded in 2007, Age-friendly NYC (AFNYC) is a partnership between the Office of the Mayor, the New York City Council, and the New York Academy of Medicine that works to maximize the physical, social, and economic participation of older people and thereby improve their overall health and wellbeing and strengthen communities. Among the "oldest" of the initiatives implementing the WHO age-friendly cities framework, AFNYC is in its second phase of implementation. This presentation will critically reflect on challenges of ownership, funding, and sustainability through political change and shifting priorities. In addition, it will highlight the evolution of our multi-sectoral work in housing, public safety, media, arts, and culture, and primary care. Finally, it

will illustrate our successes and failures working to embed aging within existing and emerging efforts to achieve social justice, equity, and a culture of health within NYC.

SESSION 3450 (SYMPOSIUM)

INNOVATIONS IN INTERVENTIONS FOR REMINISCENCE AND LIFE REVIEW

Chair: G.J. Westerhof, *University of Twente*

Discussant: J.D. Webster, *Langara College, Vancouver, British Columbia, Canada*

This symposium focuses on innovations in interventions for reminiscence and life review. First, diversity in aging is increasingly recognized in studies on reminiscence and life review. Interventions are discussed that are tailored to specific target groups, like persons with dementia, minority elders, or older adults with depression. Second, societal change plays a role in how interventions are delivered. Given the contemporary focus on self-management in (mental) health, peers play an increasingly important role in supporting each other in reminiscence and life review interventions. Third, technological advancements are taken up in this symposium. New methods to induce autobiographical memories are studied. Innovative information and communication technologies are discussed: digital life story books, online therapy, virtual reality, and smart environments. Fourth, the symposium brings together multiple research methods in assessing how acceptable innovations are for older adults themselves and how effective they are in contributing to lifespan development. Together, the four papers present a design process, from accumulating existing knowledge in a systematic review, the co-creation of interventions in community-based methods, the proof of concept of new technologies in experiments to the evaluation of innovations in randomized controlled trials and interviews. The symposium brings American, Dutch, Spanish, and Canadian researchers together, who are members of the International Institute for Reminiscence and Life Review.

THE USE OF LIFE STORY BOOKS FOR PEOPLE WITH DEMENTIA: A SYSTEMATIC REVIEW

T. Elfrink, G.J. Westerhof, *University of Twente, Enschede, Netherlands*

Life story books (LSB) are frequently used to support reminiscence therapy for people with dementia. We conducted a systematic review to study its use and effectiveness. Three electronic databases were searched. Out of the 62 studies found, 19 were eligible. Most LSB were tangible, non-technical, whereas some were digital. The LSB were sometimes part of another intervention, like support for daily routines. Most of the LSB were created in (max. 12) individual sessions in nursing homes. Some studies focused on the person with dementia, whilst others also examined effects on caregivers. Most studies used a single case or (pilot) RCT approach with small sample sizes. The aims varied from improving cognitive functions, wellbeing, and conversation skills to decreasing depressive symptoms. This systematic review confirms that the use of LSB to support reminiscence therapy and personalized care is promising, although solid effect studies are lacking.

DEVELOPMENT OF A CULTURALLY TAILORED REMINISCENCE INTERVENTION FOR MINORITY ELDERS

J.M. Shellman¹, M. Mokel², N. Walton¹, *1. University of Connecticut School of Nursing, Storrs, Connecticut, 2. St. Joseph University, West Hartford, Connecticut*

The Peer Reminiscence Intervention for Minority Elders (PRIME) is a culturally-tailored reminiscence intervention that utilizes the strengths of oral traditions of older Black adults as well as their informal support networks to mitigate barriers associated with underutilization of mental health services and decrease depressive symptoms and prevent major depression. Using community-based research methods older Black adults at an urban senior center in partnership with an academic institution developed the Reminiscence Resource Guide that structures the reminiscence intervention. Two phases of six focus groups (N = 36) provided insight into culturally appropriate learning styles and strategies for discussing culturally sensitive terms as well as understandability, cultural acceptability, and feasibility of the Guide. The Guide is utilized to train peer facilitators to deliver the integrative reminiscence intervention and to provide linkages to mental health services to impact the disparities that exist in the provision of mental health services for older Black adults.

NEW TECHNOLOGIES TO IMPROVE MOOD BY ELICITING AUTOBIOGRAPHICAL MEMORIES IN OLDER ADULTS

J. Serrano Selva, L.F. Aguilar, L. Ros Segura, J. Ricarte Trives, M. Nieto López, J.M. Latorre Postigo, *University Castilla-La Mancha, Albacete, Spain*

New technologies such as virtual reality and smart environments allow for innovative ways of eliciting autobiographical memories. Several experiments were carried out to evaluate how new technologies can contribute to the recollection of autobiographical memories that raise positive emotions. The first experiment used autobiographical pictures about the participant. The second experiment used virtual reality and audio stimuli to facilitate memory retrieval and positive feelings. The third experiment used an adaptation of REVISEP (a life review based on remembering specific positive events in active aging) in a visual format, that shows questions and pictures reflecting autobiographical memories in each participant at the same time. The studies show that different cueing methods that are based in virtual reality and smart environments are useful to elicit autobiographical memories. The application of these information and communications technology to improve mood state in older adults are discussed.

A QUANTITATIVE AND QUALITATIVE EVALUATION OF AN ONLINE LIFE-REVIEW INTERVENTION FOR DEPRESSION

E. Bohlmeijer¹, S. Lamers², M. Postel¹, G.J. Westerhof¹, *1. University of Twente, Enschede, Netherlands, 2. GGNet, Apeldoorn, Netherlands*

This study assessed an online life review intervention for depressed middle-aged and older adults. Participants were randomized to a waiting list group (n=19), online life review with a trained counselor (n=19) or online life review with peer feedback (n=20). They filled out questionnaires

on depression as primary outcome at four measurement points up to twelve months after baseline. Semi-structured interviews ($n=33$) assessed participants' experiences. All three groups improved significantly on depressive symptoms across time. There were no significant differences between the conditions, but there was a strong effect size for the counselor-led intervention (Cohen's $d=.83$), but not for the peer-feedback intervention (Cohen's $d=.28$). Participants evaluated the online delivery positively, but were more critical about peer feedback. An online delivery seems suitable and promising for a life-review intervention, in particular when led by a counselor. Adaptions are necessary to stimulate a positive and constructive atmosphere and communication within peer groups.

SESSION 3455 (SYMPOSIUM)

FRAILITY IN OLDER ADULTS AND CHANGES IN THE PATTERN OF HEALTHCARE USE

Chair: N. Sirven, *University Paris Descartes - Sorbonne Paris Cité, Paris, France*

Discussant: M.L. Grignon, *McMaster University, Ontario, Canada*

Frailty in elderly persons, defined as a loss of physiological reserve, is an issue for the spectrum of care provided in health services systems. In frail elderly persons, resistance to physiological stress, ability to sustain aggressive treatments, needs for supportive services aimed at disabled persons, and regaining health at the level experienced before the occurrence of an episode of care are reduced. Thus, frailty should be a concern for all of healthcare policies and services at all levels of healthcare systems: screening and preventing frailty through public health interventions; integrating frailty in diagnosis and treatments of health conditions in primary, secondary and tertiary care and in outpatient and inpatient care; and in designing long-term residential care. But, should it be? A first step in the examination of this issue is to estimate the extent to which frailty changes the pattern of healthcare use at different levels of care.

SCREENING FOR FRAILITY: PUBLIC HEALTH AND CLINICAL PERSPECTIVES

B. Santos-Eggimann¹, N. Sirven², 1. IUMSP, *Lausanne, Switzerland*, 2. LIRAES, *U. Paris Descartes, Paris, France*

Although frailty is a well-known concept in the health science, its operational definition is still debated. From a diversity of models, two emerged in the early 2000 from epidemiological studies conducted in large population-based aging cohorts: the frailty phenotype (Fried 2001), and the frailty index (Rockwood 1994) measuring the accumulation of deficits and death. These tools have been applied as screening instruments in clinical settings to guide individual decision-making and orient treatments. New interrogations are raised by the use of instruments developed to screen frailty in epidemiological research for assessing individual situations. Open questions remain on the feasibility of frailty screening, the properties of screening tools, the relevance of an integration of socioeconomic dimensions in screening tools, and the effectiveness of interventions targeting frailty. This

article presents an overview of current perspectives and issues around frailty screening in populations and in individuals.

DOES FRAILITY CONTRIBUTE TO HIGHER HEALTH CARE EXPENDITURES?

N. Sirven¹, T. Rapp¹, M. Herr², 1. *University Paris Descartes, LIRAES, Paris, France*, 2. *UVSQ, Saint-Quentin-en-Yvelines, France*

The objective of this work is to explore the incremental costs of frailty associated with ambulatory health care expenditures among the French population of community-dwellers aged 65 or more in 2012. We make use of a unique dataset that combines nationally representative health survey with respondents' National Health Insurance data on ambulatory care expenditures. Multivariate regression models adjusted for potential confounders, including chronic diseases, are developed to investigate the influence of frailty among the determinants of (i) ambulatory health expenditures, and a focus on (ii) pharmaceutical expenditures. In the case of pharmaceutical expenditures, crossed terms between potentially inappropriate prescribing (PIP, Laroche list) and frailty are used to account for potential confounding effects. Our results indicate that frail individuals are more likely to receive PIP than their non-frail counterparts. Frailty has an incremental effect of roughly €750 additional euros for pre-frail individuals, and €1,500 for frail individuals.

FRAILITY AND HOSPITAL USE IN AGED ADULTS: A COMPARATIVE ANALYSIS OF FRANCE AND QUÉBEC

N. Sirven¹, F.P. Bland³, T. Rapp¹, C. Galand², J. Fletcher², 1. *University Paris Descartes, LIRAES, Paris, France*, 2. *Jewish General Hospital, Montreal, Quebec, Canada*, 3. *Université de Montreal, Montreal, Quebec, Canada*

The aim of this article is to provide comparative population-based approach of the determinants of hospital use, in France 2012 and Québec 2011, with a focus on the frailty phenotype once netted out from other health and other covariates. We used comparable surveys of community-dwelling individuals matched with their National insurance claims and hospital episode records. Two-part models were used for access to hospital and length-of-stay. Our results suggest that ER use is more frequent in Québec while the hospitalization rate is lower in Québec after a venue at ER – suggesting that ER play the role of primary care in Québec. The length-of-stay is shorter in France where pay-for-performance scheme give hospital professionals the incentive to increase the number of inpatient care. We also found that frailty is associated with hospitalization through ER use in both countries, while the phenotype is neither associated with elective hospitalizations or the length-of-stay.

IMPACT OF STATE MEDICAID GENEROSITY ON NURSING HOME ENTRY OF FRAIL INDIVIDUALS

T. Rapp¹, D.C. Grabowski², 1. *Harvard T.H. Chan School of Public Health, Boston, Massachusetts*, 2. *Harvard Medical School, Boston, Massachusetts*

Historically, US states have dedicated most of their Medicaid long-term services and supports expenditures to nursing homes. Since the 1990's, a key aspect of U.S. policy for disabled elders has been to shift state Medicaid

expenditures away from institutional nursing home care and towards home- and community-based services (HCBS). Less is known about the impact of increased HCBS spending on elderly Medicaid beneficiaries' care pathways. We explore the impact of state Medicaid HCBS spending on the elderly beneficiaries' risks of nursing home admission using four waves of the Health and Retirement Study (2006–2013). Using instrumental variable estimations, we find that being eligible for Medicaid HCBS coverage is associated with a 28% point increase in nursing home use. Moreover, a \$100 increase in state-level Medicaid spending towards HCBS is associated with a 0.28% point reduction in the risk of nursing home entry for Medicaid eligible elders relative to non-eligible elders.

SESSION 3460 (SYMPOSIUM)

CARING WITH GRIT AND GRACE: LONG-TERM FAMILY CAREGIVERS OF PERSONS WITH DEMENTIA

Chair: J.S. Savla, *Virginia Polytechnic Institute & State University, Blacksburg, Virginia*

Co-Chair: K.A. Roberto, *Virginia Polytechnic Institute & State University*

Discussant: A. Horowitz, *Fordham University, New York, New York*

A central question about providing daily care for a relative with dementia is, What effects does caregiving have on the caregiver over time? Although short-term longitudinal studies have begun to address this question, few studies of family caregivers for persons with cognitive impairment extend beyond a few years and even fewer begin data collection with the initial diagnosis. We present findings from the Virginia Tech Families with Mild Cognitive Impairment (MCI) project, a mixed methods longitudinal study designed to understand the lives of long-term family caregivers and caregiving consequences for their health and well-being. Data consist of rich qualitative interviews and responses to structured scales from old adults and their primary caregiver, beginning at the MCI diagnosis and following the families for 10 years as cognitive changes unfolded. Savla and colleagues' examination of early care relationship indicators that predict caregiver mortality found that more perceived memory and behaviour problems, poorer health, and older age portended earlier death whereas stronger mastery was a protective factor. Analysis of caregiver mental health by Blieszner and colleagues revealed the impact of greater burden, more memory and behaviour problems, and lower mastery on increased depressive symptoms. Roberto and colleagues used case studies to detail the caregivers' long journey, providing a deep understanding of their daily challenges and resiliency as they faced unrelenting and frequently changing circumstances. Amy Horowitz will discuss the findings in light of earlier identification of cognitive impairment and implications for future research and practice focused on long-term caregivers of old persons.

EARLY PREDICTORS OF MORTALITY AMONG FAMILY CAREGIVERS OF PERSONS WITH DEMENTIA

J.S. Savla, Z. Wang, N. Brossoie, K.A. Roberto, R. Blieszner, *Virginia Polytechnic Institute & State University, Blacksburg, Virginia*

Researchers have assumed without controversy that providing care for a family member with dementia is hazardous for the caregivers' health. Although great strides have been made in the last two decades in understanding how caregiving stressors upset physiological processes and proliferate into chronic health conditions, it is not known if caregiving also leads to early mortality. In the current study, we utilize longitudinal data collected from 106 primary caregivers of persons diagnosed with Mild Cognitive Impairment during Wave 1. Cox regression models with right censoring were used to analyze time to death of caregivers. During the 10 years of data collection, 17 caregivers (16%) died. Greater memory and behaviour problems of the care recipient and advanced age and poorer health of the caregiver at Wave 1 predicted time to death. Conversely, greater environmental mastery protected caregivers against the risk of early death. These findings have implications for ongoing caregiver support.

TRACING THE TRAJECTORY OF MCI CARE: LONG-TERM WELL-BEING OF CARE PARTNERS

R. Blieszner, J.S. Savla, K.A. Roberto, *Virginia Polytechnic Institute & State University, Blacksburg, Virginia*

Grounded in Pearlin and colleagues' stress process model, we examined changes in the psychological well-being of primary care partners (PCP, N=92) of old adults diagnosed with Mild Cognitive Impairment. Data were collected in 3 Waves (shortly after diagnosis and at mean 13.2 and 36.8 months after W1). Regarding stressors, older adults' MMSE scores declined ($p<.001$) and PCP perception of memory and behavior problems increased ($p<.05$) from W1 to W3. Strains were assessed with Ryff Environmental Mastery and Zarit Burden Interview; a W1 resource was frequency of using coping strategies; CES-D indexed psychological well-being. Resilience was evident in PCP use of coping strategies and stability of mean CES-D over time. Nevertheless, younger PCP age and more coping strategies predicted higher CES-D at W3, and as PCP perceptions of burden and problematic behaviors increased and mastery decreased over time, CES-D increased. The findings point to ongoing detrimental effects of long-term dementia care.

A LONG AND WINDING ROAD: 10 YEARS OF CARING FOR A RELATIVE WITH MEMORY IMPAIRMENT

K.A. Roberto, R. Blieszner, R.H. Weaver, J.S. Savla, N. Brossoie, *Center for Gerontology, Virginia Polytechnic Institute & State University, Blacksburg, Virginia*

More than one-third of family caregivers provide care for a relative with dementia for six years or more. Guided by Pearlin's stress process model, we used a case-study approach to analyze data from four interviews spanning 10 years, with 10 women aged 28 to 72 at the time their relative was diagnosed with mild cognitive impairment. Findings revealed the women used a wide array of strategies to manage daily life and sustain themselves in meaningful ways. As their care journey progressed, they sought information about memory impairment, engaged in self-care activities, maintained social relations and activities as best they could, and relied on friends and family for support. Although they discussed the stress and burden of providing care, the caregivers showed

resilience as they faced unrelenting and frequently changing psychological, social, and physical challenges both personally and in the family. Findings have implications for addressing the needs of long-term caregivers.

SESSION 3465 (SYMPOSIUM)

USER PARTICIPATION IN AGING AND HEALTH RESEARCH—BRIDGING SCIENCE, POLICY, AND PRACTICE

Chair: S. Iwarsson, *Lund University, Lund, Sweden*

Co-Chair: E.J. Hanson, *Linnaeus University, Kalmar, Sweden*

Discussant: J.E. Phillips, *University of Stirling*

Addressing active and healthy aging and related challenges in welfare systems demands new solutions, but the translation of new knowledge to practice is slow. User participation in research is an underutilized way to bridge science, policy and practice, but the impact in terms of effects on, changes for or benefits to society remains to be demonstrated. Problematised by Arnstein already in 1969, user participation ranges from non-participation over tokenism to actual citizen power. Instead of being a study object, the user is an active partner in the research process. With user participation in aging and health research being an emerging field of inquiry, gaps in knowledge that urgently need filling include conceptual definitions and theoretical foundations as well as development of valid methods for evaluating research with user participation. In addition, ethical considerations deserve attention. Based on a scoping review and results and experiences from ongoing research on aging and health at four universities, in this symposium we will describe, problematize and discuss current conceptual, theoretical and methodological developments and outline meta-level research needs. We will exemplify ongoing research with user participation and present user experiences as well as practice and policy developments. The discussion will focus on what user participation actually achieves and what impact it has on older people. Can it lead to innovation in our conceptual and methodological repertoire? Does it add meaning and legitimize research findings? Drawing on four different but related presentations we will discuss how transferable user participation is in an international context.

UNDERSTANDING USER PARTICIPATION IN RESEARCH: CONCEPTUAL AND THEORETICAL UNDERPINNINGS

S. Iwarsson¹, O. Jonsson¹, S. Dahlin Ivanoff³, A. Edberg², E.J. Hanson⁴, 1. *Lund University, Lund, Sweden*, 2. *Kristianstad University, Kristianstad, Sweden*, 3. *University of Gothenburg, Gothenburg, Sweden*, 4. *Linnaeus University, Kalmar & Växjö, Sweden*

The rationale for involving users in research has its origin in ideas of empowerment, with a striving to shift power in the research process from the researchers to the users. User oriented research showcases a plethora of conceptual and theoretical foundations. We will problematize the variety of terms being used, such as user-driven research, co-design, participatory design, patient and public involvement (PPI), transdisciplinary and collaborative research. Addressing

the paucity of theoretical support in the literature we will relate to promising theoretical approaches emanating from implementation science and the participatory design paradigm. Research with user participation can include the entire research process, from definition and understanding of the research question to the communication and translation of the results. Referring to the WHO (2012) framework for knowledge translation in aging and health, we will conclude this presentation by outlining research priorities aiming to increase the understanding of user participation in research.

UNDERSTANDING USER PARTICIPATION IN RESEARCH: METHODOLOGICAL CONSIDERATIONS

E.J. Hanson^{1,2}, A. Edberg³, S. Dahlin Ivanoff⁴, S. Iwarsson^{5,6}, 1. *Health and Caring Sciences, Linnaeus University, Kalmar, Sweden*, 2. *Swedish Family Care Competence Centre, Kalmar, Sweden*, 3. *Dept. Health & Society, Kristianstad University, Kristianstad, Sweden*, 4. *AgeCap, University of Gothenburg, Gothenburg, Sweden*, 5. *Dept. Health Sciences, Faculty of Medicine, University of Lund, *Lund, Sweden*, 6. *Centre for Ageing & Supportive Environments (CASE), University of Lund, Lund, Sweden*

Methodological issues are of central importance as research funders increasingly stipulate user participation in program/project calls. We will explore whether user involvement is always beneficial and highlight the challenges of involving users in research. We will discuss the ways in which the voices of older people in general as well as of vulnerable groups can be heard and explore the need to develop and test innovative approaches. More broadly, we will examine current methodological approaches available. Further, as they are predominantly comprised of qualitative methods, we will lay the claim for a broader arsenal of scientific methods, including qualitative and quantitative approaches, mixed methods, including state-of-the-art and newly developed methods. Finally, we will share ways forward, including interdisciplinary and cross-national collaborations, to develop more reliable and valid methodologies for the evaluation of research involving user participation. Ultimately, this will lead to the development of generalizable knowledge and cumulative knowledge building.

APPLYING THE WORLD CAFÉ METHOD TO INVOLVE USERS IN AN INTERACTIVE ANALYSIS OF RESEARCH RESULTS

J. Andersson¹, L. Ekstam¹, G. Nilsson², 1. *Centre for Ageing and Supportive Environments (CASE) & Department of Health Sciences, Lund University, Sweden, Lund, Sweden*, 2. *Department of Arts and Cultural Sciences, Lund University, Lund, Sweden*

This presentation will discuss how the World Café method can be used to analyze data interactively together with users, in this case, organizers of senior camps. As part of the Senior Camp Study we were particularly interested in ways of “doing age” and how discourses on age influenced the organization of senior camps. The World Café was arranged with two main purposes: 1) involve users to discuss preliminary findings to validate and problematize the results; 2) use the discussions recorded during the World Café session as data to deepen the analysis. We experience that combining those two purposes was a challenge in the sense that the users were

more keen on validating the results and explaining their standpoint than problematize around conceptions of age. We will elaborate and discuss this further in our presentation and also share our experiences of involving users in this stage of the research process.

THE CRITICAL ROLE OF USER INVOLVEMENT IN CREATING SOCIETAL RESEARCH IMPACT

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A new paradigm of research is evolving in which it is insufficient to generate high quality research published in specialised academic journals or delivered to expert audiences. In Europe, both in the UK and in the EU, a new model is evolving in which researchers are expected by their funders to work with the users of research, in order to generate high levels of economic and social impact in society. In this context, we will review new models of knowledge translation, such as that developed by the WHO, the Global Council for Brain Health in the USA and the European Institute of Technology. Moreover, we will show by reference to real world experience with lay older people, the way in which these principles can guide researchers to develop effective means of creating highly effective partnerships, improve the transferability of new knowledge and generating tangible research based benefits to older people.

SESSION 3470 (SYMPOSIUM)

AGING WITH HIV AROUND THE WORLD: VULNERABILITY, RESILIENCE, AND IMPACTS ON OLDER ADULTS

Chair: J. Mugisha, *Medical Research Council, Entebbe, Uganda*

Discussant: M.G. Brennan-Ing, *ACRIA, New York, New York*

More than 4 million person aged 50 years and older are living with HIV around the world including more than 2.5 million in sub-Saharan Africa alone. With the successful roll-out of antiretroviral treatment along with continued HIV vulnerability among older people, these figures are increasing. Despite this, the global HIV response has largely ignored the unique needs, characteristics and resilience of older populations. After years of neglect, UNAIDS acknowledged older adults in their 2014 report but issues of co-morbidities, ageism, inappropriately targeted services and the burden of caregiving continue to hamper effective and rights-based responses. This symposium - facilitated by the Gerontological Society of America's HIV and Aging Interest Group - brings together perspectives from Africa and Canada to highlight the diverse challenges facing older people. The symposium will allow participants to share experiences and examine issues of access to care, burden of disease, cognitive decline and social isolation with a view to improving policy development and quality of care.

PREVALENCE AND CORRELATES OF HIV TESTING AMONG OLDER ADULTS IN BOTSWANA

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Botswana has the third highest HIV prevalence worldwide, yet testing remains <70%. The 2013 Public Health Act obligates the state to extend confidential testing to all citizens. Using the 2013 Botswana AIDS Impact Survey, we estimated 58.7% of persons aged 50–64 (N=970) had tested in prior 12 months, compared to 66.1% of those aged 15–49. Drawing on the Behavioral Model of Health, we used logistic regression to explore the association of predisposing (demographics), enabling (knowledge, attitudes, service availability and prior use) and need (at least 1 of 9 HIV risk) factors with likelihood of testing. The model was significant ($\chi^2(15)=25.99, p < .001$) and correctly classified 80% of cases. All three sets of factors contributed significantly to being tested. Being younger, unmarried, more educated, Christian and city-dwelling were associated with higher odds of testing, as were greater knowledge and positive attitudes about HIV, and presence of one or more risk factors.

LEAVING NO ONE BEHIND: SUPPORTING ART ACCESS AND ADHERENCE AMONG OLDER UGANDANS LIVING WITH HIV

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Building on survey research on HIV prevalence, co-morbidities and experiences living with HIV, we conducted in-depth interviews with older Ugandans to understand their barriers to antiretroviral treatment access and adherence. Access and adherence interventions must be developed within communities and societal contexts to address the specific barriers faced by older Africans which means moving beyond seeing access and adherence as individual-level issues. In African contexts, structural barriers include poverty, transportation costs, overburdened health systems, and gender inequality. Older Ugandans experience economic frustration, responsibility to dependents, sadness and isolation, co-morbidities and little social support. Many living in rural areas, with endemic poverty and scarce services and resources, find distance to facilities a particular problem. In addition, older Ugandans report poor treatment by health staff who have little understanding of older persons' needs. Further, they are reluctant to honestly discuss symptoms and diagnosis related to sexual health with younger health providers.

OLDER GRANDPARENTS AS PRIMARY CAREGIVERS

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The purpose of this study was to seek understanding of the experiences of Ugandan grandparents (50-years and older) who provide primary care for their grandchildren. In Uganda, as in the rest of sub-Saharan Africa, the AIDS

epidemic has placed a tremendous burden on elderly caregivers. However, limited research has been conducted to explore the impact of this caregiving experience on the physical and mental health of this elderly population. Using Grounded Theory qualitative method, interviews were conducted with grandparents recruited from general population impacted by the HIV/AIDS epidemic. Narratives revealed underlying factors that influenced grandparents' caregiving experiences. These ranged from Micro (family structure and relationships; community) to Macro (Cultural, national and global). These findings could inform other researchers and clinicians who seek explanatory models upon which to design interventions and social services such as childcare and respite care for older adult caregivers to grandchildren.

OLDER PERSONS WITH HIV IN CANADIAN HOME AND LONG-TERM CARE CONTEXTS

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Population aging and successful HIV drug therapy mean that more people are living longer with HIV. As these individuals seek formal care services, understanding their particular needs is becoming important. This study examined the sociodemographic, clinical and mental health characteristics of 1608 people living with HIV in home and long-term care settings across Canada. Worsening depression, cognitive decline and hospitalizations over a 6-month follow-up were explored among a smaller subsample. Data were collected using setting-specific interRAI standardized assessment instruments from 1996–2014. Chi-square analyses tested differences between individuals living with and without HIV in each setting. People living with HIV had more co-infections, depression and social isolation, but fewer chronic diseases than their HIV-negative counterparts. Longitudinal outcomes were also worse among the HIV-positive group. These results highlight some of the unique aspects of this population which will help to develop strategies to improve care and quality of life of this group.

SESSION 3475 (PAPER)

QUALITY OF LIFE AND WELL-BEING: INTERNATIONAL PERSPECTIVES

IMPROVING QUALITY OF LIFE FOR LATE-LIFE PATIENTS: KEY FINDINGS FROM LIFECOURSE INTERVENTION

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Quality of life (QOL) for patients with chronic conditions at the end of life is a concern among policymakers and consumers, and has implications for improved care delivery outcomes. QOL indicators enable understanding of healthcare delivery beyond system oriented outcomes, shedding light on

the effect of holistic, supportive care for those living with complex chronic illness in late life. In this mixed methods evaluation, we examine the effectiveness of a new patient-centered approach to late life care—*LifeCourse* intervention. A key component is ongoing, across-setting assistance by layperson care guides, supported by a clinical team. We investigate whether participation in *LifeCourse* improves QOL for patients, compared to usual care controls. QOL is assessed through quarterly administration of the Functional Assessment of Chronic Illness Therapy-Palliative Care survey (n=190 intervention patients and 157 controls). Data is presented as change in QOL indicators between baseline and 6 months. Mixed-methods analysis includes longitudinal examination of scores and qualitative data analysis. Multivariate analyses reveal that *LifeCourse* intervention had a significant positive effect on QOL for intervention patients when compared to controls. Additional analyses show that most changes happen for social quality of life domains. Interview data reveal that participants actively seek out ways to maintain QOL and exhibit resilience in the face of decline. Overall, our findings show that *LifeCourse* has a positive impact on QOL when compared to usual care patients. These trends indicate whole-person supportive care like *LifeCourse* is a promising approach for patients affected by complex chronic illness in late life.

CAN YOU PROVE THAT YOUR LONG-TERM CARE SERVICE IS PROMOTING QUALITY OF LIFE?

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Feedback on quality of life is usually anecdotal or service providers rely on assumptions about what affects client satisfaction with services. Often this aspect of service quality is negatively monitored by tallying complaints and hoping that what is unknown is positive. Quality of life has importance for care providers and practitioners who want to judge the quality of their services and prove that their efforts actually promote life quality.

Issues of life quality and what that means for those becoming frail in vast numbers has prompted the application of quality of-life theory to a practical strategy that enhances the experience of living in aged care contexts.

Long term care admission usually follows advanced normal age changes or the accumulated deterioration of biological systems due to pathological processes. The diversity of conditions that cause admission means that assessing life quality in relation to their individual diseases and disabilities is not feasible. Even if it were, there is robust evidence that the presence or absence of disease or disability does not determine life quality.

The long term care quality of life scale (LTC-QoL) developed to overcome the above issues, is offered as a means of focusing support for positive experiences during late age. The LTC-QoL reliably assesses the nine factors necessary to promote quality of life in this context; and provides specific diagnostic information to guide interventions to strengthen weak elements and maintain strong ones. In this way it becomes feasible to create legitimate resourcing of services geared to promoting contentment.

A CROSS-CULTURAL ADAPTATION OF THE ICECAP-O: RELIABILITY AND VALIDITY IN SWEDISH 70-YEAR-OLDS

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Investigating Choice Experiments for the Preferences of Older People-CAPability index (ICECAP-O) is one of few Quality of Life measures that tap into the concept of capability, i.e. genuine opportunities to 'do' and 'be' the things that a person deems important in life. This presentation includes test-retest reliability, item relevance, face- and content validity, and accessibility of the ICECAP-O in a Swedish context. Thirty-nine 70-year-olds completed the Swedish version of ICECAP-O on two occasions. Test-retest reliability was analyzed for the index and separate items, and participants rated item relevance on a Visual Analogue Scale. Eighteen additional persons filled in the ICECAP-O during cognitive interviews and a standardized classification scheme was used to quantify response problems. Thematic analysis was applied to capture participants' experiences of completing the measure and perceptions of included attributes. Test-retest showed that the index score had good stability, ICC of 0.80 (95 % CI 0.62–0.90). However, Kappa values for the individuals items were low, ranging from 0.18 (*Control*) to 0.41 (*Role*). Participants gave their highest relevance rating to *Attachment* and the lowest to *Enjoyment*. In the cognitive interviews, three participants (18%) had problems completing ICECAP-O, and 5 of 80 question segments (6%) were found to be problematic. Most participants perceived the attributes as understandable even though the meaning of *Control* brought some uncertainty. Our findings suggest that the Swedish version of the ICECAP-O requires further refinement. Problems identified in our study point to areas requiring special attention by the developers of ICECAP-O versions working in other language contexts.

ESTIMATING QALY IN LONGITUDINAL COHORT STUDIES, AND AN APPLICATION IN PATIENTS WITH DIABETES

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Studies on burden of disease and its determinants often take into account either survival time or quality of life (QoL) as outcomes. The calculation of Quality Adjusted Life Years (QALYs) is an approach which combines these outcomes. The aim of the study is to quantify QALY loss due to diabetes and diabetes treatment over a longer time period.

We analyzed data from the population based KORA S4 (Cooperative Health Research in the Region Augsburg, Survey 4) cohort. We included 1047 participants who were ≥60 years of age at the time of the first interview. Follow up time was 14 years.

The mean age of participants was 66.4, 49.6% were women, and 8.7% had diabetes. The mean QoL value reported at the beginning of the study was 0.9 (on a scale 0–1). 28.7% of the participants died during the 14 year follow up. There were significant differences in accumulated QALY between subgroups. Men had lower QALY than women (10.5 vs 11.0, $p=0.008$), and as expected younger (60–70) patients had higher QALY than older (70+) patients (11.0 vs 9.62, $p<0.001$). In preliminary analysis, patients with diabetes had lower QALY than those without. Among patients with diabetes, treatment type was significant factor. Sensitivity analysis restricted to those 60–65 years old, accounting for possible effect of age, showed similar results.

While it has been shown in the past that diabetes and diabetes treatments are associated with higher mortality and lower quality of life, our study helps quantify the burden of the disease.

DOES WHOLE-BODY PERIODIC ACCELERATION REDUCE NON-MOTOR SYMPTOMS IN PERSONS WITH PARKINSON'S DISEASE?

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Sleep disturbances, depression, and inactivity are common non-motor problems in Parkinson's disease (PD). The effects of Whole Body Periodic Acceleration (WBPA) in persons with PD on sleep regulation and activity levels have yet to be evaluated. The objective was to assess whether WBPA improves sleep and activity in persons with PD over 4 weeks compared to gender matched controls. Participants included 5 PD and 5 controls (8 men; 2 women), age 74.10 ± 9.25 . Activity trackers monitored sleep, awakenings, and step counts over 24 hours for 6 weeks. Baseline measurements included sleep 30 days prior to study, depression (PHQ-9), and Quality of Life (PDQ-8). WBPA duration was 45 minutes, 3 times per week for 4 weeks. A 2 by 6 repeated measure and paired t tests were used to assess data. A significant decrease was found in BP pre vs. post $p .019$; PD group had improved depression $p .025$. Minimally Clinically Significant Differences (MCID) were also found in the PD participants, the PSQI (4.25) points. Self-reports for WBPA displayed improvements in depression and sleep. Decreased physical activity in those with mild to moderate PD was evidenced. WBPA may have a significant role in PD management of non-motor symptoms. Further study with larger groups is warranted using WBPA.

SESSION 3480 (PAPER)

LGBTQ AGING

PERCEPTIONS OF OLDER BLACK MEN IN THE UNITED STATES: MAKING SENSE OF THE ROLE OF SEXUAL ORIENTATION

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Research on Black older men suggests that bias contributes to negative health outcomes and discrimination in benefits, employment, and the criminal justice system. However, a gap in research exists in how these biases change depending on context, especially when conflicting biases present toward persons with intersectional positionalities (e.g. Black, gay, older adult). This pilot study investigates bias by asking: how do perceptions about Black older men in the United States change when comparing gay and straight men. This pilot study collected primary data ($n = 143$) using a cross-sectional survey design. Survey participants read one of four randomized vignettes about an older Black man. All four scenarios contained identical language except for age and sexual orientation (gay/heterosexual; 20-years-old/70-years-old). The survey tested stereotypes about strength, activity, sociability, health, mental acuity, independence, trustworthiness, sexuality, and demeanor. Perceptions about health, independence, and trustworthiness yielded statistically significant results ($p = 0.05$). Participants rated him as unhealthy (vs. healthy) when a Black, young, heterosexual man; independent (vs. dependent) when identified as a Black, young, gay man, and trustworthy (vs. untrustworthy) when a Black, older heterosexual man, compared to other groups. Participants also rated him as most peaceful when labeled young and gay versus older and gay; less active when heterosexual versus gay, regardless of age; least sexual as older and gay versus older and heterosexual; least clear-headed when younger and heterosexual versus older and gay. The survey underscores the importance of understanding how age, race, gender, and sexual orientation interact to shape bias.

ELDER ABUSE IN THE LGBT COMMUNITY: A HIDDEN PROBLEM

G.M. Gutman, C. Robson, J. Marchbank, K. Blair, *Gerontology, Simon Fraser University, Vancouver, British Columbia, Canada*

Compared to heterosexual age peers, LGBT older adults are more likely to live alone, less likely to be partnered, less likely to have children and have higher rates of loneliness and isolation - well known risk factors for elder abuse. Our goals were to raise awareness of elder abuse 1) within the LGBT community and familiarize current/potential victims with locally available services and 2) among service providers. Method: Stage 1, intergenerational and collaborative, brought together queer older adult creative writers, queer youth activists and elder abuse/family violence researchers to create LGBT-relevant videos, posters and fact sheets. Stage 2 featured Town Hall meetings in 6 communities in British Columbia, Canada plus two "Dialogue Sessions" with service providers to the two largest ethnic minorities in the province (Chinese; SAsian). Results: 3 videos and 5 poster/fact sheets were produced. The videos illustrated neglect of a transgender man in a care facility, psychological and physical abuse in a lesbian couple, and financial

abuse in a gay couple. The poster/fact sheets defined the 5 main types of abuse and listed local services providing help. These tools were well received by Town Hall/Dialogue Session attendees ($n=21-57/gp$), triggering active discussion and visits to our website (www.sfu.ca/lgbteol) where they may be downloaded free of charge Conclusion: This project demonstrated that the silos that characterize services to abused older adults, the LGBT community, minority seniors, and the general population of seniors can be bridged. The tools developed fill a gap in relevant resources for this often marginalized seniors sub-population.

JOINT RETIREMENT IN SAME-SEX COUPLES IN SWEDEN: A REGISTER-BASED STUDY, 1995-2012

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The paper explores same-sex couples' propensity to retire jointly during 1995-2012 in Sweden. It is well-established that opposite-sex couples retire jointly or close in time. Little is known about retirement preferences for same-sex partnerships/marriages. This lack of knowledge is related to that few countries have legalized same-sex partnerships/marriages until very recently, and lack of large enough representative samples of gay and lesbians. In Sweden, same-sex couples have been able to register partnership since 1995 and marriages since 2009, having the same rights as opposite-sex marriages. Swedish unique population data makes it possible to study all registered same-sex partnerships/marriages in relation to labor market attachments. The use of the complete population provides a sufficient population of older spouses to create reliable estimates of retirement decisions. The studied population consists of 873 female and male same-sex partnerships/marriages where at least one of the spouses is born 1947 or earlier. We also include a sample of all opposite-sex marriages. We use descriptive techniques and multinomial logistic regression to analyze same-sex couples' and opposite-sex retirement behaviors. In the regression models the outcome is whether the couple retires jointly; not jointly; not yet retired; and one spouse retired. All models are controlled for age difference, duration of partnership/marriage, income, education, birth year and gender. The study's novelty contributes to a broader understanding of family-life and retirement behavior among same-sex couples in relation to opposite-sex couples, including differences between female and male same-sex couples. Overall, we find a pattern of joint retirement also among same-sex couples.

QUEER AGING: THE ARRIVAL OF GAYBY BOOMERS AND THE NEW CHALLENGES OF GERONTOLOGY

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The aging of gay men of the Baby Boomer generation (i.e., Gayby Boomers) is as novel and revolutionary as the gay liberation and AIDS movements were. It is transforming our views of old age, the composition of LGBTQ communities, and the field of gerontology.

I address the questions: What is like to be Gayby Boomer, e.g., a gay man of the Baby Boomer generation? And what are the implications of Gayby Boomers' aging for gerontology?

This research draws on ethnographic research (e.g., in-depth interviews and participant observation) with a group

of men Gayby Boomers: White, African American, Latino, and HIV-positive and negative in Chicago.

I argue that older gay men are trapped between expressing who they are and the stigma towards gender nonconformity, age, and HIV/AIDS (and race, for some), as they have been for the last 40 years. Yet, they are creating structures to define life as an older gay person. One participant noted, "My generation probably lost a lot of people, but the ones of us that are left are sort of defining what it means to be older because we are out." While the recent visibility of the older gay men is an important step against discrimination, it has reinforced (heterosexual) norms about aging and masculinity that might, unintentionally, create undue stress on gay men. This is partly due to gerontology's heteronormative notions about old age.

I further suggest that older age is being transformed, "queered," and the field of gerontology must follow that change.

SESSION 3485 (SYMPOSIUM)

MUSIC AND MEMORY: PARTNERSHIPS TO STIMULATE EMOTIONS AND BEHAVIORS IN INDIVIDUALS WITH DEMENTIA

Chair: C.J. Tompkins, *George Mason University, Virginia*

Discussant: D. Cohen, *MUSIC & MEMORY, Inc., Mineola, New York*

The prevalence of dementia among older adults in the U.S and across the world is expected to increase dramatically over the next 30 years and beyond. It is imperative that researchers and practitioners collaborate on understanding interventions that will stimulate memories, emotions, and behaviors of individuals at all stages of the disease.

Music & Memory is a program that is prevalent across the U.S., Canada and eight other countries, that brings personalized music into the lives of older adults with dementia and people with disabilities. Positive outcomes from programs like Music and Memory for individuals with dementia are often found to be related to the level of significance that music had in the person's life prior to the onset of cognitive decline. The first paper presented in this symposium will introduce the effects that the Music & Memory program has had on participants with dementia in five different adult day health care centers located in one county. The second paper will examine the perceptions of the Music and Memory program from family caregivers and the third paper explores a partnership between a community agency and a University that has increased the prevalence of the implementation of the Music & Memory program within the surrounding communities. The third paper will also examine the effects of the Music and Memory program from the perceptions of the professional care staff.

RESULTS FROM A MUSIC AND MEMORY INTERVENTION FOR INDIVIDUALS WITH DEMENTIA IN ADULT DAY CARE CENTERS

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Individuals with dementia struggle with memory impairment and a reduced ability to interpret their surrounding

environments. Music has been used successfully in various settings (medical, institutional, and adult day care) to decrease agitation, anxiety, medication use, stress and distress, and increase pain control, wellness, and overall sense of control. This presentation will discuss the results from our study which implemented a personalized music intervention for approximately 50 individuals with dementia in five adult day centers. A team of researchers spent eight months observing participants and video recording sessions twice a week for six weeks at each center. We developed an observation tool based on the behaviors we observed during our pilot study, and our tool captures behavioral changes related to music and common behaviors for individuals with dementia. Overall, participants were engaged with their personalized music during the intervention, and key findings indicate an increase in smiling and talkativeness.

THE IMPACT OF THE USE OF PERSONALIZED MUSIC WITH PEOPLE WITH DEMENTIA ON THEIR FAMILY CAREGIVERS

M. Inoue, A. Harris, *George Mason University, Fairfax, Virginia*

Caring for a loved one with dementia is often a challenging experience. This session will discuss experiences of caregivers of family members with dementia and their perspectives on the effects of the personalized music intervention. Family caregivers were interviewed before and after the intervention, and asked to complete two instruments to measure agitation and depression – results indicate that family caregivers perceived a slight decrease in physically and verbally aggressive behaviors. Using a grounded theory approach to analyze the transcribed interviews, the two themes that emerged pertaining to caregivers were "coping" (finding patience, avoiding loneliness, increasing understanding) and "finding relief" (additional support, taking breaks, music intervention). Emerging themes pertaining to their care recipients included "changing behavior" (relearning, agitating, becoming anxious) and "stimulating" (maintaining dignity, praising efforts). The session will conclude with a potential impact of the use of personalized music on caregivers and application to various caregiving settings.

MUSIC AND MEMORY: THE IMPORTANCE OF RESEARCH-INFORMED INTERVENTIONS FOR COMMUNITY-BASED AGENCIES

C. Clark, *Insight Memory Care Center, Fairfax, Virginia*

Interventions for individuals with dementia are important for adult day health care center (ADHCC) staff to implement. Participants with varying levels of dementia may attend the centers for 10 hours a day. This session will discuss one ADHCC's partnership with a university to examine the effectiveness of the national Music & Memory program. Agency staff were trained to implement the program and then a partnership was formed with a local university to establish effectiveness. Staff assessed participants' mood and behavior prior, during, and at two-points-in-time after the intervention. As a result of the partnership, a community awareness highlighting the benefits of the Music & Memory program was created and caregivers, agency staff, and others throughout the community began to implement the program. The partnership has also been valuable in allowing for the continuation of data collection for an evidenced-based music intervention benefiting older adults with dementia and their caregivers.

SESSION 3490 (PAPER)

MINORITY ELDERS

AGEING WELL WITH HIV: INSIDER STRATEGIES FROM LONG-TERM SURVIVORS IN ONTARIO, CANADA

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Worldwide approximately 3.6 million people age 50 and older are living with HIV. Few studies have explored successful ageing from the insider perspective of those living well with HIV infection. This study draws upon the lived experience and wisdom of older, HIV-positive adults from Ontario, Canada to understand their strategies for successful ageing. This qualitative study involved semi-structured interviews with 30 HIV-positive individuals age 50 + years. Purposive sampling techniques were used to recruit individuals, and constructivist grounded theory coding techniques were used for analysis. Participants ranged from 50–73 years ($M=58$, $\pm=6.1$), were predominantly male (66.7%) and White (66.7%). Thirteen percent were Black Canadians, some of whom were immigrants to Canada from endemic African countries. Sixty percent identified as gay. The average time since first HIV diagnosis was 18 years (range: 4–30, $\pm=7.6$) and 56% were diagnosed before active antiretroviral therapy (ART) became available. Themes of successful ageing were: 1) Resilience strategies, including subthemes of self-care, spirituality, HIV identity and mastery; 2) Social support, including the evaluation of positive versus negative influences in social network; and 3) Environmental contexts, i.e. financial precariousness and environmental support. Stigma and struggles to maintain health were identified as impediments to successful ageing. Models of successful ageing must take into account the need for subjective appraisals of success in populations suffering from life threatening illnesses including HIV. Practitioners should consider organically existing strengths in this population in order to provide intervention development for older adults who are working to manage their HIV.

EMPOWERMENT OF OLDER IMMIGRANT WOMEN THROUGH IMPROVED FINANCIAL LITERACY

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A lack of financial literacy has far-reaching implications for economic security in old age for women as it may diminish women's ability to plan effectively for later life and/or retirement. To understand and address these issues the National Initiative for the Care of the Elderly (NICE) led a research study to improve the financial literacy of low-income,

older, unattached, and immigrant women in the Vancouver (N=201), Montréal (N= 65) and Toronto (N=204). Evidence-based financial literacy tools and workshops on topics related to money management, financial planning, and government assistance programs were developed and delivered. Survey data was collected at baseline prior to workshop and at three-months post-workshop, once a financial action-plan was implemented. Participants reported satisfaction with the workshops and information on: 1) budgeting, 2) estate planning, and 3) recognizing financial abuse. Participants indicated that resources being aligned with the socio-economic conditions of the participants was important. A gendered/feminist lens applied to the findings indicates that older women may have less opportunity to become financial literate if prescribed marriage roles and family dynamics lead to male spouses taking on the money management roles in earlier to late-life. A lifecourse approach is necessary to support financial literacy for women earlier in life and continued programs providing relevant financial information at predictable life transitions in later-life such as widowhood. Despite baseline differences, participants who completed the workshops felt they had enhanced their knowledge and were able to identify how they may be more responsive with money matters in the future.

QUALITY OF LIFE IN RESIDENTIAL LONG-TERM CARE: CHINESE-SPEAKING IMMIGRANTS IN BRITISH COLUMBIA

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Objectives: The care provided by a majority of 'mainstream' Residential Long-Term Care (RLTC) facilities is incompatible with the needs of immigrant older adults. In British Columbia (BC), Canada, Chinese-origin older adults are a substantial and growing minority and research indicates that RLTC facilities not targeted at this population need direction to assist them in providing culturally competent care. Accordingly, our study seeks to identify which features of RLTC have the greatest impact on the quality of life of this subpopulation. **Methods:** A qualitative pilot study conducted in BC included 9 in-depth one-to-one interviews in two RLTC facilities with Chinese-origin residents and 11 family members who regularly visit such residents. We captured perspectives on residents' quality of life (QoL) using an adapted version of an interview protocol established as trustworthy among diverse older adults in the U.K. This framework, developed by the National Centre for Social Research, understands the QoL of older adults to be contingent on their *capability* to pursue five conceptual attributes: *attachment, role, enjoyment, security and control*. **Results:** Participants perceived that the capability of residents to pursue the following dimensions of QoL was influenced by the organizational, social and/or physical features of the facilities in which they resided: Attachment (especially connection to the outside world), Control (especially decision-making), Enjoyment and Safety/Security. **Conclusions:** Findings concerning both positive and negative influences on older immigrant QoL that the

facility can modify will provide direction and highlight priorities for RLTC administrators and policy makers.

PATIENT CONTINUITY OF CARE AND PHYSICIAN MANAGEMENT OF OLDER ADULTS WITH COMPLEX CHRONIC CONDITIONS

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Recent studies find that patient continuity of care (COC) has beneficial effects on patient outcomes and costs in the general patient population. We focus on older adults with complex chronic conditions who have care needs that differ from the average patient. Our objective is to identify patient and market characteristics that predict annual physician involvement in evaluation and management (E&M) of such patients as well as patient COC.

We identify Medicare beneficiaries with diabetes and/or heart failure in the Medicare Current Beneficiary Survey during 2006–2012, a nationally representative sample of 23,736 person-years.

We estimate multivariable regression models to assess the effect of patient characteristics and market factors on patient COC and physician E&M. COC is measured with the Bice-Boxerman and Usual Provider of Care indices. Physician E&M is measured as the count of unique physicians visited annually, and involvement by a primary care physician or a disease-relevant specialist.

Local market factors such as primary care and specialist physician supply are significant ($p < .05$) predictors of physician E&M involvement and patient COC. Patients who have higher incomes, more private supplemental insurance, and more education see more physicians for E&M ($p < .05$). Patients who have higher incomes and education are also more likely to see a disease-relevant specialist, but have lower COC ($p < .05$).

Medicare beneficiaries with complex chronic conditions who are socially and financially disadvantaged see fewer physicians and have less E&M visits. Although this results in better COC, it comes at the cost of having less access to disease-relevant specialists.

SESSION 3495 (SYMPOSIUM)

ADVANCE CARE PLANNING IN ASIAN POPULATIONS: KNOWLEDGE, ATTITUDES, AND BEHAVIORS

Chair: C. Berkman, *Fordham University, New York, New York*

Advance care planning is widely endorsed as desirable by individuals in Western European countries and the United States. Less is known about the degree to which Asian populations are knowledgeable and have positive attitudes about advance care planning. This symposium describes findings on advanced care planning knowledge, attitudes and behaviors from three studies of Asians and Asian Americans. The first presenter describes attitudes toward end-of-life treatment in China comparing young, middle-age, and older adults. Age differences in preferences for making medical decisions and for life-sustaining treatment, and the relationship between these preferences and educational attainment are described. The second presenters describe

completion rates for advance directives using the 2015 Asian American Quality of Life survey. The direct and moderating effects of knowledge of advance directives, education, and acculturation in predicting AD completion are described. The third presenters describe findings from a study of Chinese American older adults in New York City. The gap between perceived and actual knowledge about living wills and health care proxies, and the low rate of having an advance directive, are described. The relationship among, knowledge, attitudes, and behaviors with respect to advanced directives is discussed. The fourth presenters use data from this same study of Chinese American older adults to describe knowledge and attitudes about hospice. They report on the low level of knowledge and common misconceptions about hospice. Each of the presenters discuss the consequences of these findings and implications for interventions.

ATTITUDES TOWARDS END OF LIFE BY AGE GROUP IN CHINA

X. Ning, *Peking Union Medical College Hospital, Beijing, China*

The study aim was to assess attitudes toward end-of-life treatment in China among adults age <30 ($n=499$), age 30–65 ($n=920$), and age >65 (110). Middle-aged were more likely (92.2%) than younger (86.4%) and older (85.4%) to want to talk about death ($p < 0.001$). Middle-aged were more likely (85.2%) to prefer making their own medical decisions as compared with younger (76.8%) and older 61.7%) ($p < 0.001$). Youngest were most likely to want life-sustaining treatment at end of life (13.2%), compared to middle-aged (3.8%) and oldest (5.5%) ($p < 0.001$). Among age 65+: 1) educational attainment was positively correlated with wanting to talk about death ($G=-0.55$, $p < .01$); 2) 76.7% with higher educational attainment wanted to make end-of-life treatment decisions by themselves, compared with 46.2% with lower educational attainment ($p < .001$); 3) they were more likely to choose life-sustaining treatment for family (17.4%) than themselves (5.5%) ($p < 0.001$). Implications of these attitudes and the age differences will be discussed.

THE KNOWING-DOING GAP IN ADVANCE DIRECTIVES IN ASIAN AMERICANS

Y. Jang¹, N.S. Park², D.A. Chiriboga², 1. *The University of Texas at Austin, Austin, Texas, 2. University of South Florida, Tampa, Florida*

The purposes of the present study were (1) to explore the completion rate of advance directives (ADs) in a sample of Asian Americans and (2) to examine the direct and moderating effects of knowledge of AD, education, and acculturation in predicting AD completion. Education and acculturation were conceptualized as moderators in the link between knowledge and completion of ADs. Data were derived from 2,609 participants (aged 18–98) in the 2015 Asian American Quality of Life survey. The AD completion rate in the present sample was about 12% (cf., 26%–36% in the U.S. general population). AD knowledge and acculturation independently predicted AD completion. No direct effect of education was found; however, it interacted with AD knowledge. AD knowledge was more likely to be translated into completion in the group with higher education. The interactive role of education explains the gap between AD knowledge and completion and suggests intervention strategies.

KNOWLEDGE, ATTITUDES, AND BEHAVIORS RELATED TO ADVANCE DIRECTIVES AMONG CHINESE AMERICAN OLDER ADULTS

C. Berkman, X. Liu, *Graduate School of Social Service,
Fordham University, New York*

The study purpose was to describe knowledge, attitudes and behaviors about advance directives in Chinese American older adults. Chinese American senior center members (n=150) were interviewed. One-quarter reported knowledge of a health care proxy (HCP) and 22% had heard of a living will (LW), but few gave correct definitions of either. Few had appointed a HCP (11%) or had a LW (4%). Most (83%) had negative attitudes toward having an HCP. Only 41% thought a LW was needed when in good health. Beliefs included: an HCP controls medical decisions even when the individual can make decisions (37%); putting wishes in writing is too binding (41%); once end-of-life preferences are documented, they cannot be changed (43%); they trust the doctor to make decisions about end-of-life care if they were unable to (86%) and make decisions about life-sustaining treatment (60%). Misconceptions and negative attitudes about advance directives were prevalent in this population.

KNOWLEDGE AND ATTITUDES ABOUT HOSPICE CARE AMONG CHINESE AMERICAN OLDER ADULTS

X. Liu, C. Berkman, *Graduate School of Social Service,
Fordham University, New York*

The study purpose is to explore knowledge and attitudes about hospice care among Chinese American older adults. Among senior center members (n=150), 20.7% had heard of hospice. Among these participants, 89.7% knew that hospice was care provided when there is a terminal illness and the individual is near the end of life. Few knew about other components of hospice care, including that it could be provided at home, or the services and benefits included. Most (74.7%) would want hospice only at the end of life. Beliefs included: hospice is a place where people go to die (78.6%); hospice is not as good as treatment in the hospital (58.3%); hospice is unnecessary if they were dying because their family (34.3%) or God (30.6%) would take care of them; choosing hospice means that you are not fighting for your life (38.3%); and hospice causes people to die before their time (34.1%).

SESSION 3500 (SYMPOSIUM)

THE AGE-FRIENDLY COMMUNITIES MOVEMENT: CREATING, MANAGING, AND SUSTAINING COMMUNITIES FOR ALL

Co-Chair: J. Beard, *World Health Organization*
J.N. Feather, *Grantmakers in Aging, Arlington, Virginia*
Discussant: G. Chan, *The Hong Kong Council of Social Service*

The Age Friendly Communities movement is one of the fastest growing developments in aging. In the decade since the publication of the landmark World Health Organization document "Global Age-friendly Cities: A Guide" in 2007, 287 cities and communities in 33 countries officially enrolled in the WHO process, with many other communities taking elements of the framework and

moving forward on their own. The efforts are enormously varied, but they all try to bring together all of the elements (healthcare, transportation, housing, social support, civic engagement, etc.) that are needed to ensure that older persons can remain and thrive in their communities as they age. As the movement has matured, it has faced many challenges. How do we best engage political leadership? Do the same models apply to rural areas? How do we focus on the older population while making it clear that these programs benefit the whole community? And, perhaps most pressing for many of the pioneers of the movement, how do we sustain these programs once the initial flush of enthusiasm and funding is gone? The three speakers in this symposium bring many years of experience in this area and will focus on: the world-wide perspective (John Beard); the experience in the United States, particularly in rural areas and small towns (John Feather); and the work being done in one of the countries with the fastest growing older populations, China (Grace Chan). Each will provide research information and resources that have been prepared by their respective organizations.

THE AGE-FRIENDLY COMMUNITIES MOVEMENT: HISTORY, UPDATE, AND THE FUTURE

J. Beard, *World Health Organization, Geneva, Switzerland*

The Age Friendly Communities movement is usually described as beginning with the publication of the landmark World Health Organization report in 2006 and has since expanded rapidly throughout the world. Dr. John Beard, Director, Department of Ageing and Life Course at WHO, will briefly outline the history of the movement and update the audience as to the present status. He will focus on what the field is learning from the implementation of this framework from throughout the world, including in Africa, Europe, and Asia. He will also discuss some of the issues that have arisen from the movement's rapid success: How do we sustain these efforts over time? Should there be a coordinating entity among all of these programs or is that not feasible? Is the model flexible enough to meet the emerging challenges of aging? Finally, he will discuss what he sees for the future of the movement.

EXPANDING THE RANGE OF AGE-FRIENDLY COMMUNITIES: THE SUSTAINABILITY FRAMEWORK AND RURAL COMMUNITIES

J.N. Feather, *Grantmakers in Aging, Arlington, Virginia*

Dr. John Feather will discuss two important aspects of the age friendly communities movement: how to sustain them after the initial rush of enthusiasm and funding; and how to expand them into rural areas. Feather will report on the "Community AGenda" project of Grantmakers in Aging that focused on five areas within the United States: the greater Phoenix area; metropolitan Atlanta; Miami-Dade County; greater Kansas City; and the state of Indiana. As part of this project, GIA brought together leaders from a variety of major aging organizations to create a framework for sustaining age friendly communities over time. The project also focused on several areas of the country that were rural, rather than the city-based programs that are more common. He will also discuss the prospects for expanding these programs in coming years.

SESSION 3505 (SYMPOSIUM)

WORKING WITH AND FOR CARE HOMES TO RESEARCH AND DEVELOP PRACTICE

Chair: H. Verbeek, *Maastricht University, Netherlands*

Co-Chair: J. Hamers, *Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands*

Discussant: K.N. Corazzini, *Duke University, Durham, North Carolina*

In long-term care, new care models and person-centered care philosophies are being developed, focusing on increasing patient's autonomy, meaningful activities, and enabling residents to keep their own lifestyle for as long as possible. However, the uptake and spread of these models depends on academic institutions being able to work in good relationship with long term care providers. This symposium presents two successful models of partnership working between universities and providers, which were developed independently in the UK and the Netherlands. The first presentation describes My Home Life, a UK wide initiative to promote quality of life for those living, dying, visiting and working in care homes for older people through appreciative, relationship-centred and evidence based practice. This culture change initiative focuses on changing the way people talk to each other, through having Caring Conversations. The second presentation focuses on the Living Lab in Ageing and Long-Term Care, a model developed in the Netherlands that is characterized by interdisciplinary partnership and joint appointments, positively influencing the link between science, practice, policy and education. Whilst, My Home Life focuses on practice development informed by research, the Living Lab focuses on research driving quality improvement. Combined, they offer an innovative approach to enhance research impact, by encouraging academics to work in a different way with and for care homes. The final presentation offers insights into the active working mechanisms of both programs and reflects on lessons learnt from working with the care home sector over time.

MY HOME LIFE: MEASURING IMPACT THROUGH PRACTICE DEVELOPMENT

J. Meyer¹, B. Dewar², K. Barrie², 1. *Centre for Health Services Research, City University of London, London, United Kingdom*, 2. *Institute of Care and Practice Improvement, University of West of Scotland, Hamilton, United Kingdom*

This paper examines the learning and perceived difference that the MHL Leadership Support programme has made to practice development in care homes, from the perspectives of participants. It draws on self-report findings from a multi-method study of 11 cohorts of care/nursing home managers (n=119) participating in the programme in Scotland (January 2013-April 2015). Findings demonstrate positive impact on managers, enhanced leadership skills, better communication and relationships with staff, and positive benefits for residents & relatives. Whilst these findings should be interpreted with caution due to their self-report nature, participants demonstrated discernible

difference in identifying positive change over time related to their own circle of influence. The paper flags up a number of issues for consideration when trying to measure impact of complex interventions, in complex settings. It highlights the possible need to develop new process measures to gauge the spread of impact throughout the various circles of influence.

LIVING LAB ON AGEING AND LONG-TERM CARE: MEASURING IMPACT THROUGH RESEARCH

H. Verbeek, S. Zwakhalen, J. Schols, J. Hamers, *Maastricht University, Maastricht, Netherlands*

Structural multidisciplinary collaboration between research, policy, education and practice is essential to develop, evaluate and implement interventions improving quality of life and care in nursing homes. The Living Lab in Ageing and Long-term Care is a model to achieve this goal. It was developed in the southern part of the Netherlands. Two characteristics of the model have proven vital for successful collaboration. First, the interdisciplinary partnership, with nursing-home administrators, clinical and nursing staff, researchers and teaching staff as collaborating partners; nursing science, old age medicine, physiotherapy, psychology and gerontology being the core disciplines. Second, joint appointments of senior researchers working at both the university and a long-term care organization. Within the Living Lab, innovative small-scale, homelike care environments and green care farms were evaluated according to these principles. Care organizations themselves gave rise to the main research questions and staff have been involved from the start throughout the whole trajectory.

EXPERIENCES, CHALLENGES, AND BENEFITS OF ACADEMICS WORKING WITH CARE HOMES FOR RESEARCH AND PRACTICE

B. Dewar¹, K. Barrie¹, J. Meyer², 1. *Institute of Care and Practice Improvement, University of West of Scotland, Hamilton, United Kingdom*, 2. *Centre for Health Services Research, City University of London, Hamilton, United Kingdom*

Internationally, some of the sickest and most vulnerable citizens in society are residing in care homes for older people. As the population ages, there is an urgent need for academics to work with and for this sector to ensure research and practice development is taken forward to meet changing needs. This paper draws on findings from an exploratory study of the experiences, challenges and benefits of academic facilitators engaging with care homes on research and practice development. In-depth interviews were conducted with facilitators working with care homes in the Netherlands (n=8) and United Kingdom (n=15) to explore the active working mechanisms of their work and reflects on lessons learnt. Emergent key themes included: challenging/invigorating context for partnerships in research; importance of emergent design; opportunities for data generation; working alone/working together; development of practice based theory. Findings highlight the importance of universities considering new ways of working with care homes.

SESSION 3510 (SYMPOSIUM)

ICT AND AGING—DETERMINANTS AND NEW CONCEPTS OF DIGITAL INCLUSION

Chair: M. Doh, *Institute of Psychology, Heidelberg, Baden-Württemberg, Germany*

Discussant: F. Oswald, *Goethe University Frankfurt, Frankfurt, Germany*

The ongoing aging and mediatized society offers for older persons a broad range of opportunities and resources for successful aging. At the same time, becoming a digital citizen imposes economic and psychological costs and generates challenges in connection with life-long learning. Therefore social inequalities between older persons are evident during the adoption and usage of new technologies such as the Internet and (mobile) information and communication technologies (ICT). Given this background, this symposium presents research results from Europe and Brazil, with focus on the following aspects: Seifert discloses cross-national and country-specific determinants on a micro- and macro-level for explaining digital gaps. In a next step, new concepts and possibilities for digital inclusion for older persons are presented. Based on the Initiative “Senior-Technology-Experts” in Germany, Doh explains the benefits of older experts acting as role models, and of training offerings combining formal with informal learning, and advantages of mobile ICT such as Tablet-PCs and Laptops. Leen-Thomele focuses on the benefits of mobile learning and special e-learning programs for older persons from Germany, Spain and France. Under an educational perspective Doll describes similar and specific strategies and concepts from Brazil. Jokisch presents his quantitative analysis of ICT trainings for older novices which emphasize the importance of self-efficacy and the sources of mastery and vicarious experiences (according to Bandura’s Social Learning Theory). In this context the well-established theory of the Technology Acceptance Model (TAM, by Davis) will be discussed.

INTERNET DIFFUSION AMONG OLDER PERSONS IN EUROPE—A STATISTICAL ANALYSIS OF SHARE DATA

A. Seifert^{1,2}, R. König³, M. Doh⁴, 1. *Center Center of Competence for Gerontology, University of Zurich, Zurich, Switzerland*, 2. *URPP Dynamics of Healthy Aging / University of Zurich, Zurich, Switzerland*, 3. *Institute of Sociology, University of Zurich, Zurich, Switzerland*, 4. *Department of Psychological Ageing Research, Institute of Psychology, Heidelberg University, Heidelberg, Switzerland*

A digital gap between younger and older persons still exists. This study investigates Internet usage by older persons using representative data from 14 countries acquired from the Survey of Health, Ageing and Retirement in Europe (SHARE). Data obtained from the responses of 30,227 Europeans aged >60 was analyzed, and the results emphasize that, on average, 35% of all respondents used the Internet at least once a week. The situation, however, varies widely among European countries. The analysis suggests that cross-national individual indicators such as age, gender, social class, previous experience with computers and person’s social circle influences the Internet usage. In addition, country-specific differences in Internet usage are dependent from contextual structures, such as area of residence, wealth, and technology

infrastructure. Overall, this study concludes that Internet access is influenced by individual indicators and social and structural resources.

NEW CONCEPTS FOR DIGITAL INCLUSION IN GERMANY—THE INITIATIVE SENIOR-TECHNOLOGY-EXPERTS

M. Doh^{1,2}, M.R. Jokisch¹, H. Wahl¹, 1. *Department of Psychological Ageing Research, Institute of Psychology, Heidelberg, Baden-Württemberg, Germany*, 2. *Network Aging Research, Heidelberg, Baden-Württemberg, Germany*

There is a constant digital gap between older age groups in Germany. For fostering digital inclusion, a nationwide initiative named “Senior-Technology-Experts” was launched in 2013 and funded by a German ministry (BMBF). 18 regional sub-projects empowered technically experienced older persons to explain the use of modern ICT to technically inexperienced older persons for one year. At the end 2014, a research project was started to examine the supporting and limiting factors for ICT exposure. A sample of 134 experts, aged 50–88 years (MD=68), and 145 novices, aged 51–95 years (MD=68) completed an online or paper questionnaire. 5 qualitative focus groups (N=25) were also conducted. The following main results from the supporting factors are highlighted: 1) benefit of older experts acting as role models (see Bandura’s Social Learning Theory), 2) benefit of training offerings which combine formal and informal learning, and 3) benefit of mobile learning, especially with Tablet-PCs and Laptops.

NEW CONCEPT FOR DIGITAL INCLUSION—ONLINE AND MOBILE LEARNING PROGRAMS FOR OLDER PERSONS

E. Leen-Thomele, E. Coroian, A. Lipphardt, P. Held, *Friedrich-Alexander-University Erlangen-Nuremberg, Fürth, Germany*

This paper sums up the evaluation results of two e-learning ICT courses for older adults: a tablet computer course and a regular computer course, and discusses the advantages of mobile learning and e-learning for older adults. As part of an European research project, the SenApp project, online course modules were developed, to teach older adults the first steps on a tablet computer, and evaluated (N=37, age range 58–93). The other course we analyzed, was an online learning course with regular computers and part of the LernHaus project in Germany (N=29, age range 50–89). The evaluation focused on differences in satisfaction with support and course contents and in learning routines between age groups, education level, countries and pre-experience conditions. Main findings suggest that all courses were rated good, compliance was very good and that support was a key factor for course success. Mobile learning was slightly easier for new learners.

NEW CONCEPTS FOR DIGITAL INCLUSION IN BRAZIL—AN EDUCATIONAL PERSPECTIVE

J. Doll, *Federal University of Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil*

This paper gives an overview of the different concepts of digital inclusion for older people in Brazil from an educational perspective. Computers became common in Brazil not before 2000 and older people entered latest. First courses

designed for older persons appeared 15 years ago, generally linked to Third Age Universities. Beside more traditional courses (teacher – students), new forms appeared in the last ten years such as Senior teaches Senior, high school students teaching older persons, distance learning, mobile learning, literacy courses linked to computer courses. Even with the same objective – introducing older people in the digital world – the educational concepts, the learning theories behind and the main focus are quite different. Beside the efforts, the digital exclusion of the elderly continues strong, principally by educational, cultural and biographical issues. Actually, only 14% of the 60+ population is using a computer, against 86% of the population 10–15 years.

ICT TRAINING FOR OLDER PERSONS: PSYCHOLOGICAL CONSIDERATIONS

M. Jokisch¹, M. Doh^{1,2}, H. Wahl¹, 1. *University of Heidelberg, Heidelberg, Germany*, 2. *Network Aging Research, Heidelberg, Germany*

Information and communication technologies (ICT) offer great opportunities but also impose new challenges, especially for older persons who report higher difficulties in learning new technologies. Regarding training, self-efficacy can be expected as crucial to overcome barriers regarding adoption and efficient use. According to Bandura, the most influential sources of self-efficacy are mastery and vicarious experience. The present study examines the role of ICT specific self-efficacy, the influence of experience and the impact of breadth of web use. 130 ICT novices, aged 52–96 years ($M=69.6$) participating in ICT classes (computer, smartphone, tablet) completed a respective questionnaire. Mastery experience was operationalized by questions about succeeding ICT tasks during the course, whilst observations of the teacher and participants referred to vicarious experience. Hierarchical regression analysis supports the influence of ICT related self-efficacy on competent technology use as well breadth of web activities. Results are discussed in the context of the technology acceptance model.

SESSION 3515 (SYMPOSIUM)

FROM EVIDENCE TO PRACTICE AND POLICY: TRANSLATING PROMISING PRACTICES INTO SUSTAINABLE PROGRAMS

Chair: H.B. Degenholtz, *University of Pittsburgh, Pittsburgh, Pennsylvania*

Co-Chair: S. Zimmerman, *University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*

Discussant: B. Resnick, *University of Maryland School of Nursing*

A common experience shared by researchers across the globe is that promising, evidence-based practices often do not find widespread adoption or become known to policy makers. Consequently, daily practices are not well-informed, and policy makers are left to make decisions in the absence of reliable information. There are many policy and practical reasons why good, evidence-based research does not become standard of care. For example, in some cases, researchers demonstrate improvement in outcomes that are not highly valued by policy makers or reimbursed by the health care system.

In other cases, the transition to a new model of care, even one that is cost-saving, can pose a seemingly insurmountable burden on an overworked system. In this symposium, we will discuss a universal framework for organizing evidence that is designed to bring policy makers and researchers together into a common agenda. Next, we will present three effective, programmatic innovations in gerontology and using case-based evidence, discuss not only the impact that each has had on the field, by why it has had impact: one intended to reduce hospitalizations, one approach for improving person centered care in nursing homes; and one promoting culture change in nursing homes. Each presenter and the discussant will highlight the implications of the findings for an international audience. This symposium is sponsored by the Social Research, Practice, and Policy Section of the Gerontological Society of America.

EVIDENCE-BASED POLICY RESEARCH ON THE HEALTH OF THE AGING POPULATION: LINKING SUPPLY AND DEMAND

P. Rocco, 1. *Marquette University, Milwaukee, Wisconsin*, 2. *Stern Center for Evidence Based Policy, University of Pittsburgh, Pittsburgh, Pennsylvania*

In recent years, researchers and policymakers have increasingly called for the application of evidence-based research technologies (e.g. systematic reviews and meta-analysis) to policy-relevant research questions. Given the large quantity of available research literature, these methods hold promise for addressing policy challenges related to the health of the aging population. Yet, as political science research makes clear, evidence alone does not advance policy debates. Rather, cross cutting stakeholder support is an essential ingredient of significant policy change. To solve this problem, this paper demonstrates a methodology for mapping the overlap of existing research evidence and stakeholder demand for policy. From an initial search return of over four hundred thousand literature citations and over 493 health stakeholder organizations, researchers conducted a scoping study and policy scan to identify unique stakeholder policy recommendations and studies related to the health of the aging population. An expert panel used these results to organize the information into 10 usable policy categories (further divided for easy reference into 75 subtopic areas), which combine to present a comprehensive and unbiased view of the best-available evidence and policy activity around healthcare for older adults. The study intends to inform future policymaking in this critical area with an easily applied index of evidence-based policy research mapped to the full range of policy options.

NATIONAL DISSEMINATION OF PERSON-CENTERED CARE IN NURSING HOMES: BARRIERS TO IMPLEMENTATION

H.B. Degenholtz¹, K. Van Haitsma², A. Mihelic³, K.M. Abbott⁴, A. Elliott⁵, T. Roberts⁶, C. Benner⁷, P. Chiorello⁸, 1. *Health Policy and Management, University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *Pennsylvania State University, State College, Pennsylvania*, 3. *Telligen, Inc., Greenwood Village, Colorado*, 4. *Miami University, Oxford, Ohio*, 5. *Pioneer Network, Rochester, New York*, 6. *University of Wisconsin, Madison, Wisconsin*, 7. *LeadingAge, DC, District of Columbia*, 8. *Atrium Health, New York, New York*

The Advancing Excellence Campaign (AE) is a national quality improvement initiative sponsored by a consortium of stakeholder organizations. The campaign selects and disseminates evidence-based best practices. The person-centered care (PCC) goal is based on established, effective programs for improving quality of life. The PCC toolkit includes a brief assessment of congruence between residents' preferences and their daily lives, and techniques for quality improvement. To identify barriers to implementation, a national survey was sent out to representatives of 954 communities that had registered with AE to use the PCC tool. Of the 105 complete surveys, 45.7% were still using the materials, 8.5% had considered using the toolkit but decided not to implement it, and 21.7% discontinued using the toolkit. Common barriers to implementation were: time for staff training, staff turnover, time to conduct interviews, and staff resistance. This experience is illustrative of the challenges of dissemination and implementation in long-term care.

CARE COORDINATION FOR HOME CARE RECIPIENTS

D.C. Grabowski¹, L. Hatfield¹, A. Jena¹, D. Cristman², M. Flair³, K. Kator³, K. Dean¹, G. Nudd², 1. *Harvard Medical School, Boston, Massachusetts*, 2. *Clear Care Online, San Francisco, California*, 3. *Right at Home, Omaha, Nebraska*

Home care recipients are often hospitalized for potentially avoidable reasons. The Intervention in Home Care to Improve Health Outcomes program was designed to help home care providers identify acute clinical changes in condition and then manage the condition in the home and thereby avoid a costly hospitalization. Caregivers answer simple questions about the care recipient's condition during a telephone-based "clock-out" at the end of each shift. Responses are electronically captured in the agency management software that caregivers use to "clock-out" on every shift. These are transmitted to the agency's care manager, who follows up on the change in condition and escalates appropriately. In an early review of the program, caregivers reported a change in condition after 2% of all shifts, representing an average of 1.9 changes per care recipient in a 6-month period. In an ongoing randomized trial, we are evaluating the impact of the program on hospitalizations.

FROM RESEARCH TO POLICY: WIDESPREAD ADOPTION OF THE INTERACT PROGRAM IN LONG-TERM CARE

A.F. Bonner, 1. *Office of Elder Affairs, Commonwealth of Massachusetts, Boston, Massachusetts*, 2. *Northeastern University, Boston, Massachusetts*

Between 2011 and 2013, increasing attention was paid to the issues of unnecessary hospitalizations and rehospitalizations of nursing home residents. Studies suggested that many hospital transfers were not necessary, and not in many residents' best interest.

During this time, the Interventions to Reduce Acute Care Transfers (INTERACT) program was being evaluated in various research trials. Results suggested that this quality improvement program could improve clinical outcomes and reduce unnecessary cost.

Because the Centers for Medicare and Medicaid Services (CMS) was interested in improving quality of care in U.S. nursing homes, they explored various models, programs and services that might reduce unnecessary hospital transfers. This session will describe how new programs such as INTERACT may be reviewed by CMS or other state or federal agencies, and the decision-making process that can lead to broader dissemination of evidence-based or evidence-informed programs.

SESSION 3520 (SYMPOSIUM)

GSA MAXWELL A. POLLACK AWARD FOR PRODUCTIVE AGING LECTURE: INTERNATIONAL TRANSFER OF RESEARCH ON AGING SERVICES POLICY AND PRACTICE—WHY IT MATTERS

Chair: R.I. Stone, *LeadingAge, Washington, District of Columbia*

This lecture highlights the value of sharing findings from applied research across countries to help shape better aging services policy and practice domestically and internationally. Dr. Stone uses three examples from her work in international research and knowledge transfer over her 30-year career to illustrate the importance of these activities. Stone begins by summarizing her policy research in Western Europe during the early 1990s to better understand the evolution of consumer-directed programs within the long-term services and supports financing schemes in Germany, Austria, and the Netherlands. Preliminary findings from studies in these countries indicated success in "cashing out" benefits with no significant consumer abuse and deterioration in quality. She brought these lessons back to the United States and worked with her staff in the US Department of Health and Human Services to develop the seminal Cash and Counseling Demonstration and Evaluation in Arkansas, New Jersey and Florida. The second example describes how Dr. Stone used findings from her case studies and program evaluations of programs linking affordable senior housing and services to help Singapore develop and test similar models in several of its low-income neighborhoods. The third example highlights how countries have mutually benefited from sharing findings from their respective policy and practice research in the area of long-term care workforce recruitment, retention, training and compensation. Dr. Stone concludes her lecture with some personal reflections on the challenges to and opportunities for increased knowledge transfer across countries, particularly from higher- to lower-income countries which are rapidly aging.

SESSION 3525 (SYMPOSIUM)

INEQUALITIES IN ACTIVE AGING: A EUROPEAN PERSPECTIVE

Chair: C. Nilsen, *Aging Research Center (KI/SU)*

Co-Chair: G. Lamura, *INRCA - National Institute of Health and Science on Ageing, Ancona, Marche, Italy*

Discussant: S.H. Harper, *The Oxford Institute of Population Ageing, Oxford, United Kingdom*

The concept of active ageing has become central to the European policy discourse in recent years. Aiming to optimize

opportunities for health, participation and socioeconomic security, active ageing policies suggest that one way that disadvantages in health and living conditions in old age can be mitigated is by fostering older people's own contributions to the labour market and to society. Crucially, however, the ability to contribute depends on socio-demographic and socioeconomic factors, and the access to resources that these afford. For instance, for women these resources are frequently less readily available, due to their reproductive roles over the life course, and their higher likelihood to become widowed and live alone in older age. To date, research on active ageing has paid little attention to these factors and how they influence the degree to which it is possible to 'actively' age for older women and men, and for different socio-economic groups of older people.

This symposium aims to highlight inequalities in the experiences of active ageing from a comprehensive European perspective, as well as focussing in-depth on three countries representing three distinct welfare regimes in Europe: Germany, England and Sweden. The three single-country case studies showcase how inequalities in workability, pension literacy and living situation influence participation in the labour market and in society. In addition, an alternative policy framework is suggested, going beyond aggregated measures of 'active ageing' by acknowledging the role of socio-demographic and socioeconomic inequalities across the life course.

AGING IN PLACE: CAN LEISURE PARTICIPATION ENHANCE SURVIVAL?

C. Nilsen¹, N. Agahi¹, B.A. Shaw², 1. *Aging Research Center (Karolinska Institutet/Stockholm University), Stockholm, Sweden*, 2. *University at Albany, Albany, New York*

People living alone are a growing vulnerable population. We aim to see what kind of activities in old age (76+) may enhance survival for people living alone, and determine if these activities have different associations with survival in people not living alone, and whether these associations differ based on socioeconomic position and gender. The Swedish nationally representative SWEOLD study, 2011 and the Swedish cause of death register were used to conduct Cox regression analyses ($n = 742$). Incident mortality: 35.6%. In our preliminary results, participation in any activities in old age was related to reduced mortality compared to no participation. However, different types of activities seemed beneficial depending on living situation. Interacting with relatives and friends was protective among people living alone, while having hobbies and solving crosswords was protective among those not living alone. Socioeconomic position did not explain these associations. Most results were similar in women and men.

PREFERRED AND EXPECTED RETIREMENT AGES—RISING SOCIAL INEQUALITY

M. Hess, *Institut für Gerontologie, Dortmund, Germany*

In response to demographic aging policymakers have implemented several reforms aimed at extending working life. I extend previous research by studying how current older workers have adapted to these reforms. The paper consists of four empirical studies, which are based on different data

sets (ESS; EB; SOEP; DEAS), that investigate the *preferred* retirement age – the age at which older workers wish to retire – and the *expected* retirement age – the age at which older workers anticipate to retire. Its results show that both have increased over the last ten years. While high skilled, white-collar 'Silver Workers' are able to synchronize their preferred and expected retirement age, low qualified workers in often unfavorable working conditions are increasingly forced to delay their retirement to ensure a sufficient pension and, thus, expect to work longer than they prefer. This finding supports recent warnings of a (re)emergence of social inequality in the retirement process.

PENSION LITERACY AND SOCIAL INEQUALITY IN THE UNITED KINGDOM

D. Holman¹, M. Hess², 1. *Sociological Studies, University of Sheffield, Sheffield, South Yorkshire, United Kingdom*, 2. *Technical University of Dortmund, Dortmund, Germany*

Population aging is threatening the financial long-term sustainability of pension systems. The UK government has reacted by bringing the state pension age for women in line with that of men, raising it from 60 to 65, over the 2010–2020 period. This will have differential implications for women's health and wellbeing depending on their awareness of the change and their level of pension literacy more generally. In this study we analyze questions from the English Longitudinal Study of Ageing (ELSA) dataset asking women whether they were aware of these changes and at what age they expect to receive their state pension. Preliminary results show socioeconomic differences in pension literacy according to education, income and occupation. Policy makers need to be aware of the effect on social and health inequalities the reforms might cause.

A BIRD'S EYE VIEW: ANALYSING GENDER AND SOCIAL class INEQUALITIES IN ACTIVE AGEING IN EUROPE

S. Ilincă¹, R. Rodrigues¹, A.E. Schmidt², E. Zólyomi¹, 1. *Health & Care, European Centre for Social Welfare Policy and Research, Vienna, Vienna, Austria*, 2. *Austrian Public Health Institute, Vienna, Austria*

The distribution of resources for older people to actively participate in society has received limited attention in ageing research despite growing relevance. We provide a compendium of indicators based on the analysis of large-scale surveys (including ESS, SHARE, SHARELIFE, SILC) with the aim to investigate gender and socio-economic inequalities in the employment, health and social participation of older people in Europe. We start from standard outcome active ageing indicators, which often mask core differences between gender and socio-economic groups. We then propose a three-tier analytical framework using indicators better reflecting existing inequalities and life course processes. Our results reveal that patterns of inequalities in old-age cannot be easily classified along traditional lines of welfare regime differences. We conclude that active ageing policies should look more closely at the underlying reasons for these patterns and develop tailored approaches to address them, both in later life and over the life cycle.

SESSION 3530 (SYMPOSIUM)

HOW TO PUBLISH: FROM START TO FINISH AND BEYOND

Chair: N.J. Webster, *University of Michigan*

This symposium, organized by the Gerontological Society of America's (GSA) Publications Committee will provide information on the publication process from the perspective of a number of journals publishing diverse types of gerontological research, basic to applied across multiple disciplines. This session is comprised of three parts including: 1) Podium presentations from editors-in-chief from GSA's Journals of Gerontology-Series A, Medical Sciences, Journals of Gerontology-Series B, Psychological Sciences, *Innovations in Aging* (GSA's new open access journal) as well as the Association of Gerontology in Higher Education's journal, *Gerontology and Geriatrics Education*, and the *European Journal of Ageing*. General best practices as well as specific advice for emerging and international scholars will be provided. 2) Presentation on how to assess and maximize the impact of published work given by representatives from Oxford University Press (OUP), including David Crotty, Director of Journals Policy. 3) Round table discussions with OUP representatives and editors from the Journals of Gerontology-Series A (Medical Sciences) and B (Psychological and Social Sciences), *Innovations in Aging*, *The Gerontologist*, *Gerontology and Geriatrics Education*, *European Journal of Ageing*, *Journal of Aging and Social Policy*, *Research on Aging*, and *Journal of Applied Gerontology*. Participants will provide journal specific information and answer questions related to podium presentation topics and others raised by attendees. Intended audiences include emerging and international scholars, and generally authors interested in learning more about best practices and tips for getting their scholarly work published. Current and future published authors will also gain information on how to leverage already published work.

HOW TO PUBLISH: EDITORS' PERSPECTIVES

N.J. Webster^{1,2}, A. Newman⁷, B.G. Knight³, L.P. Sands⁴, J.L. Howe⁵, H. Wahl⁶, 1. *University of Michigan, Ann Arbor, Michigan*, 2. *Gerontological Society of America, Publications Committee, Ann Arbor, Michigan*, 3. *The University of Queensland, Brisbane, Queensland, Australia*, 4. *Virginia Polytechnic Institute & State University, Blacksburg, Virginia*, 5. *Icahn School of Medicine at Mount Sinai, New York, New York*, 6. *University of Heidelberg, Heidelberg, Germany*, 7. *University of Pittsburgh, Pittsburgh, Pennsylvania*

Part I of this 'How to Publish' symposium will last 45 minutes, including a session overview and podium presentations from the following journal editors-in-chief: 1) Stephen Kritchevsky from the Gerontological Society of America's (GSA) Journals of Gerontology-Series A, Medical Sciences; 2) Bob Knight from GSA's Journals of Gerontology-Series B, Psychological Sciences; 3) Laura Sands from *Innovations in Aging*, GSA's new open

access journal; 4) Judith Howe from the Association of Gerontology in Higher Education's journal, *Gerontology and Geriatrics Education*; and 5) Hans-Werner Wahl from the *European Journal of Ageing*. Presentations will provide guidance on how to publish from multiple disciplines and perspectives. General best practices as well as advice for emerging and international scholars will be provided. Presentations will also address: 1) preparing submissions, e.g., choosing the right journal, developing titles, articulating research questions, complying with journal requirements; 2) revising and resubmitting, e.g., overview of the process, responding to reviews.

HOW TO MAXIMIZE THE REACH OF YOUR PUBLISHED WORK

D. Crotty, *Oxford University Press, New York, New York*

Part II of this 'How to Publish' symposium will include a 10 minute presentation on how to maximize the reach and impact of already published work. Presenters include David Crotty, Director of Journals Policy at Oxford University Press (OUP) and a representative from OUP Marketing. Researchers are under increasing pressure to demonstrate the impact of their work. While the best understanding of the impact of a published study comes from a thorough reading, university administrators and funding agencies rely heavily on numerical metrics for decision-making. This presentation will look at the needs that metrics serve and provide an overview of how the dominant metric, the Impact Factor, is determined (along with a discussion of the metric's flaws). The value of newer methodologies and alternative metrics (altmetrics) will also be discussed. The presentation will also cover practical steps for how researchers can increase the reach and potential impact of their work.

HOW TO PUBLISH: ROUNDTABLE DISCUSSIONS WITH JOURNAL EDITORS

N.J. Webster, 1. *University of Michigan, Ann Arbor, Michigan*, 2. *Gerontological Society of America, Publications Committee, Ann Arbor, Michigan*

Part III of this 'How to Publish' symposium will include a 35 minute round table discussion session beginning with identification of participants available to facilitate discussions. Participants will include editors-in chief, deputy and/or, associate editors from the following journals: Journals of Gerontology-Series A: Medical Sciences; Journals of Gerontology-Series B: Psychological and Social Sciences; *Innovations in Aging*, *The Gerontologist*, *Gerontology and Geriatrics Education*, *European Journal of Ageing*, *Journal of Aging and Social Policy*, *Research on Aging*, and *Journal of Applied Gerontology*. Participants will provide journal specific information and answer questions related to podium presentation topics and others raised, e.g., writing strategies for specific journals, how editorial decisions are made, etc. Representatives from Oxford University Press will also be available to discuss in greater detail strategies for assessing and maximizing the impact of published work. Attendees will be encouraged to visit as many tables as they are able during this time.

SESSION 3533 (SYMPOSIUM)

UNDERSTANDING AND COMMUNICATING VACCINE TECHNOLOGIES

Discussant: L. Friedland, *GSK Vaccinees*
J. Stoddard, *GSK Vaccines*

Understanding the science behind vaccine technology is critical to making informed decisions about which vaccines are appropriate for patients, as well as providing a confident recommendation. A better understanding of adjuvants is needed. This session will discuss the progression of vaccine technologies over the past century and tips for communicating about those technologies with patients. To enhance the audience understanding of the role and impact of new vaccine technologies, the symposium will include a case study on the efficacy, immunogenicity and safety of a novel adjuvanted investigational shingles vaccine in older adults.

SESSION 3535 (PAPER)

SUCCESS, AGING, AND QUALITY OF LIFE

PROMOTING ACTIVE AGEING AT THE LOCAL LEVEL: LEARNINGS FROM A CASE STUDY OF ITALY

A. Genova^{1,2}, L. Di Furia³, A. Zaidi^{4,5}, 1. *Economics, Society, Politics, University of Urbino Carlo Bo, Fossombrone, Italy*, 2. *Fondazione Giacomo Brodolini, Rome, Italy*, 3. *Regione Marche, Ancona, Italy*, 4. *University of Southampton, Southampton, United Kingdom*, 5. *London School of Economics, London, United Kingdom*

Population ageing is a global challenge but many of the policy responses required are best implemented at the local level. The European Commission provided an operationalised definition of active ageing, in developing the Active Ageing Index, in the research led by Asghar Zaidi, during the 2012 European Year of Active Ageing and Solidarity between Generations. The AAI work has spurred research and policy actions not just at the European level, but also at the national and the local level in many European countries. This paper provides a critical analysis of the potential and limitations of the AAI policy framework, by focusing on a local level case study for Italy, by analyzing the regional regulative frameworks and by taking on board the point of view of a large number of local stakeholders through a qualitative survey.

Italy is an example of a European country where the level and speed of population ageing is high. However, the policy responses at the national as well as at the local level have not been adequately developed. This paper shows that the active ageing policy has only recently been put on the agenda at the local level policy making, and severe regional differences persist with heterogeneous local modes of governance, a low attention to intergenerational solidarity approach and a missing life course perspective. Nevertheless, AAI framework offers crucial foundations to develop an innovative and integrated active ageing policy for the elderly, especially with an integrated policy response of the health, social and labour policy sector.

TESTING THE PATIENT-CENTERED MEDICAL HOME PLUS TRANSITIONAL CARE MODEL

M.D. Naylor^{1,4}, K.B. Hirschman^{1,4}, A. Hanlon^{1,4}, R. Barg², K. McCauley^{1,4}, E. Shaid^{1,4}, M. Pauly³, 1. *University of Pennsylvania School of Nursing, Philadelphia, Pennsylvania*, 2. *University of Pennsylvania Health System, Philadelphia, Pennsylvania*, 3. *Wharton School, University of Pennsylvania, Philadelphia, Pennsylvania*, 4. *NewCourtland Center for Transitions and Health, Philadelphia, Pennsylvania*

The Patient-Centered Medical Home (PCMH) and the Transitional Care Model (TCM) are among the few care management approaches that have targeted chronically ill adults and demonstrated improvements in multiple dimensions of patients' health, while decreasing costs. With the guidance a multi-stakeholder advisory group including nationally recognized experts and in collaboration with partnering primary care clinicians, a PCMH+TCM intervention was designed and pilot tested. 54 patients were enrolled in the PCMH+TCM group and 25 patients enrolled in the PCMH only group. Data on patient outcomes and resource use were collected at enrollment, 1-, 3-, 6- and 12-months. Propensity score weighted mixed effects and Cox proportional hazard models were used to compare the PCMH+TCM vs. PCMH only groups on outcomes. The PCMH+TCM group demonstrated improvements in emotional health (decreased depression) and quality of life over time when compared to the PCMH only group. For a subset of patients with hospitalizations in the 30 days prior to enrollment (N=36), the PCMH+TCM group (n=15) had a longer time to first rehospitalization than the PCMH only group (n=21). 25% of the PCMH+TCM group were rehospitalized by day 228 vs. day 27 for the PCMH only group. The hazard of being rehospitalized in the PCMH+TCM group was 40% lower than the PCMH only group. While the effect size was strong, small sample sizes influence the power to detect statistically significant differences. Findings from this pilot suggest that this co-management care model can improve patient reported outcomes and reduce costly resource use among at-risk, community-dwelling older adults.

ARE HEALTH PROFESSIONALS AGEIST? INSIGHTS FROM AUSTRALIAN SURVEY OF SOCIAL ATTITUDES

R. Hussain¹, H.L. Kendig¹, L. Cannon¹, K. O'Loughlin², 1. *Research School for Population Health, Australian National University, Canberra, Australian Capital Territory, Australia*, 2. *The University of Sydney, Sydney, New South Wales, Australia*

There is widespread belief and evidence from clinical practice that health professionals are implicitly and explicitly ageist in their dealings with older people. However, apart from hospital and health-systems reviews, there are few large-scale population-based studies that have explored this issue across age-cohorts. The data for this paper comes from two consecutive waves of the Australian Attitudes to Ageing (AAA) module of the Australian Survey of Social Attitudes (AuSSA), conducted in 2009–10 (n=1520) and replicated in 2015–16 (n=1211). AuSSA is a cross-sectional, nationally-representative postal survey of adults (>18 years).

In both survey waves, relatively few of the respondents across all age groups perceived that older people received worse treatment from healthcare professionals compared to younger people (18.6% in 2009–10 & 11.1% in 2015–16). With increasing age, a linear pattern was observed for perceptions of worse treatment within age-cohorts ($p < 0.01$) but gender was not a significant factor. A higher proportion of respondents with tertiary education perceived healthcare professionals treatment of older people to be worse compared to respondents with secondary-school education (45.5% vs 14.1%). Self-reported health status was not a statistically significant factor in the 2009–10 survey, but was significant in the 2015–16 survey with those with poor health reporting more ageist attitudes ($p < 0.05$).

Individuals having negative perceptions of ageist attitudes by healthcare professionals may not necessarily get poor quality medical care. However, as with any form of systematic and ongoing prejudice, the effects can be insidious both in relation to physical and mental health.

SESSION 3540 (SYMPOSIUM)

KEYNOTE: EMERGING ISSUES IN MOBILITY AND AGING

Chair: S.A. Studenski, *National Institute on Aging, Baltimore, Maryland*

Co-Chair: S. Lord, *Neuroscience Research Australia, Sydney, New South Wales, Australia*

Over the last decade and more, mobility has emerged as a fundamental indicator of health during aging, gaining attention from basic, clinical, social and health services researchers, as well as health care providers and systems. What is known, where are the most important gaps in knowledge, and what are the highest impact opportunities for future work?

MOBILITY AND AGING: FROM GEROSCIENCE TO HEALTH POLICY

S.A. Studenski, *Intramural Program, National Institute on Aging, Baltimore, Maryland*

From biosciences to social sciences, mobility is emerging as a core indicator of health and aging. In animal models, scientists studying the molecular underpinnings of aging have moved beyond longevity to assess “healthspan”, often based on mobility indicators. Human studies continue to elucidate the causes and consequences of dysmobility. In health care settings and in numerous clinical populations, mobility indicators are emerging as clinically useful predictors and outcomes. This presentation will highlight landmark contributions to the field and recent advances, then propose key gaps in knowledge and fruitful directions for the future.

CURRENT AND FUTURE APPROACHES TO EVALUATING AND TREATING AGE-RELATED MOBILITY PROBLEMS

S. Lord, *Neuroscience Research Australia, Sydney, New South Wales, Australia*

Recently gait assessments have moved beyond measures of velocity, stride length and cadence to include assessments of variability, smoothness and jerk. Ecological assessments

have also assessed voluntary and protective stepping, gait initiation and adaptability as well as every-day gait measured with freely worn sensors. Brain imaging and dual task studies have highlighted the important role of central processing in balance and mobility, and several studies have demonstrated depression is a key determinant of reduced mobility. This presentation will review the above work as well as key studies that have conducted interventions for improving mobility; systematic reviews of exercise components crucial for preventing falls and novel interventions such as voluntary and reactive step training and dance. Finally, the presentation will address possible future developments: continuous activity monitoring as part of telehealth services, automated activity programs, interventions for “inoculating” people against falls and pharmaceutical treatments for improving mobility in frail older people.

SESSION 3545 (SYMPOSIUM)

KEYNOTE: HEALTHY BRAIN AGING—A LIFESPAN PERSPECTIVE

Chair: D. Blazer, *Duke University Medical Center, Durham, North Carolina*

Co-Chair: K. Yaffe, *University of California, San Francisco*

Discussant: L. Fratiglioni, *Aging Research Center - Karolinska Institutet*

In this session we will focus upon factors throughout the lifespan which contribute to healthy brain aging. We begin with a discussion of early life influences upon later cognitive function. Next we focus upon cognitive aging, that usual progression of cognitive function through the life cycle. This discussion will rely upon and update the IOM report on cognitive aging released in 2015. We will focus specifically on those interventions in later life for which evidence exists which promote healthy brain aging. Finally we will focus upon dementing disorders, especially Alzheimer's Disease. A common theme which will pervade all discussions will be those factors which can prevent or retard normal cognitive aging and the onset of dementing disorders

THE INFLUENCES OF EARLY LIFE RELATED FACTORS ON COGNITIVE DECLINE AND DEMENTIA RISK

L. Fratiglioni, *Karolinska Institute, Stockholm, Sweden*

Individual differences in cognitive decline and dementia risk have been explained by life-long differential exposure to contextual factors and their interactions with genetic susceptibility. Specifically, low education is associated with increased dementia risk. Few years of schooling could be a marker of different cognitive abilities but higher education could also help to build a cognitive reserve, which increases individual ability to cope with brain lesions later in life. Further, socioeconomic status in childhood is related to dementia development in late life. Poor-quality environment during childhood or adolescence may prevent the brain from reaching full levels of maturation leading to low cognitive reserve, which in turn leads to higher dementia risk. Using pooled data from three major population-based studies in Northern Europe, we found that higher education not only was related to a 50% reduced risk of dementia, but could

also strongly reduce the risk effect due to the genetic risk factor APOE ε4. Finally, early life factors may affect dementia risk indirectly by influencing adult- and late-life related factors, such as work complexity and life habits. In conclusion, there is an increasing evidence suggesting the first decades of life as a critical period for developing dementia later in life.

COGNITIVE AGING: THE EVIDENCE FOR SUCCESSFUL MEDICAL AND LIFESTYLE INTERVENTIONS

D. Blazer, *Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, North Carolina*

A plethora of studies have emerged in the literature to empirically test the effectiveness of medical and lifestyle interventions to promote healthy brain aging. Three interventions exhibit the most solid evidence for success: exercise, decreasing the risk of cardiac and cerebrovascular risk factors, such as lowering blood pressure and cholesterol, and carefully monitoring medications. Evidence for other interventions is less solid but promising, such as improving sleep quality and diet as well as actively engaging and social and intellectual pursuits. Many potential often thought promising interventions such as nootropic medications and computer based cognitive stimulation remain to be proven effective.

ALZHEIMER'S DISEASE AND OTHER DEMENTIAS: FACTORS WHICH MAY RETARD THEIR ONSET OR PROGRESSION

K. Yaffe, 1. *University of California San Francisco School of Medicine, San Francisco, California*, 2. *Veterans Administration Medical Center, San Francisco, California*

Interventions that delay the onset of dementia could have a considerable impact on caregiver burden and healthcare costs, and modifiable factors may play a pivotal role in effective prevention strategies. Numerous large, observational studies have demonstrated that cardiovascular and metabolic risk factors including hypertension, obesity, and diabetes are associated with increased dementia risk. Likewise, extensive data suggests that there may be multiple pathways linking physical and cognitive activity to decreased risk of dementia. Evidence is also evolving for risk factors like depression, sleep disturbances, and traumatic brain injury. Combined with recent trends documenting declines in the prevalence and incidence of dementia, observational studies and some trials suggest that modifiable risk factor reduction at the population-based level could considerably affect dementia prevalence. However, in order to further optimize the potential for efficacy, strategies which target multiple risk factors with a better understanding of cognitive aging across the life course are needed.

SESSION 3547 (SYMPOSIUM)

KEYNOTE: JACK WATTERS MEMORIAL SYMPOSIUM: COMING OUT AS A CAREGIVER

Chair: Jane Barratt, *International Federation on Ageing, Toronto, Ontario, Canada*

The symposium, co-sponsored by The Geriatric Society of America and Pfizer, is held in memory of Jack T Watters, Vice President of External Medical Affairs at Pfizer Inc. who

died in 2015 at the young age of 63. His service to patients was evident in the various leadership roles he held around the globe over his 21 years at Pfizer. He was the draftsman of The Diflucan Partnership, which continues to bring an important Pfizer medicine to millions of patients afflicted with infectious disease, including HIV/AIDS. He spearheaded Pfizer's approach to healthy aging, establishing a center of excellence, serving on the board of organizations focused on this field, as well as being a tireless spokesperson on the topic in numerous international forums. He was an activist fostering positive change to enhance the lives of millions within the health arena and within areas of social justice, including LGBTQI rights.

Jack was a lover of numerous art forms ranging from the sublime, theater, opera, and ballet to the bawdy tradition of English panto. He was born in Scotland, and never lost the cultural gift of storytelling, one of the oldest art forms, aimed at stimulating the imagination while building a sense of community. In tribute to Jack, Dr Jane Barratt, Secretary General of the International Federation of Ageing, and four renowned leaders in the field of ageing will use storytelling to provide a cross-cultural perspective on Caring. The session will address caring in the context of gender, the LGBTQI community, conflict zones, low economy country perspectives and psychological factors.

SESSION 3550 (SYMPOSIUM)

KEYNOTE: LONGITUDINAL STUDIES ON AGING—FROM SCIENCE TO POLICY

Chair: R. Kenny, *Dublin, Co. Dublin, Ireland*

Healthy life expectancy, that is, years without disability or disease, does not match life expectancy. Aging itself is not a disease or disorder, and the aging process (biological, environmental and behavioural) may be modifiable. Certainly, many risk factors for age-related diseases are modifiable – if recognised at an early stage. Furthermore, aging, a heterogeneous concept, may be influenced by childhood events or lifelong factors. A better understanding of the mechanisms of aging processes, recognition of early biomarkers and solutions to improve quality of life and independent living will provide the end user (individual, clinician, society) with means to increase healthy life years, closing the gap between life span and healthy life span. Longitudinal studies on aging afford an opportunity to better understand mechanisms underpinning the aging process. These studies are multidimensional and as such afford an opportunity to explore many hypotheses underpinning the aging process, such as inflammation, genetic predisposition, childhood experiences, socioeconomic status, social engagement and the interactions between these factors. Demographic aging is a global phenomenon and informing and influencing policy and practice will vary enormously between different countries. In this symposium we will highlight new information on epigenetic factors which influence aging, the role of longitudinal studies for original research and policy and practice in developing nations and provide a case study of vascular senescence, implications for new technologies for blood pressure and heart rate measurement and impact of modifiable blood pressure behaviours on brain health and mobility.

HEALTHY AGING, THE GENOME OF ELDERLY INDIVIDUALS AND THEIR ENVIRONMENT—THE LEIDEN LONGEVITY STUDY

E. Slagboom, *Molecular Epidemiology, Leiden University Medical Centre, Leiden, Netherlands*

Despite the continuous increase in life expectancy in our societies, the diversity in health span is enormous (<http://ec.europa.eu/health/indicators>). Such heterogeneity can be observed at the level of metabolites and immune factors in blood and also in the genome, its regulation by epigenetic mechanisms and its expression. We investigate to what extent the heterogeneity in the rate and nature of physiological decline among elderly is driven by parameters of metabolic health that can be detected in the circulation, muscle and fat tissue. How can we include epigenetic, metabolomics and other omics data in studies of ageing and mortality and what do these marker sets add to more traditional markers of metabolism. The heterogeneity among elderly can be investigated in longitudinal and in intervention studies. Therefore we apply functional, metabolomic, epigenetic and gene expression measures in challenge tests, clinical and intervention studies. Metabolomics studies indicate which parameters associate to disease and lifespan in prospective studies on the one hand and metabolic improvement after interventions on the other. We also investigate how such biomarkers in the circulation relate to aspects of metabolic health measured in muscle tissue of the same individuals depending on the environment.

LASI: AN INNOVATION TO ADDRESS FUTURE HEALTH NEEDS OF INDIA

A.B. Dey, *Geriatric Medicine, All India Institute of Medical Sciences, New Delhi, India*

Transformation of an ancient country to a global economic power-house, has ushered in several changes in Indian society. Some of these include changes in family and care system; social cohesion; health and wellbeing; and above all living and aging. The number of older people in India will rise to over 300 million in 2050 and the proportion of 60+ will double from 10 to 20% in 25 years before that. Older Indians while living longer will also carry a large burden of chronic diseases and disabilities. Care of such a huge population with huge burden of disease, will be incrementally challenging for the health system. In tune with the national policy directives, the Longitudinal Aging Study in India is designed to periodically assess over 60,000 people over 45 years of age from across the country for next 25 years. LASI will examine every possible determinant of health and disease and will influence the health system structurally and functionally in future. LASI uses a rigorous instrument for assessment, which has been pilot tested in 1600 subjects for socio cultural appropriateness. In addition, LASI participants will also be subjected to detailed assessment of other crucial geriatric health issues such cognitive impairment, visual disability etc. The health system after controlling fertility issues is struggling hard to address old communicable diseases and rising tide of non-communicable diseases. LASI will contribute to prepare the Indian health system to address the challenges of an aging population with huge burden of communicable and non-communicable diseases.

THE CHALLENGES OF BLOOD PRESSURE BEHAVIOR—LESSONS FROM TILDA

R. Kenny, *Trinity College Dublin, Dublin, Co. Dublin, Ireland*

Orthostatic Hypotension (OH) is defined as a drop in systolic and/or diastolic blood pressure triggered by standing upright. OH is more common with advancing years – present in 40% of community dwelling persons (TILDA) over 80 compared with 7% of 50 year olds. Supine hypertension is also more common with age (TILDA) and aggravates OH as do medications to treat hypertension, particular anti-hypertensive agents such as beta blockers. The duration of the BP drop relevant to brain health is controversial but failure to stabilise BP at 40s after stand is consistently relevant to mood and cognition, coupled with fear of falling, dizziness and injurious falls. In cross sectional and longitudinal data, OH is associated with impairment of global cognition, executive function, memory, attention and depression. The relationship and management of OH in the context of brain health is therefore complex and challenging and currently should be personalised to individual BP behaviours, symptoms and overall function. OH should be routinely assessed in MCI patients given that MCI patients with OH are more likely to convert to dementia and experience falls and injuries. Conversely, diagnostic and therapeutic approaches to OH should routinely take into consideration brain health.

SESSION 3555 (SYMPOSIUM)

KEYNOTE: SOCIAL INEQUALITY AND SOCIAL JUSTICE

Chair: J. Baars, *University for Humanistic Studies, Netherlands*

Discussant: D. Dannefer, *Case Western Reserve University, Cleveland, Ohio*

C. Phillipson, *The University of Manchester*

The session will begin with giving an overview of different dimensions of social inequality. The initial preoccupation with inequality *between* age groups and old-age poverty has been supplanted with a concern with inequality *within* age strata, and how it develops over the life course. Inequality of quality of life, health and resource characteristics all appear to increase with age and are greatest in later life, reflecting processes of cumulative dis/advantage. Next, this diagnosis is confronted with recent structures of regulation and support that have emerged following the demise of the welfare state, especially in the EU. It can be shown that these reinforce widening inequalities within the older population. In this way they are a significant part of the processes of cumulative advantage/disadvantage. In a third step, it will be argued that dominant discourses on social justice have not kept up with intra-cohort inequalities and still focus on inequalities between age groups or generations.

AGING, SOCIAL INEQUALITY, AND SOCIAL JUSTICE

J. Baars, *University for Humanistic Studies, Utrecht, Netherlands*

Concerns about Social Inequality and Social Justice in aging can arise from confrontations with old people who live in miserable poverty next to others of the same age who enjoy flourishing abundance. Apart from the need to support those in destitute circumstances questions arise about the ways in which such differences develop and whether they might be considered just or unjust. Answering these questions requires

going beyond generalizations such as generations, age groups and cohorts to identify processes of intra-cohort differentiation that tend to reproduce unequal life chances over subsequent cohorts. In terms of Social Justice it will be necessary to go beyond abstract declarations that people are 'born equally', 'age naturally' and 'choose freely'. Seen in a life span or life course perspective aging reminds us of the social nature of human life which should not be seen as its determination but as a precondition of its emergent autonomy.

THE INTERSECTION OF AGE AND INEQUALITY: ENDURING TENSIONS, EMERGING CHALLENGES

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As attention to the intersection of age and inequality grows among gerontologists, a number of key issues remain to be clarified and resolved, beginning with the definition of inequality and questions of assessment and evaluation. Beyond these basic issues, an increasing range of alternative explanations for the phenomenon of inequality have been proposed. This paper reviews some of the key issues currently in need of clarification. The initial preoccupation with inequality *between* age groups and old-age poverty has been supplanted with a concern with inequality *within* age strata, and its life-course development. Interest in intracohort inequality has been fueled by the recognition that inequality of QOL, health and resource characteristics tend to increase with age, reflecting processes of cumulative dis/advantage and the socioeconomic gradient. While the relevance of social policy and environmental conditions is recognized, increasing attention is being paid to individual resilience as a competing personological hypothesis.

DEVELOPING A POLITICAL ECONOMY OF AGEING: NEW APPROACHES TO SOCIAL JUSTICE AND INEQUALITY

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The political economy of ageing developed – during the 1970s and 1980s – in a context of crisis affecting western economies. A number of theoretical perspectives emerged during this period, these drawing on neo-marxist and related approaches. However, progress slowed during the 1990s with limited responses made to the new situation facing older people following the financial crash of 2007/2008. Nonetheless, current conditions have confirmed the need for a distinctive political economy of ageing, taking account of new types of inequality affecting the lives of older people. The paper will explore the basis for this change, one which incorporates a post-welfare state agenda and which is situated within a rigorous analysis of the consequences of neo-liberalism for the lives of older people. The discussion will highlight the tension between longevity and conditions of austerity, these transforming ageing into one of the unwanted risks, and hazards of contemporary life.

SESSION 3560 (POSTER)

AGE-FRIENDLY INITIATIVES AND ENVIRONMENTAL ISSUES

A STUDY ON DISASTER MANAGEMENT SERVICES FOR ELDERLY IN SOUTH KOREA

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Old people are more subject to the impacts of emergencies and disasters because of their socio-economic and physical vulnerability. "Disaster Risk and Age Index" was released in June, 2016, which provides a country-by-country analysis of the disaster hazard faced by old populations in 190 countries based on three dimensions: exposure to hazard, vulnerability, and lack of coping capacity. According to the report, developed countries such as the United States and Japan have strong capacity and low vulnerability scores which help reduce the risk to older people despite high hazard exposure values. On the contrary, it reveals elderly in South Korea have weak capacity and high vulnerability scores despite comparatively low disaster risk.

Accordingly, this study aims to figure out the problems of disaster management services in South Korean elderly and discuss implications through the example of U.S. For this study, it may be useful to start out by understanding the concept of old people as a vulnerable population during disasters through preceding research. Next, the analysis on current disaster management services for elderly in South Korea will be conducted focusing on vulnerability and coping capacity as a framework. Finally, the study will take a look at an example of disaster management services for elderly in the U.S. to suggest implications and strategies for improvement.

PROVIDING INTERGENERATIONAL PROGRAMS AND SERVICES FOR QUALITY AGEING IN DIFFERENT LOCAL ENVIRONMENTS

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In most European societies with ageing population, such as Slovenia, where 25.4% of people are older than 60 years, it is increasingly difficult to meet the needs of older people. In Slovenia most of the elderly live on relatively low pensions, which on average amount to around 612.54 EUR. They are emotionally and physically attached to their houses, which is understandable, since 93% of people in Slovenia are owners of their dwellings. That is why elderly people in Slovenia rely both on the help of their relatives and on the government and institutional forms of assistance.

The Institute has developed a successful model of synergy for quality aging between local administrations, non-governmental sector and households. A network of intergenerational programs is co-financed by Ministry of Labour, different Slovenian communities or institutions. The purpose of the network is provision of high-quality long-term care for the infirm elderly, prevention of social exclusion of elderly with programs for active and healthy aging, and systematic strengthening of solidarity between generations at all levels. The network comprises over twenty inter - connected programs. Programs are built using bottom up approach - a program of intergenerational volunteering, through which we trained over 3000 intergenerational volunteers is an example of such approach. At the same time the network also uses up bottom approach as well, especially through cooperation with Slovenian network of age-friendly cities and municipalities, which aims at disseminating

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good practices and experiences together with the implementation of soft approaches for quality ageing and intergenerational relations.

ENVIRONMENT, VOLUNTEERING, AND LIFE SATISFACTION AMONG OLDER ADULTS IN SOUTH KOREA

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Drawing on the Person-in-Environment perspective, this study examined the role of physical and social environments on volunteering and well-being of older adults in Seoul, Korea. Using indicators identified by the World Health Organization's (WHO) Age Friendly City (AFC) framework, this study aims 1) to investigate effects of environments on volunteering and life satisfaction, and 2) to explore whether the effect of environments on life satisfaction was mediated by volunteering.

Data were obtained from a representative study: the 2011 Seoul City-wide Needs Assessment of Middle- and Old-aged Adults. A sample of 4,000 respondents subjectively rated the environment in which they are embedded. General Structural Equation Models (SEM) integrated environmental characteristics as latent variables. Volunteering and life satisfaction were included as observed variables. Path analysis was conducted to test mediating hypotheses.

Older adults living in environment with better "social participation" ($OR=1.09$, $p<0.000$) and "employment and civic engagement" ($OR=1.05$, $p=0.002$) characteristics were more likely to volunteer. Respondents reported higher level of life satisfaction if they lived in environments with better features of "respect and inclusion" ($b=3.18$, $p<0.000$), "communication and information" ($b=3.48$, $p<0.000$), "employment and civic engagement" ($b=0.72$, $p<0.000$), and "social participation" ($b=1.59$, $p<0.000$). No physical environment characteristic ("housing", "transportation", "outdoor space and buildings") was found significant. Mediation effect of volunteering was not found.

As an innovative attempt to use SEM for analyses of WHO AFC indicators in a non-Western context, our study provides empirical evidences for efforts to design age-friendly environments to increase older adults' civic participation, and ultimately improve their well-being.

THE SOCIAL CONSTRUCTION OF EMERGING ELDERLY: IMPLICATIONS FOR AGE-FRIENDLY COMMUNITY ASSESSMENTS

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The age-friendly movement to foster improved quality of life for older adults is expanding worldwide. Cities and communities across the world are examining what it means to be "age-friendly" by exploring the strengths and needs of their aging populations with respect to their unique environments. The term "emerging elders" has surfaced in age-friendly community assessment tools to denote a subset of older adults; however, limited guidance is provided in the lay or empirical literature on its application to aging populations. The goal of this study was to develop a data-driven definition for "emerging elders" as part of an age-friendly community assessment.

Adults, age 55 and older, were asked about their subjective meaning of "emerging elder" within the context of aging well in a large U.S. metropolitan city. Using inductive and deductive methods, the researchers analyzed qualitative data ($N=38$) collected from individual interviews with homebound older adults ($n=15$) and participants of three focus groups ($n=23$). Four themes suggest that emerging elderhood is related to chronological age, functional ability, life transitions, and redefining aging. Findings suggest that the term emerging elderhood may foster negative images of older adults consistent with Western cultural discourse, despite the positive connotations associated with "emerging elder" in indigenous and spiritual communities. We conclude with a call to action underscoring the need to further refine age friendly community assessments that take into account the cultural and social constructions ascribed to older adults and recommend strategies to engage emerging elders in future research of age-friendly communities.

GENDER DIFFERENCES IN THE EFFECTS OF ENVIRONMENT AND ACTIVITY PARTICIPATION ON LTC RESIDENTS' MORALE

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This study examined gender differences in the effects of facility-level objective environment, resident-level subjective environment, and activity participation on older residents' morale in LTC settings. This investigation included a nationally representative sample comprised 634 adults aged 60 years or older from 155 institutions in Taiwan. Random effects modeling was used to analyze the multilevel data. The analytical results found:

1. Perceived relationship with staff was the most prominent environmental determinant of morale for both males and females.
2. The presence of public kitchens and birthday party frequency was associated with males' morale.
3. Having electronic message chairs, outdoor chairs and gardens, and full time social workers was related to females' morale.
4. Engagement in leisure activities within institutions was more beneficial to males' morale, while participation in interpersonal interaction activities yielded a greater association with females' morale than other activities.

Even residing in the same facility, the experiences and needs may differ between older males and females. Making LTC objective environment becomes more "home-like" can be particularly helpful for male residents' morale. Public spaces and amenities that can promote interpersonal interactions can be especially advantageous for females. The relationship with staff is the key to boost both males and females' morale. More efforts would be needed to foster positive interactions and mutual understanding between staff and residents. Also, activities should be designed with a consideration of cultural norms about gender roles in order to maximize the benefits of activity participation to residents of different genders.

AGE-FRIENDLY COMMUNITIES AND SOCIAL ENGAGEMENT: AN EXPLORATION OF CHINESE ELDERLY

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Social engagement is an important component in later life. While an extensive body of studies in China has focused on the factors that influence social engagement in older adults at the individual level, this study aims to explore the impacts of the community environment.

A sample of 8049 adults aged 60 and above was obtained from the China's Urban and Rural Older Population Study, conducted by the China Aging Research Center in urban areas in 2010. Social engagement consisted of volunteering, paid work, life-long learning, physical activities and leisure activities. Livability of the community was measured by older people's perceptions of living facilities, outdoor spaces, housing, social environment, institutions, and health services in the community. Structural equation modeling was applied to explore associations between livability of the community and social engagement while controlling for social demographic characteristics.

According to the results, except for paid work, older people who perceive a higher degree of livability of their community are more likely to participate in volunteering-related, learning, physical, and leisure activities. In addition, disadvantaged older people demand more support from the community compared to older people in better economic conditions and older people who have higher education.

Findings indicate that building livable communities might be a practical and effective way to encourage diverse older people's social engagement.

THE POLICY ACTION PLAN FOR MAKING AGE-FRIENDLY COMMUNITY IN JEJU, SOUTH KOREA

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The purpose of this study is to develop policy action plans that Jeju Island needs to promote consistently to join the World Health Organization (after WHO) Global Network of Age-Friendly Cities and Communities. Jeju is a largest island across the country, and a province with self-governing system. Also it is well known as an island of longevity. Moreover Jeju is ageing rapidly compared to the rest regions of the country being forecasted to be aged-society soon. In order to cope with the various problems associated with population ageing, it is urgent for Jeju to develop various policy options. Jeju local government has been preparing for joining a member of WHO Global Network Age-Friendly City and Community as one of the ways to confront population ageing in Jeju. To meet the research goals, the researchers have reviewed previous researches and statistical analysis from the central government or other institutes. Also current situations and issues Jeju elderly citizens facing such as physical environment, employment, social participation, and so on were analyzed. We have suggested some significant policy implications based on policy action plans coming from the research outcomes.

AN AGE-FRIENDLY PROJECT ON SOCIAL ISOLATION AND LONELINESS: LESSONS FROM TORONTO'S CHINESE COMMUNITY

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The World Health Organization's (WHO) age-friendly cities (AFC) framework is a global movement to promote healthy and active aging in localized contexts. This study provides results from a local AFC initiative addressing social isolation and loneliness in Chinese older adults in Toronto, Canada. A multi-phase methodology using survey and secondary data analysis methods was adopted. First, a scoping review of peer-reviewed and grey literature was conducted to triangulate survey findings. The review included 19 studies indicating a lack of social support as the main risk-factor to feeling isolated and lonely in this population. Second, telephone surveys were conducted in Cantonese, Mandarin and English with Chinese older adults (n=100) living in a local Chinatown neighbourhood. Survey questions addressed issues of social and community connectedness and uptake of community services. 80% of respondents reported easy access and use of services in their neighbourhood. However, moderate levels of social connectedness outside the household were also reported with the greatest percentage of participants (40%) reporting that they had not participated in a social activity with others in the past year. Living arrangements may influence these outcomes as evidenced by the majority of the sample living with a spouse (55%) or living alone (40%). Findings from this study can assist in addressing global social challenges of aging such as social isolation and loneliness in ethnically-diverse older adult populations. Interventions such as multi-lingual services and activities promoting positive social networks among older adults can be beneficial strategies for address this social issue in urban neighbourhoods.

COMMUNITIES AND DEPRESSION AMONG COMMUNITY-DWELLING OLDER ADULTS IN CHINA: A MULTILEVEL PERSPECTIVE

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Individual characteristics are identified to be associated with depression in old age; yet little is known about the influence of community characteristics on depression. Further, most research that investigates the relationships between community features and depression was conducted in western societies utilizing cross-sectional data. Guided by Pearlin's Stress Process Model and included community features as stressors, this study examines the effects of community characteristics on depressive symptoms among older community-dwelling Chinese. Using nationally representative data from 2011 and 2013 China Health and Retirement Longitudinal Study, 6,548 older adults (60+) residing in 447 communities in 2011 and followed up in 2013 were included. Predictors (individual and community characteristics) were drawn from 2011 baseline; and outcome (CES-D) was extracted from 2013 wave. Multilevel modeling results showed that after controlling for baseline depressive symptoms, on the individual level, depressive symptoms decreased with higher levels of education, greater economic security, and better health status. On the community level, depressive symptoms decreased when physical environment (more number of days when roads were passable, closer to bus stop, and having a sewer system) and social environment (having outdoor exercising facilities, and having health center within the community) improved. This study shows the role the community may play in reducing depressive symptoms in

later life. Community organizers and policy makers are encouraged to ameliorate community environment to improve mental health among older adults in China. Future research is encouraged to identify other community characteristics that may be influential to mental well-being of older Chinese.

THE EVOLVING ROLE OF SENIOR CENTERS IN AN ERA OF THE AGE-FRIENDLY COMMUNITY MOVEMENT

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Senior centers across the nation continue to serve as important access and focal points for older adults to voice their desires, meet their independent living needs, and to engage in opportunities that support many of the key concepts to Age-Friendliness (i.e., social participation, respect and social inclusion, civic engagement, transportation and community supports and health services). Senior Centers are the front line of aging services and thus in a position to implement programs and raise public awareness about such initiatives. The purpose of this presentation is to present and discuss challenges, opportunities and outcomes of senior center involvement in Age Friendly activities. Data from three towns were pooled to conduct descriptive analysis of resident users (n=740) and nonusers (n=2,560) of senior center services. Compared to residents that do not report using the senior center, resident users are mostly female, have lived in the community for a longer duration and live alone at higher rates. This cross-sectional analysis also shows that users of senior centers have higher rates of self-reported fair or poor physical health compared to those residents who do not use the senior center (10.7% v. 17.5%); and those who use the senior center have higher rates of self-reported fair or poor emotional health (5.0% v. 7.7%). This presentation will discuss how these results support strategies by which senior centers support some of the most vulnerable members of an aging community; but also how they can emerge as leaders in the development of age friendly communities.

SELF-ESTIMATED LIFE EXPECTANCY COMPARISON BETWEEN DAMAGED AND UNDATED HOUSEHOLDS IN DISASTER

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There is an old saying in Chinese, 'fortune is given to those who survive from big disasters'. This research is trying to test if people's expectation for the future life is influenced by their losses in disaster. Since Chinese people believe longevity is a blessing, this research use self-estimated life expectancy as an instrumental variable of that.

Data used in this research is from a 5 year-retrospective questionnaire survey of 493 middle-aged and elderly residents, took place in Baoji City, Shaanxi province of western China. Baoji is a city of heavy industry and moderately developing economy, located right between Xi'an and Wenchuan. The 2008 Wenchuan big earthquake, whose magnitude was 8.0 and caused 87150 deaths and missing, was a miserable memory for all Chinese people. After that, debate about state catastrophe insurance has been heated. This research is mean to examine how people estimate their life expectancy after such a huge disaster, and will their self-estimation differs according

to their loss. This research also tries to offer useful suggestions for establishing Chinese state catastrophe insurance.

Based on the data and the assumptions made before, with the implication of cross analysis and logistic regression, this research comes to following conclusions:

1. Suffering from a disaster without property loss do lead to a positive self-estimation.
2. The female and the old is more negative in self estimation, because women and the elderly are often more vulnerable.
3. A rise in annual income and children number lead to a positive self-estimation.

IDENTIFICATION AND IMPROVEMENT ON ORGANIZATIONAL WEAKNESSES IN AGE-FRIENDLY HEALTH CARE IN TAIWAN

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To promote active aging in and by health service organizations, Taiwan developed "the framework of age-friendly health care" and applied it for voluntary recognition to help hospitals and health services identify their weaknesses, develop action plan, and continuously improve their quality of care to promote active aging.

This framework contains 4 standards (i.e. management policy, communication and services, care processes, physical environment), 11 sub-standards and 60 measurable elements. After pilot-testing and validation, it was used for recognition of "age-friendly hospitals and health services". The results of earliest applicants were analyzed and compared with those of 2014.

There were 20 and 41 applicants in 2011 and 2014, respectively. In 2011, weakness was identified on 6 elements with average score lower than 80 against the full score of 100, including IT support for implementation and evaluation of the age-friendly policy, staffing in geriatric care, basic training for all staff, training in core competence for clinical staff, existence of quality assessment program, and existence of guidelines on multidisciplinary comprehensive geriatric assessment and interventions on high-risk seniors. These became the targets of improvement in training and communication, and further guidance on these elements was developed, too. Assessments done on 2014 applicants showed that all 6 elements had statistically significant higher average scores than those of 2011.

Our study found that the recognition of "age-friendly hospitals and health services" helped identify shared weaknesses among participating organizations and has achieved significant improvements on late participants.

DELIVERING AGEING IN PLACE IN THE HIGH DISASTER RISK COMMUNITIES IN TAINAN CITY AND HONG KONG

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Delivering ageing-in-place in the high disaster risk communities- a comparative study of Tainan City and Hong Kong

Since the population ageing trend has increased rapidly in the beginning of 21st Century, “ageing in place” become a core concept in most ageing related policies. Among all the issues regarding population ageing, high vulnerability from natural disasters would be the most challenging. With the increasing casualty reports of older residents at high-disaster-risk areas, urgent responses to this increasing threats to enhance the survival chances of older people under disasters are needed. Latest World Cities Risk (2015–2025) report by the Cambridge Centre for Risk Studies in 2015 has pointed out that Taipei City is ranked as top one city with high exposure to natural disaster hazards in the world in the next decade. Hong Kong, whereas, is also identified with significant vulnerability by the threat of human pandemic under disaster strikes. (Cambridge Centre for Risk Studies, 2015) According to the past survey, urban or rural, most elderly population in the community are not only with very little knowledge of disaster risk reduction but also lack of interests in learning such information. (Chao & Huang, 2016) Hence, this paper argues that it is necessary to develop a bottom-up Disaster Risk Reduction (DRR) strategy that involves older adults from the beginning of planning process. In this paper, we explore the possibility of creating a comprehensive community disaster risk reduction (DRR) system by incorporating the idea “ageing-in-place” and “active ageing” through literature review and questionnaire survey of older adults in both Taiwan and Hong Kong. We expect to identify the key factors of the gap between disaster perceptions of older people and DRR policy design and further suggest an ageing-active DRR strategy in both cities.

A COMPARATIVE STUDY ON THE ACKNOWLEDGMENT OF DISASTERS BY ELDERLY LIVING STATUS

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Design

Due to some kinds of natural disasters caused by the recent change in climate, such as, heat waves and cold waves, etc., the damages are being expanded centered on the elderly class. In case of the elderly, it can be said that the levels of their exposure to a safety accident are higher than those of the other age classes due to their psychological and social vulnerabilities as well as their physical one. Accordingly, various kinds of programs, such as, Disaster Response Manuals and Disaster Helpers, etc., are being disseminated. However, this study was started under the assumption that the damage levels might be different depending on the actual acknowledgment levels of disasters by the elderly and the levels of their preparedness. Especially, it is intended to conduct a comparative analysis of what kinds of differences are made depending on the environments of the houses that the elderly live.

It is considered that this study has its meaning as an exploratory study in the aspect that a comparative survey has not been conducted regarding to the special situation so called a disaster even though the importance of the living space is very important for the elderly.

Method

Busan Metropolitan City entered into the aged society quickly the most among the Special City and all of the Metropolitan Cities. Accordingly, the survey targets are the elderly who live at the welfare facilities and at their homes

located in Busan. And the survey will be conducted regarding to the acknowledgment levels of disasters by the elderly and the levels of their preparedness. The collected data shall be used for conducting a regression analysis using SPSS 22.0 in order to find out what kinds of effects are influenced on the acknowledgment levels and the disaster preparedness of the elderly who live in the welfare facilities and at their homes.

SESSION 3565 (POSTER)

ASSESSMENT I

FAMILY FUNCTIONALITY IN COMMUNITY ELDERLY

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This work analyzed the influence of socio-demographic, economic and health variables, as well as functional capacity about family functionality. It was a cross-sectional quantitative study of 637 elderly living in Uberaba, MG, using Mini-Mental State Examination, structured questionnaire with socio-demographic, economic and health information, Katz Index, Lawton and Brody Scale and family APGAR. Analysis was conducted using the tests: t Test, Pearson's and Spearman's correlation and multiple linear regression model ($p < 0.05$). Highly functional families prevalence (87.8%) was found, with severe dysfunction (6.4%) and moderate dysfunction (5.8%).

Factors associated to family functionality were: health perception ($p < 0.001$), age ($p = 0.003$), falls ($p = 0.004$) depression ($p = 0.007$). Higher family functionality was associated to better health perception and older age to depression and falls. Detection of factors generating family dysfunction provides health professionals with action planning directed towards the prevention or re-establishment of the balance of the intra-family bonds, promoting the well-being of elderly and their family.

SARCOPENIA PREVALENCE ACCORDING TO DIFFERENT MUSCLE MASS ASSESSMENT METHODS IN DWELLING ELDERLY

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Introduction: The European Working Group on sarcopenia in Older People proposes different methods to diagnose sarcopenia. In this context, this study aimed to determine the prevalence of sarcopenia, using different methods for assessing muscle mass.

Methods: Cross-sectional study with 404 elderly subjects (60 years old or more) who participate in social groups in Santa Maria/Brazil. Muscle mass was assessed by three different methods [method 1 (Lee equation, improper $\leq 8.90 \text{ kg/m}^2$ for men and $\leq 6.37 \text{ kg/m}^2$ for women); method 2 (bio impedance, inadequate $\leq 8.87 \text{ kg/m}^2$ for men and $\leq 6.42 \text{ kg/m}^2$ for women); and method 3 (calf circumference, inadequate $< 31 \text{ cm}$)]. We considered inadequate hand grip strength (HGS) $< 30 \text{ kg/f}$ for men and $< 20 \text{ kg/f}$ for women, and physical performance

(assessed by Gait Speed - GS) ≤ 0.8 m/s. We considered sarcopenic individuals who had low muscle mass associated with low physical performance or reduced strength. Three diagnostic criteria were established: criterion 1 (method 1 + HGS + GS), criterion 2 (method 2 + HGS + GS) and Criterion 3 (method 3 + HGS + GS). Data were analyzed through the SPSS® 22.0.

Results: The mean age was 70.23 ± 6.40 years. The sarcopenia prevalence by criterion 1 was 11.6% and 10.2% in women and men respectively ($P = 0.923$), 27.9% and 55.9% ($P = 0.000$) by criterion 2, and 1.2% and 1.7% ($P = 1.000$) by criterion 3.

Conclusion: The prevalence of sarcopenia differs among the methods of muscle mass assessment and calf circumference underestimated its prevalence.

EASycare STANDARD INSTRUMENT FOR EARLY DETECTION OF GERIATRIC SYNDROMES IN THE VERY OLD

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In a country with a large ageing population and a health system of debatable efficiency, accessing and receiving health care in twilight years is not an easy proposition. Chronic disease, functional impairment, cognitive decline, lack of social and health security; and declining traditional support system render the “older” segment of the population extremely vulnerable. With very little orientation in old age care, health professionals do not have capacity to resolve complex geriatric syndromes in busy outpatient clinics. We assessed the ability of EASYCare in assessment of vulnerable older clients in outpatient department in detecting geriatric syndromes vis-à-vis comprehensive geriatric assessment. In this cross sectional study persons aged 65 years or more seeking care from Outpatient Department(OPD) of Geriatric Medicine service of All India Institute of Medical Sciences Hospital in India were included. 600 consenting participants were assessed with the EASYCare Standard 2010 instrument, which was self-administered with the help of a trained Medical Social Worker. This was followed by independent comprehensive assessment by a geriatrician which specifically included of Hindi Mental State Examination (HMSE), Geriatric Depression Scale (GDS), International Consultation on Incontinence Questionnaire (ICIQ), and fall questionnaire. Four geriatric syndromes, namely, cognitive impairment, depression, falls and urinary incontinence were used as index syndromes for this study. The mean age of the participants was 71 years with a significant male predominance (70%). One or more geriatric syndromes were present in 77% of the individuals with 2% having all four geriatric syndromes and 42% having two or more geriatric syndromes. Based on EASYCare assessment, cognitive impairment was the most common geriatric syndrome (62%), followed by depression (36%), falls (24%), and urinary incontinence (14%). The prevalence of incontinence and cognitive impairment showed significant association with increasing age ($\{p < 0.05\}$, $\{p = 0.01\}$). EASYCare assessment data showed a concordance of 98%, 70%, and 40% with CGA assessment for incontinence, depression, cognitive impairment respectively. EASYCare could detect very relevant geriatric syndromes in

older patients in an OPD setting in a time and cost efficient manner.

THE ESTABLISHMENT OF COMPREHENSIVE EVALUATION PERIOPERATIVE EVALUATION SYSTEM AMONG ELDERLY PATIENTS

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Background: The rate of postoperative complication in older patients is significantly higher than younger patients. However, there is no standard, effective perioperative evaluation strategy which is particularly developed for older adults in China. Thus, this study was conducted to develop a perioperative assessment system for the elderly according to several guidelines and the national condition in China, evaluate its feasibility and reliability. **Methods:** According to the Best Practices Guidelines: Optimal Preoperative Assessment of the Geriatric Surgical Patient established by the American College of Surgeons (ACS) and the American Geriatrics Society (AGS), the suggestion of geriatrician, psychiatrist, statistician and neurology expert and national condition in China, we developed a perioperative assessment system for the elderly in China. According to the data of preliminary study, we evaluated the quality of the perioperative assessment system, including feasibility and reliability. **Results:** The content of our perioperative assessment system, including cognitive function, depression, function status, swallowing function, nutritional status, medication, pain, sleep, delirium, frailty, vision and hearing. Feasibility: Both of the acceptance rates were 100%, the completion rates were 97.3% and 100% respectively. The mean time to finish the assessment was 12.64 ± 1.89 minutes. Reliability: The test-retest coefficients of each result of assessment for risk factor were all higher than 0.9 except for the “Frailty” which test-retest coefficient was 0.895. **Conclusion:** The perioperative assessment strategy has been proved to have good feasibility and reliability, and therefore offers a valid tool to evaluate perioperative risk factors for poor surgical outcomes in Chinese elderly.

AGE-RELATED DIFFERENCE IN PERFORMANCE OF A COMPLEX ACTIVITY IN A REAL VERSUS SIMULATED SHOPPING MALL

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Age-related decline in physiological, physical and cognitive functions may interfere with task performance in complex life situations. This study aims to compare the performance of young and older adults during real and simulated complex daily shopping activities considering physiological, motor and cognitive performance. Fifteen adults aged 25.80 ± 4.25 years and 16 older adults aged 72.12 ± 5.58 years were tested in real and simulated shopping malls. Participants performed the Multiple Errands Test (MET) that assesses executive functions during a complex daily task in the real mall. They performed the Virtual MET (VMET) in the simulation while walking on a self-paced

treadmill and navigating with a joystick. Gait parameters and Metabolic Equivalents were recorded. The elderly participants performed the MET (4.56 ± 2.12) significantly worse than the younger participants (2.33 ± 1.75 , $U = 51.00$, $p < 0.01$). They also performed the VMET (5.00 ± 2.94) significantly worse than the younger (2.64 ± 2.34 , $U = 45.50$, $p < 0.03$). No significant between groups differences were found in gait speed in either setting. For the elderly group, strong significant correlations were found between the MET and VMET scores ($r_s = 0.88$, $P < 0.01$) and execution times ($r_s = 0.65$, $P < 0.02$). The Metabolic Equivalents indicated a low energy cost for the activity with no differences between the groups or settings. These results highlight the differences in performance patterns of daily tasks between young and older adults. Additionally, the similarities of performance of real and virtual complex tasks in the elderly support the clinical use of realistic virtual environments for assessment and treatment of age-related functional decline.

ONE- AND THREE-YEAR HOSPITALIZATION RATES AMONG HIGH FRACTURE RISK ADULTS USING THE SFM-3

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The current paper examines the one and three year hospitalization using the Safe Functional Motion Test 3 (SFM-3) clinical assessment tool. The SFM-3 is a quantitative assessment of habitual motion designed and validated on high fracture risk adults. The risk of hospitalization among adults is a significant health and health financing concern. The SFM-3 is designed to be a five minute test to predict fracture and hospitalization risk. The current sample is drawn from 1700 patients from the southeastern United States who are clinically deemed as high risk for fractures (mean 74.7 years; SD ± 22.2). Of this sample 8.2% were hospitalized at least once during the 36 month study. After accounting for age, gender, and prior hospitalization, logistic regression analyses indicated that the SFM-3 significantly predicted hospitalization at one year (OR 1.206 CI 1.114, 1.307; $P > .0001$) and three year follow up (OR 1.222 CI 1.134, 1.317; $P > .0001$). For every 10 point decrease in the SFM-3 score, the risk of hospitalization within one year increased by 20%. At the three yr. followup, this risk was increased to 22% for each 10 point decrease in SFM score. The SFM-3 is a parsimonious and strong predictor of hospitalization among high fracture risk adults and can be used in a clinical setting to identify high risk adults for hospitalization

SARCOPENIA IS ASSOCIATED WITH PHYSICAL AND MENTAL COMPONENTS OF QUALITY OF LIFE IN OLDER ADULTS

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Currently, sarcopenia is considered a geriatric syndrome of growing importance in the world. Prevalence of this syndrome is highly variable, with range 5% to 13%, in older adults aged 60–70 years; and 11% to 50% in people aged

80 and plus. Evidence suggests that sarcopenia is associated with poor health-related outcomes, such as physical limitation, disability and mortality. The aim of this study was to determine the association between sarcopenia and health-related quality of life (HRQoL) in a sample of rural older Mexican adults. Cross-sectional study conducted in 2013 in Mexican rural settings with 668 older Mexican adults. Health-related quality of life was measured using the Medical Outcomes Study 36-item Short Form Healthy Survey questionnaire (SF-36). Sarcopenia was defined according to the three dimensions suggested by the European Working Group on Sarcopenia in Older People. Multivariate linear regression models were used to estimate the association between sarcopenia and quality of life. Prevalence of Sarcopenia was 35.9% (14.8% and 21.2% for severe and moderate sarcopenia, respectively). Severe sarcopenia status was associated with worse scores in both, physical ($b = -8.28$; $P = 0.001$) and mental components ($b = -4.86$; $P = 0.041$) of the SF-36. Our study shows that sarcopenia is associated with HRQoL, in both components, physical and mental. This finding highlights the importance of identify sarcopenic individuals even in the primary care units, since this is not part of a routine diagnostic in Mexico. This fact is even more important due to the adverse implications of sarcopenia on quality of life of older adults.

DEVELOPING AN INSTRUMENT TO SELECTING APPROPRIATE PATIENTS FOR POST-ACUTE CARE IN TAIWAN

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Aim: To develop a prediction model to select appropriate patients for post-acute care (PAC) services to regain functional independence

Methods: Data of Taiwan Veteran Affairs PAC services from January of 2014 to June 30 of 2016 were retrieved for study. Data from January to December of 2014 were defined as the developmental cohort, and patients regained Barthel Index of > 80 was considered as functional independence. Independent risk factors for failure of achieving functional independence were identified and a prediction model was developed based on the results. Data from January of 2015 to June of 2016 were used as the validation cohort to evaluate the effectiveness of the prediction model.

Results: Overall, data of 622 patients were classified in the developmental cohort with the mean age of 85.5 ± 38.9 years and baseline Barthel Index < 40 , MMSE < 24 and Braden scale < 19 were independent risk predictive factors for failure of regaining functional independence. Using the beta coefficient of the regression model, a prediction model was developed (Barthel Index < 20 : 2 points, MMSE < 24 : 2 points and Braden Scale < 19 : 1 point) with the cutoff of 2 points. In the validation cohort, using the 2 points of the prediction model as the cutoff can successfully predict the failure of regaining functional independence (area under curve: 0.894, positive predictive value was 90.5%).

Conclusions: A prediction model composed of physical disability, cognitive impairment and risk of pressure sore effectively predicted the failure of regaining functional independence for patients receiving PAC in Taiwan.

SELF-RATED HEALTH PREDICTS MORTALITY IN OLDER AFRO-CARIBBEANS HOSPITALIZED VIA THE EMERGENCY DEPARTMENT

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The aim of this study is to determine whether self-rated health (SRH) is an independent prognostic factor for mid- and long-term mortality in older Afro-Caribbean patients hospitalised for an acute condition.

This study was a prospective cohort that recruited patients from the University Hospitals of Martinique Acute Care for Elders (ACE) unit (French West Indies) from January to June 2012. Patients aged 75 or older and hospitalized for an acute condition were eligible. The primary outcome was time to death within the 36-week follow-up. SRH was the explanatory variable of interest. Demographic and clinical characteristics were recorded. Cox's Proportional Hazards model was used to estimate the relationship between SRH and mortality.

In total, 223 patients were included; average age 85.1 ± 5.5 years, mainly women (61.4%). In total, 123 patients reported "very good to good" health, and 100 "medium to very poor" health. Crude mortality rates at six months, 1, 2 and 3 years were 30.5%, 34.8%, 48.4%, and 57.0%, respectively. SRH reached significant relationship for all mortality endpoints, after adjustment for baseline demographic and clinical characteristics. The adjusted hazard ratios for subjects who perceived their health as medium, poor or very poor was 1.6 to 2.7 times greater than that of subjects who reported good or very good health.

In conclusion, the association between self-rated health and mid- to long-term mortality in elderly subjects could have implications for clinical practice, particularly in helping practitioners to better estimate prognosis in the acute care setting.

ADAPTATION OF THE BRITISH SIGN LANGUAGE COGNITIVE SCREENING TEST IN QUÉBEC SIGN LANGUAGE

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Using standardized tests such as the Mini Mental State Examination (Folstein *et al.*, 1975) to assess cognition of deaf persons using sign language lacks validity due to the fact that norms used come from normal hearing individuals (Baker & Baker, 2011). In addition, previous research reported the unreliability of using an interpreter for cognitive evaluation due to language and cultural differences between deaf signers and hearing oral speakers (Hill-Briggs *et al.*, 2007; Dean *et al.*, 2009). According to Atkinson *et al.* (2015), the assessment tools to evaluate cognitive deficits of older adult deaf signers should be designed in sign language. The aim of this research was to present an adapted version of the *British Sign Language Cognitive Screening Test* (BSL-CST) in Québec Sign Language (LSQ - used in Québec and part of Ontario). The BSL-CST is a cognitive assessment tool

developed in British Sign Language, validated and normed with a British deaf population (Atkinson *et al.*, 2015). The proposed test adapted in LSQ will be presented in a video format. We thus will present the cultural adaptation steps following the protocol of Vallerand (1989) with the considerations of Atkinson *et al.* (2015). The linguistic adaptation follows the steps of the World Health Organization's (2016) protocol of adaptation and translation of instruments. Every phase of the adaptation has been validated with a team of deaf signers and French-LSQ expert interpreters. This tool adapted in LSQ, when normed, will represent a valid assessment tool for cognitive deficits of deaf signers using LSQ.

MEDIAL GASTROCNEMIUS MUSCLE ARCHITECTURE AND PLANTIFLEXORS TORQUE IN COMMUNITY OLDER WOMEN

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The aging process can lead to changes in muscle architecture, such as reduction of muscle thickness (MT), pennation angle (PA) and fascicle length (FL), which may contribute to dinapenia. Thus, the aim of the study was to correlate the medial gastrocnemius (MG) muscle architecture and plantiflexors peak of torque (PT) of community older women. Cross-sectional study approved by the Research Ethics Committee of Federal University of Paraná (36003814.2.0000.0102). The study included 48 older women (70.4 ± 5.1 years-old; BMI: 27.8 ± 4 Kg/m²). MG architecture was evaluated at 30% of the distance between medial tibia condyle and medial malleolus, using a B-mode ultrasonography imaging device (Logiq Book-XP, General Electric®) with a linear-array probe (50mm, 4cm of depth, 11 MHz). The ImageJ software was used to analyze MT (mean distance between deep and superficial aponeuroses), PA (angle of insertion of muscle fiber fascicles into the deep aponeurosis) and FL (fascicle length between the superior and deep aponeuroses). The concentric plantiflexors PT was evaluated by an isokinetic dynamometer (System4, Biodex®) with 30° of range of motion, three repetitions each set performed at 60°/s and 180°/s. To verify the association between variables the Pearson correlation test was used ($p < 0.05$). The mean $\pm$ SD were: MT = 1.6 ± 0.2 cm; PA = $26.7 \pm 3.4^\circ$; FL = 3.8 ± 0.5 cm; PT60°/s = 39.8 ± 11.4 Nm; PT180°/s = 31 ± 9.2 Nm. It was observed correlation between MT and PT60°/s ($r = 0.412$, $p = 0.004$); MT and PT180°/s ($r = 0.387$, $p = 0.007$); FL and PT60°/s ($r = 0.334$, $p = 0.020$). It can be concluded that the greater MG thickness and FL, the greater is the plantiflexors power and strength of community older women.

ASSESSING FUNCTIONAL FRACTURE RISK: AN INDEPENDENT PREDICTOR OF INCIDENT FRACTURES AT SKELETAL SITE?

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The purpose of this study was to determine if 'unsafe' functional movements as measured by short forms of the Safe Functional Motion test (SFM-6 and SFM-3) predict incident fragility fracture at any skeletal site. An osteoporosis clinic database was queried for adults with baseline SFM scores and corresponding data for prevalent fracture, history of injurious falls, femoral neck bone mineral density (fnBMD), bone-sparing medication use, and incident fracture at 1yr, and 3yr follow-up (n= 1700). Multiple logistic regressions, adjusted for gender, age, history of injurious fall(s), fnBMD, bone-sparing medication use, and any prevalent fracture at baseline to determine whether baseline SFM-6 and SFM-3 scores were associated with fragility fracture at any skeletal site at follow-up. According to the analyses, the SFM-6 score was a significant independent predictor of fracture at any site at 1y ($p=0.014$), and 3y follow-up (adjusted odds ratio (95%CI) = 1.26 (1.140, 1.396) for each 10 point decrease; $p < 0.0001$). Similarly, SFM-3 score was also a significant independent predictor of any fracture at 1y ($p0.0.01$), and 3y follow-up (adjusted odds ratio (95%CI) = 1.183 (1.098, 1.274) for each 10 point decrease; $p < 0.0001$). For all analyses, no other variables were significant predictors at 1yr. Age and fnBMD also were significant at the 3y follow-up. 'Unsafe' movement strategies, as measured using the SFM-3 or SFM-6, increase fracture risk by 18–25% for each 10 point drop in score independent of altered risk associated with age, and bone mineral density

CORRELATION BETWEEN PEAK TORQUE WITH THE CROSS-SECTIONAL AREA OF QUADRICEPS IN COMMUNITY OLDER WOMEN

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Aging is related to changes in the neuromuscular system that can lead to decrease muscle mass (sarcopenia) and strength (dynapenia). The aim of this study was to correlate the concentric (CON) and eccentric (ECC) quadriceps (Q) peak of torque (PT) and the quadriceps cross sectional area (CSA). Cross-sectional study, approved by the Research Ethics Committee of Federal University of Paraná (36003814.2.0000.0102), included 48 older women (70.4 ± 5.1 years-old; BMI: 27.8 ± 4 Kg/m²). The CON and ECC quadriceps PT was evaluated by an isokinetic dynamometer (System4, Biodex®) with 60° of range of motion, three repetitions each set performed at 60°/s. The CSA was evaluated by Magnetic Resonance Image and the ImageJ software was used to calculate the muscle area in cm². To verify the association between variables the Pearson correlation and simple linear regression tests were used ($p < 0.05$). There were positive and moderate correlation between CON Q PT and Q CSA ($r=0.59$, $r^2=0.35$, $p=0.0001$) and between ECC Q PT and Q CSA ($r=0.48$, $r^2=0.23$, $p=0.0001$). It can be concluded that greater is the quadriceps PT, greater is the quadriceps CSA. However, the CSA influence 35% of the concentric quadriceps PT and 22% of eccentric quadriceps PT.

ASSESSING RISK OF FALLING—A COMPARISON OF THREE DIFFERENT METHODS

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The study's aim was to evaluate the diagnostic accuracy and clinical effectiveness of a standardized fall risk assessment relative to clinical and self-report assessment.

A single-site, prospective, longitudinal study was performed in a group of geriatric patients. Participants were patients being admitted to a geriatric rehabilitation hospital. The St. Thomas's risk assessment tool (STRATIFY), clinical assessment, and a self-report assessment (fear of falling) were used to assess fall risk at two time points (at baseline and 3-weeks follow-up). The primary outcome was fall events. Contingency tables were used to calculate sensitivity, specificity, positive predictive values, and negative predictive values. Fisher's exact test was used to test the association between assessments and fall events.

A total of 124 patients participated in the study. The self-report technique demonstrated the highest sensitivity and negative predictive validity. The STRATIFY tool showed the highest specificity but the lowest sensitivity. The self-report technique was associated with a lower number of fall events.

Given the lack of diagnostic accuracy of all three assessment techniques and the lack of evidence regarding clinical effectiveness, the usefulness of these fall risk assessments can be challenged.

Linking evidence to action: It is questionable whether time-consuming assessments examined in this study are necessary. Further studies are needed to examine the diagnostic accuracy and clinical effectiveness of fall risk assessments. At least in settings in which fall prevention programs are a part of standard care, additional time consuming assessments may not be required.

DYNAPENIA IS A SIMPLE INDICATOR FOR COMPLEX CARE NEEDS OF OLDER MEN IN VETERANS CARE HOMES IN TAIWAN

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This cross-sectional study was conducted to evaluate the relationship between dynapenia and the complexity of care in two veterans care homes in Taiwan. Demographic characteristics, body mass index (BMI), minimum data set (MDS), resident assessment protocol (RAP) triggers, Charlson's comorbidity index (CCI), handgrip strength, and gait speed were assessed. Overall, 504 male residents (mean age 82.6 ± 4.7 years) participated in this study. Subjects with DEWGSOP (dynapenic components of the European Working Group of Sarcopenia for Older People) or DLMS (dynapenia defined by low muscle strength) were older ($p < 0.001$ for DEWGSOP, $p < 0.001$ for DLMS), having slower gait speed ($p < 0.001$ for DEWGSOP, $p < 0.001$ for DLMS), lower handgrip strength ($p < 0.001$

for DEWGSOP, $p < 0.001$ for DLMS) and higher numbers of RAP triggers ($p < 0.001$ for DEWGSOP, $p < 0.001$ for DLMS). Adjusted for age, educational level, BMI, and CCI, only DEWGSOP was significantly associated higher numbers of RAP triggers ($p = 0.001$), but not DLMS. Among components of dynapenia, only gait speed ($p < 0.001$), but not handgrip strength was independently associated with higher numbers of RAP triggers. By dividing subjects into groups based on the quartiles of gait speed, Q3 and Q4 group (gait speed ≤ 0.803 m/s) was significantly associated with higher complexity of care needs than the reference group (gait speed > 1 m/s). Dynapenia was significantly associated with complex care needs for older people. In particular, slowness alone was highly associated with various care needs among these subjects.

SESSION 3570 (POSTER)

CARDIOVASCULAR DISEASE

PREVENTIVE EFFECTS OF TESTOSTERONE ON DEVELOPMENT OF ABDOMINAL AORTIC ANEURYSM

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Background: Abdominal aortic aneurysm (AAA) is one of phenotypes of arterial aging characterized by aortic dilation with impaired arterial wall integrity. Recent studies have shown that men with AAA have lower serum testosterone compared to men without AAA, suggesting the preventive roles of testosterone. However, underlying mechanisms are not clear. In this study, we investigated effects of testosterone on the development of AAA using *in vivo* model.

Methods and Results: In wild-type mice (C57BL/6J, male, 12 week-old), testosterone deficiency was induced by castration. At 4 weeks after castration, AAA was induced by CaCl_2 application in infrarenal aorta and angiotensinII (2000ng/kg/min) infusion using osmotic-micropump for 4 weeks. When AAA was induced, castrated mice showed remarkable development of AAA compared to sham mice. Histological analysis revealed that by EVG staining, significant enlargement of aortic diameter and medial degeneration were seen in AAA-induced mice with castration. Mechanistically, infiltration of F4/80-positive macrophages was seen in the developed AAA of castrated mice. We further found that circulating IL-6 and aortic IL-6 expression were elevated and aortic STAT3 phosphorylation was increased, suggesting IL-6/STAT3-dependent inflammatory responses are attributed to the development of AAA in castrated mice.

Conclusion: These results demonstrate that testosterone deficiency proceeds AAA by IL-6/STAT3-mediated inflammation. Uncovering the effects of testosterone on inflammation in vessel provides mechanistic insight into the cardioprotective effects of testosterone.

GINSENOSIDE RB1 INHIBITED VASCULAR SMOOTH MUSCLE CELLS CALCIFICATION THROUGH ANDROGEN RECEPTOR

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Background: Vascular calcification is a significant pathological phenotype that increases with arteriosclerosis and aging. Given that ginsenoside Rb1 (Rb1), a major component of Korean Ginseng has a steroid structure, we hypothesized Rb1 has androgen-like protective actions in vessel. In the present study, we examined the effect of Rb1 on vascular calcification as well as carcinogenic actions observed by testosterone in prostate cancer cells. **Methods / Results:** In human aortic smooth muscle cells (HASMC), calcification was induced by inorganic phosphate (Pi, 2.6mmol/L). Rb1 significantly inhibited calcium deposition in a concentration-dependent manner, as shown by testosterone. Furthermore, bicalutamide, an androgen receptor (AR) antagonist abrogated the inhibition of calcification by Rb1, suggesting involvement of AR in the action of Rb1. Using luciferase assay, we found activity of androgen response element (ARE) was significantly enhanced by Rb1 in a concentration-dependent manner. Mechanistically, because apoptosis is one of the important regulatory mechanisms of HASMC calcification, we examined effects of Rb1 on Pi-induced apoptosis. Rb1 significantly inhibited apoptosis and this inhibition was also abolished by bicalutamide as observed by testosterone. Interestingly, unlike testosterone, Rb1 had no effect on proliferation and ARE activity of prostate cancer cells line (LNCaP). **Conclusion:** These findings demonstrate that Rb1 has beneficial effects both on vessel and prostate. If we could uncover the molecular mechanisms of Rb1, it is conceivable that Rb1 could be alternative to androgen as a selective androgen receptor modulator in clinical fields.

OXIDATIVE STRESS AND VITAMIN D LEVELS IN ELDERLY PATIENTS WITH HIGH RISK FOR ATHEROSCLEROTIC DISEASE

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Atherosclerotic cardiovascular disease (ACD) is highly prevalent among elderly persons and a great contributor to morbidity and mortality at this age. A group of 51 elderly patients, with risk factors or established CVD were studied. Their levels of tiaminobutiric acid (TBARS), glutathione peroxidase (GSH) and vitamin D. Results were compared by ANOVA and regression analysis. Their ages varied from 63 to 97 years, mean=78,2. There were 44 females (86,3%). TBARS and GSH levels were classified in low, normal or high, and vitamin D in insufficient or sufficient. Levels of vitamin D were insufficient in 79,6% (mean=23,73ng/ml); TBARS levels were high in 49,0%, normal in 37,3% and low in 13,7% (mean=1,14nmol/ml); GSH levels were low in 3,9% and normal in 96,1% (mean=1,66umol/ml). ANOVA was significant for TBARS and vitamin D ($p=0,001$), and close to it for GSH and vitamin D ($p=0,056$). Regression analysis was significant for TBARS and vitamin D ($p=0,009$). **Conclusion:** there was a high prevalence of insufficient levels of vitamin D and high TBARS; higher levels of TBARS occurred simultaneously with higher levels of vitamin D, suggesting oxidative stress is probably a problem for this population and vitamin D may not have a protective role. Studies including clinical variables are needed to better understand those results.

THE RELATIONSHIP BETWEEN LEPTIN AND CARDIOVASCULAR RISK FACTORS IN OLDER AFRICAN AMERICANS

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African Americans (AAs) have high prevalence of cardiovascular disease (CVD), possibly resulting from higher obesity rates and accompanying serum leptin levels. This study examines the relationship between serum leptin levels, physical health (diastolic and systolic blood pressure [DBP, SBP], Body Mass Index [BMI]) and health behaviors (hours of sleep, physical activity [PA]) in mid-life and older African Americans (n=89), using data from six churches in two counties in North Florida, USA. Three multiple linear regression block analyses were performed with leptin as a dependent variable: Model 1 included confounding factors (taking aspirin regularly, currently smoking, taking BP medication, age, gender, LDL cholesterol, HDL cholesterol, C-reactive protein, glucose, and triglycerides); Model 2 added DBP, SBP and BMI (log-transformed); and Model 3 included hours of sleep and PA. Model 1 showed that 60.7% of the variance in leptin levels was accounted for by the confounding factors ($p < .001$). Model 2, accounted for an additional 13.5% of the variance ($p < .001$), and showed significant influence of gender ($p < .001$), glucose ($p < .01$), and BMI ($p < .001$). Model 3 accounted for an additional 3.1% ($p < .001$) with glucose ($p = .006$), gender ($p < .001$), and BMI ($p < .001$) remaining significant along with PA ($p < .05$). This study showed that higher BMI's and to a lesser extent lower PA were significantly associated with leptin levels. Further, being female and having higher serum glucose levels also were significant predictors of leptin levels. Implications for health care providers will be discussed.

TRAJECTORY PATTERN OF ARTERIAL STIFFNESS AND MORTALITY RISK AMONG OLDER JAPANESE

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Arterial stiffness (brachial-ankle pulse wave velocity; baPWV) is good predictor of mortality in later life. This prospective study used repeated measures analysis to examine potential baPWV trajectory patterns, and determine whether baPWV trajectory patterns were associated with all-cause mortality. 1,744 adults (mean age, 71.0 years; women, 57.0%) aged 65 years or older underwent tests of baPWV during 2003–2015 (total observation number was 7,419). We ascertained all death by checking local registry; 294 (16.9%) deaths occurred during the follow-up period (median follow-up of 7.2 years). We identified four major trajectory patterns of baPWV: lowest, second, third, highest trajectory groups. The mean baPWV for low level group (28.8%) was 1386cm/sec at age 65. Likewise, those for the second (46.2%), third (21.2%), and highest trajectory groups (3.8%) were 1667cm/sec, 2026cm/sec, and 2611cm/sec at 65y, respectively. All four group tracked parallel declining trajectory after 65 year-old. Compared with those in the lowest trajectory group, participants in

the second, third, and highest trajectory groups showed 1.20 (95% CI: 0.87–1.65), 0.95 (0.65–1.40), and 1.78 (1.02–3.12) times higher risks for all-cause mortality even after adjusting for important confounders. Regardless of initial level, baPWV tended to show similar age-related change in later life. Our findings indicate that individual in highest baPWV trajectory group was at increased risk for mortality, which highlights the importance of interventions that improve arterial stiffness, even among older adults with high baPWV.

GERIATRIC SYNDROMES WITH HEART FAILURE, CROSS-SECTIONAL STUDY WITH IMPLICATION IN CLINICAL PRACTICE

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Introduction: Heart failure (HF) is a common health problem and its prevalence follows an exponential pattern, rising with age, and may affect up to 10 % of population over the age of 65, worldwide. Geriatric syndromes (GS) like polypharmacy, frailty, cognitive impairment, depression are very loosely defined and in India data about its association and co-occurrence with HF is extremely sparse. The purpose of this study is to assess the co-occurrence and association of major geriatric syndromes with heart failure in older patients of a tertiary care hospital in India

Materials and method: In this cross sectional case-control study, conducted in the Department of Geriatric Medicine, 220 patients with clinical and radiological features of HF (Boston criteria) and equal number of age and sex matched controls (patients without HF) were evaluated. They were subjected to detailed clinical examination, chest X-Ray, echocardiography along with comprehensive geriatric assessment. For cognitive impairment Hindi MMSE, GDS for depression was used. patient evaluated based on Fried's criteria for frailty and self-report information respectively. Patients were managed as per standard treatment protocol for HF

Results: Out of the 220 case and 220 controls, 94% of patients with HF were below 80 years of age. Polypharmacy (58.20 %) was the most common GS, present in patients of HF followed by frailty (38.18 %). Compared to controls, frailty ($p=0.05$), depression ($p<0.01$), cognitive impairment ($p<0.01$) showed significant association with heart failure

Conclusion: HF has significant association with major GS because of shared risk factors. Coordinated management of both heart failure and geriatric syndromes is important.

POOR SLEEP QUALITY, VITAMIN D DEFICIENCY, AND COGNITIVE IMPAIRMENT IN ELDERLY WITH HEART FAILURE

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Background: Poor sleep quality and low vitamin D intake are associated with higher risk for global cognitive impairment in healthy adults. However, the relationship between

sleep quality, vitamin D intake, and cognitive impairment was unknown in elderly with heart failure (HF).

Purpose: To determine whether vitamin D intake mediates the link between sleep quality and cognitive impairment in elderly with HF.

Methods: A total of 160 HF patients completed the Mini-Mental Status Examination (MMSE) to assess cognitive impairment. Sleep quality was measured by the Pittsburgh Sleep Quality Index (PSQI). Vitamin D deficiency was defined as <15 mcg/day of average intake through a 3-day food diary. Hierarchical linear regressions and mediation analysis were used for data analysis.

Results: Forty patients (25%) had high risk for cognitive impairment ≤ 19 of total MMSE score; 120 (75%) reported poor sleep quality (PSQI >5) and 88 (55%) had vitamin D deficiency. The first equation regressed vitamin D deficiency ($\beta = -0.41$, $p < 0.001$) on cognitive impairment. The second equation regressed poor sleep quality on cognitive impairment ($\beta = -0.18$, $p = 0.021$). Poor sleep quality was associated with vitamin D deficiency (OR = 2.26, $p = 0.033$). When both poor sleep quality and vitamin D deficiency were entered in the third equation, the relationship between poor sleep quality and cognitive impairment was not significant ($\beta = -0.13$, $p = 0.076$).

Conclusions: The impact of sleep quality on cognitive impairment is mediated by vitamin D intake in elderly with HF. Further work is required to examine the protective role of vitamin D adequacy against cognitive impairment, particularly in HF patients with poor sleep quality.

URINARY ALBUMIN-TO-CREATININE RATIO AND CAROTID ATHEROSCLEROSIS IN THE VERY OLD

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The aim of this study was to investigate the association between urinary albumin-to-creatinine ratio (UACR), a biomarker of renal injury and carotid atherosclerosis in two independent cohorts of the very old. In the TOOTH study, UACR was measured in 531 community-living seniors aged 85 years or older, and all-cause mortality was followed for 6 years. In the SONIC study, UACR was measured in 1,125 community-living seniors (503 individuals aged 70 years, 462 individuals aged 80 years, and 160 individuals aged 90 years). In both studies, carotid atherosclerosis was evaluated with B-mode ultrasonography. In the TOOTH study, median UACR was 11.2 mg/g. In the multivariate logistic regression analysis adjusted for age, sex, hypertension, hyperlipidemia, stroke, and heart disease, UACR was significantly associated with carotid atherosclerosis (odds ratio 1.001, $p = 0.041$), however, further adjustment for chronic kidney disease (CKD) and diabetes attenuated the association. UACR was significantly associated with all-cause mortality in the fully-adjusted model (hazard ratio; 1.001, $p = 0.001$). In the SONIC study, the median UACR was 5.7 mg/g, 9.3 mg/g, and 10.1 mg/g

in 70 year, 80 years, and 90 years, respectively. We replicated significant associations between UACR and carotid atherosclerosis in 70 years and 80 years (odds ratio; 1.006, $p = 0.040$, odds ratio; 1.005, $p = 0.017$, in 70 years and 80 years, respectively), however, further adjustment for CKD and diabetes attenuated the association in 70 years. Findings from the two independent cohorts confirmed the association between UACR and carotid atherosclerosis in the very old. Diabetes and CKD could be the pathogenesis of UACR.

THE INFLUENCE OF BMI FROM CHILDHOOD TO ADULTHOOD ON COGNITION AND PHYSICAL PERFORMANCE IN MIDDLE AGE

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It is unclear whether BMI from childhood and young adulthood predicts cognition and physical performance in mid-life. Using data from Bogalusa Heart Study ($n = 880$; mean (SD) age at baseline = 10.6 years (2.8), BMI = 18.1 (3.6), 64.1% female, 33.0% black), we examined the longitudinal association of BMI, measured at recurrent clinic visits, with cognition (the sum of standardized scores on 11 validated neuropsychological tests) and physical performance (the Short Physical Performance Battery [SPPB]). A one-unit increase in BMI was associated with a decrease of 0.14 points ($p < 0.001$) on the SPPB and of 0.001 ($p = 0.02$) standard deviations in the global cognitive z-score in multivariable GEE models. The association disappeared in whites but remained for blacks when analyzed separately, suggesting a possible difference by race. Models investigating rate of change of BMI provided similar results, suggesting that interventions targeting BMI reduction or preventing obesity in childhood may improve cognition or physical function in middle age.

ARTERIAL STIFFNESS A CHOICE MAKER OF THE CARDIOVASCULAR TREATMENT AT ELDERLY WITH DIABETES

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Introduction: Previous research has indicated that treatment with more than one antihypertensive medication class is related to elevated levels of PWV. The aim of the study was to follow the link of antihypertensive treatment and arterial stiffness at elderly with diabetes.

Methods: 143 participants were included; 81.2% female and 18.8% males; mean age was 72.28 ± 10.098 years. Parameters of arterial stiffness aPWV were measured using an oscillometric device (Arteriograph) in addition to a medical history, physical examination, and laboratory tests. Depending on the diagnosis of diabetes we have 2 groups.

Results: Age is positively correlated with Aortic PWV ($r = 0.65$, $p < 0.001$) and also brachial augmentation index ($p = 0.02$) but not with diabetes. We observe a high rate of 28% converting enzyme inhibitor used in people with diabetes. The proportion of diuretic class exceeds 16% in diabetic

patients compared with 10% in those without diabetes ($p=0.020$). Diabetic patients appear to be more educated on the importance of treatment, 61% of them constantly taking him to those without diabetes. Those with uncontrolled blood pressure group presents a mean aortic pulse wave velocity statistically significantly higher (Student t-test, $p=0.043$). We see a lower PWV on those who have diuretic treatment (17%).

Conclusions: The evaluation of arterial stiffness represents a valuable tool for elderly with diabetes. It should be noted that the effects of pharmacologic agents on stiffness are slight or modest, but not substantial and new therapeutic approaches to decrease arterial stiffness are needed.

EFFECTS OF A COMBINED EXERCISE ON CAROTID ARTERY PARAMETERS IN ELDERLY WOMEN WITH SARCOPENIC OBESITY

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Sarcopenic obesity is more closely associated with cardiovascular disease (CVD) than non sarcopenic obesity the older population. Higher body fat mass and age-related loss of the skeletal muscle mass is closely associated with increases of carotid artery intima-media thickness (CIMT). The aim of this study was to examine the effectiveness of a 24 week combined exercise program on carotid parameters in elderly women with sarcopenic obesity.

Fifty sarcopenic obesity elderly women (74.1 ± 6.1 years) were randomly allocated into either the exercise or control groups. The exercise group performed supervised strength and aerobic combined exercise over 24 weeks, for a 50–80 minutes, 5 times a week. CIMT, systolic flow velocity (PSV), carotid luminal diameter (CLD), diastolic flow velocity (EDV), and wall shear rate (WSR) were measured using B mode ultrasound. The differences in all carotid variables and the relative changes between baseline and 24 weeks, follow up were evaluated. In the analysis of variance results, CIMT ($p = 0.013$), PSV ($p = 0.007$), EDV ($p = 0.006$), and WSR ($p = 0.010$) showed significant group $\times$ time interactions. Despite the CLD did not change, CIMT significantly decreased ($p < 0.01$), PSV ($p < 0.01$), EDV ($p < 0.001$), and WSR ($p < 0.05$) were significantly increased after 24 weeks in exercise group.

The results suggest this combined exercise intervention could be an effective approach to reduce CAD risk by ameliorating the risk factors for CAD in elderly community-dwelling women with sarcopenic obesity.

FIFTEEN-YEAR EXPERIENCE IN APPLICATION OF PINEAL GLAND PEPTIDES IN ELDERLY SUBJECTS

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In recent years discussions have been held on the significance of pineal gland functioning changes in aging and age related pathologies.

The purpose of study was to evaluate the latest results of long-term use of pineal gland peptides (PGP) in elderly patients with coronary artery disease (CAD).

79 patients with stable angina (2nd functional class), aged 65 ± 3 , with low nocturnal pineal melatonin level (PML < 40 ng/l at 3 a.m.) were selected and divided into 2 groups. The 1st group patients ($n=39$) were administered PGP during 3 years (i.m. 10mg once in 3 days, 5 injections during each course, intervals between courses being 6 months). The 2nd group patients ($n=40$) were not prescribed PGP. Patients of each group were receiving low doses of acetylsalicylic acid, ACE inhibitor, beta-blocker and statin. Results were assessed by measuring PML, indices of physical working capacity, changes in blood lipids and glucose. In addition, over 15 years we have verified causes of fatalities.

After 1st and subsequent courses with PGP there occurred a more than 2-fold increase in the nocturnal PML. Against this background, exercise endurance was improved and thereafter physical capacity kept higher levels. Within PGP administration, the elevated LDL cholesterol levels decreased. Plasma glucose levels also decreased at fasting and at standard oral glucose tolerance test. The number of patients with glucose intolerance reduced from 56% to 24%. No positive changes were seen in 2nd group. After 15 years since we began using PGP in our patients, there remained 26 of 39 survivals (66.7%) among them. In the 2nd group only 16 of 40 (40%) CAD patients have survived over the same period. Prolonged use of PGP has reduced cardiovascular mortality.

So, pineal gland peptides has restored pineal gland activity in elderly CAD patients, improved their physical working capacity, lipid and carbohydrate metabolism, and significantly reduced a risk of premature death due to cardiovascular events.

ORTHOSTATIC HYPERTENSION IN THE OLDEST OLD

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We investigated the prevalence and association with mortality of orthostatic hypertension (OHYPER) amongst the oldest-old.

Data were collected from The Jerusalem Longitudinal Study, which prospectively follows a representative birth cohort, born 1920–1921. Comprehensive assessment at ages 85 ($n=1004$), and 90 ($n=437$) included averaged Sitting blood pressure (BP), (measured three times on two occasions) compared to 1-minute standing BP. OHYPER, orthostatic hypotension (OHYPO) or normotension (ONORM) were defined if standing–sitting SBP increased or decreased by ≥ 20 mmHg. Mortality data between ages 85–95 were collected.

We found that OHYPO, ONORM, OHYPER prevalence was 5 % ($n=48$), 91% ($n=915$), and 4% ($n=41$) at age 85, and 9% ($n=39$), 88% ($n=385$), and 3% ($n=13$) at age 90. OHYPER was associated ($p<0.05$) with financial hardship, higher weight, loneliness, and anemia at age 85, and anemia and low rate of poor self-rated health at age 90. Sitting SBP was $157 \pm 22/75 \pm 11$, $147 \pm 21/74 \pm 11$,

and $140 \pm 16/74 \pm 10$ mmHg among OHYPO, ONORM, and OHYPER at age 85 ($p < 0.0001$), and $166 \pm 28/75 \pm 10$, $145 \pm 23/69 \pm 11$, and $138 \pm 23/74 \pm 9$ mmHg at age 90 ($p < 0.0001$) respectively. Ten-year survival was 27%, 30%, and 27% respectively at age 85 (log-rank $p = 0.34$). Five-year survival was 57%, 67%, and 55% respectively at age 90 (long-rank $p = 0.14$). After adjusting for gender, physical inactivity, anemia, ADL dependence, diabetes, and ischemic heart disease, OHYPER at age 85 was not associated with mortality (Hazard Ratio = 0.95, 95% CI 0.65–1.39). Few OHYPER at age 90 precluded modeling.

Our findings show that OHYPER is uncommon among community-dwelling oldest old, and is not associated with increased mortality.

IMPACT OF BETA BLOCKERS ON FUNCTIONAL OUTCOMES IN NURSING HOME RESIDENTS AFTER MYOCARDIAL INFARCTION

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Beta blockers are a mainstay of treatment after acute myocardial infarction (AMI). Yet, these medications are commonly not prescribed for older nursing home residents after AMI, in part owing to concerns about potential functional harms and uncertainty of benefit. We conducted a propensity score-matched cohort study of the impact of beta blockers on functional decline, mortality and rehospitalization in the first 90 days after AMI among long stay nursing home residents 65+. The study cohort included 5,496 new beta blocker users and an equal number of non-users. Mean age was 84 years. Beta blocker users were more likely than non-users to experience functional decline (OR 1.14, 95% CI 1.02–1.28). Conversely, beta blocker users were less likely than non-users to die (HR 0.74, 95% CI 0.67–0.83) and had similar rates of re-hospitalization (HR 1.06, 95% CI 0.98–1.14). Nursing home residents with moderate or severe cognitive impairment or severe functional dependency were particularly likely to experience functional decline (OR 1.34, 95% CI 1.11–1.61 and OR 1.32, 95% CI 1.10–1.59, respectively). In contrast, there was little evidence of functional decline in subjects with better cognitive and functional status (ORs 0.99 to 1.05; P value for interaction 0.03 and 0.06, respectively). Mortality benefits of beta blockers were similar across all subgroups. Use of beta blockers after AMI is associated with functional decline in older nursing home residents with substantial cognitive or functional impairment, but not in those with relatively preserved mental and functional abilities. Beta blockers yielded considerable mortality benefit in all groups.

CHURCH INTERVENTION TO REDUCE CARDIOVASCULAR RISK IN OLDER AFRICAN AMERICANS: SIX-MONTH FOLLOW-UP

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African American (AA) adults have higher morbidity and mortality rates for cardiovascular disease (CVD) in comparison to other racial/ethnic groups in the U.S. Key risk factors for CVD include poor dietary intake and inactivity, hypertension, diabetes, and dyslipidemia. Although research suggests church-based health programs are effective in addressing these risk factors, few longitudinal studies have been conducted. This paper examines the six-month outcomes of a church-based health intervention to reduce CVD risk in AAs conducted with mid-life and older African Americans in six churches (three treatment, three comparison) in North Florida, using a clinical subsample ($n = 78$). The first six months of the intervention, developed using community-based participatory processes and undergirded by socio-ecological theory, included an emphasis on CVD awareness and nutrition (i.e., training sessions for church steering committees, kick-off events planned by the churches that focused on dietary health, and culturally tailored materials). Variables investigated in the study were related to diets (fat and fruit/vegetable intake), anthropometrics (weight, BMI, circumferences), blood pressure (diastolic, systolic), diabetes indicators (glucose, insulin), cholesterol (HDL, LDL, VLDL and Total CHOL), and other biomarkers (adiponectin, Apo A1, Apo B, C-reactive protein), controlling for medication use. Findings showed significant improvement between baseline and six months in C-reactive protein ($t = 2.368$, $p = .02$) and trends for lower LDL and BMI's. Other findings and implications for practice will be discussed.

HYPERHOMOCYSTEINEMIA IS ASSOCIATED WITH COGNITIVE IMPAIRMENT IN ELDERLY PATIENTS WITH HYPERTENSION

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Methods: Fifty-nine elderly patients with hypertension were enrolled from January 2016 to June 2016. All patients were divided into two groups: lower homocysteine level group (Group H) or hyperhomocysteinemia group (Group HH). Hyperhomocysteinemia (HH) was defined as serum Hcy level more than or equal to 10 $\mu\text{mol/L}$. The degree of WML was rated by Fazekas scale using magnetic resonance imaging (MRI) analysis. Neuropsychological examinations including mini-mental state examination (MMSE) and Montreal cognitive assessment (MoCA) were taken to assess cognitive function.

Results: Compared with group H, the score of Fazekas scale and deep white matter hyperintensity on MRI in HH group were significantly increased (3.17 ± 0.96 vs 2.50 ± 1.04 and 1.72 ± 0.75 vs 1.27 ± 0.66 , both $P < 0.05$). The scores of MMSE and MoCA were lower in HH group than in H group (24.86 ± 3.28 vs 27.72 ± 1.81 and 18.55 ± 3.91 vs 25.00 ± 3.0 , both $P < 0.05$). Levels of serum homocysteine were positively correlated with the degree of WML ($r = 0.430$, $P < 0.01$) and negatively correlated with cognitive function scores ($r = -0.406$ in MMSE and -0.663 in MOCA, both $P < 0.01$).

ARTERIAL COMPLIANCE CHANGES AND IMPAIRED COGNITIVE/PHYSICAL FUNCTION: A RACE-DEPENDENT ASSOCIATION

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Decreased cerebral perfusion due to reduced arterial compliance is linked to cognitive and physical impairment in aging adults with overt vascular disease. However, this association, as well as its racial (black-white) disparities, have not been thoroughly elucidated in non-institutionalized middle-aged adults. Our analyses considered 471 participants of the Bogalusa Heart Study (mean age 48.2 years, 33.8% blacks, 58.6% females) with available information on arterial compliance—assessed non-invasively via aorto-femoral pulse wave velocity (afPWV)—in two time points (mean follow-up 12.7 years), as well as cognitive and physical function assessed later in life. Black participants with impaired physical and cognitive function showed significantly greater yearly progression of afPWV compared to white participants. In multivariable-adjusted logistic regression analyses, yearly progression of afPWV was significantly associated with decreased cognitive and physical function, in black participants only. These findings suggest a race-specific differential impact of decreasing vascular compliance over time on impaired cognitive/physical function in middle-aged adults. More multidisciplinary research initiatives should be undertaken to explore race-specific physiopathological mechanisms involved in the effect of vascular aging on cognitive and physical function deterioration.

COGNITIVE DEFICIT AND CARDIOVASCULAR RISK IN COMMUNITY-DWELLING ELDERLY

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The aim of this study was to verify the relationship between cardiovascular disease (CVD) risk factors and cognitive deficit in community-dwelling elderly. In a cross-sectional study with 154 older adults divided into three groups: Group 0 (G0): without cognitive deficit ($n = 58$; 38%); Group 1 (G1): suggestion of cognitive deficit in one cognitive screening test ($n = 65$; 42%) and Group 2 (G2): suggestion of cognitive deficit in two cognitive screening tests ($n = 31$; 20%), using the Mini-Mental State examination (MMSE) and Verbal Fluency (VF) animal category. The ascertained CVD risk factors were self-reported and/or directly measured hypertension, diabetes mellitus, sedentary lifestyle, dyslipidemia, central obesity (conicity index) and smoking. The most prevalent CVD risk factor was central obesity (84.4%) and the lowest one was smoking (4.5%). Self-reported diabetes mellitus was more prevalent in G2 (51.6%) participants when compared with G0 (19%) and G1 (24.6%) participants (Chi-Square test: $P=0.002$). Ordinal regression was significant ($p=0.006$) only to diabetes mellitus with Odds Ratio of 0.628 (IC95%: 0.184–0.754). Therefore, older adults without diabetes mellitus had a 62.8% ($1-0.628 \times 100\% = 62.8\%$) lower odds of having a cognitive deficit in two cognitive screening tests in the population studied. We concluded that central obesity was highly prevalent among the total sample. In conclusion, older people with cognitive deficit in two cognitive screening tests corresponded to a larger proportion of diabetes

mellitus, highlighting the need for preventive strategies in order to avoid the relationship between chronic disease that compose the CVD risk with cognitive impairment.

GAIT SPEED IS RELATED TO THE ARTERIAL STIFFNESS OF ELDERLY?

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Background: Arterial stiffness is increasingly recognized as an important predictor of cardiovascular events and even mortality in older adults. Few studies have evaluated the association of arterial stiffness with gait performance.

Purpose: We examined associations between physical performance and vascular or hemodynamic parameters at elderly.

Methods: Is a prospective study on 143 subjects (mean age 72.85 ± 10.07 years). We assessed physical activity with Short Physical Performance Battery (balance test, 4m walk test, chair stand test). Arterial stiffness was measured oscillometrically by means of the aortic pulse wave velocity (PWVao) and pulse pressure (PP) by Arteriograph.

Results: In the age group "very old" (>85 y), 53% of those were with low physical activity, and only 30% with average and good physical performance (Chi square test, $p < 0.001$). PWVao had a statistically significant difference ($p = 0.094$) in those with low physical performance (10.37 ± 1.89 m/s) than those with medium or good physical performance (9.85 ± 1.73 m/s). Gait speed is statistically significant ($p < 0.001$) between groups with low physical performance and those with medium and good physical performance. PWVao means were significantly increasing from 9.95 ± 1.63 m/s in the group without risk of disability to 10.37 ± 1.74 m/s in the group at high risk of disability. The relationship between arterial stiffness and speed is not statistically significant, but it is with central systolic blood pressure (SBPao). Pulse pressure is correlated significantly with gait speed in our study.

Conclusion: PWVao has a direct statistical relationship with physical activity increasing significantly in the group with higher risk of disability. Arterial stiffness and blood pressure are directly related significant. Gait speed depends on both physical performance and pulse pressure but not correlated with pulse wave velocity. These results warrant further investigation in larger outcome studies.

IMPROVING THE KNOWLEDGE AND INTERPROFESSIONAL CARE FOR HEART FAILURE IN NURSING HOMES: A PILOT STUDY

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This pilot study assessed the preliminary impact of an intervention designed to: improve staff heart failure (HF) knowledge; develop efficient interprofessional (IP) communication processes for improved HF management; and integrate both into routine practice in nursing homes (NHs).

The intervention was implemented on single units in two NHs. A mixed methods approach was used to collect qualitative (interviews, observations) and quantitative (surveys) process and outcome data at baseline and three months post-intervention.

Results identified trends towards improvement in HF knowledge, self-efficiency and IP communication. Unregulated care providers and clinicians benefited from the education to a similar extent, and collaboratively developed innovative IP communication processes to better manage HF in NHs.

The findings of this pilot study suggest that the intervention is acceptable, feasible, and has a favourable impact on HF knowledge and IP communication among NH staff. Investigators are proceeding to conduct a larger trial to determine further outcomes.

INCREASED INCIDENCE OF HEART FAILURE HOSPITALIZATION IN ELDERLY PATIENTS AFTER MAJOR EARTHQUAKES

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Acute stress after natural disaster can trigger cardiovascular events, including acute myocardial infarction (AMI), arrhythmias and worsening of heart failure (HF). On April 16, 2016, a series of strong earthquakes struck the Kumamoto region of southern Japan. Aso city is a small rural city with a population of approximately 30,000. More than 30% of the population is over the age of 65. We examined the patients admitted to our hospital for cardiovascular events after the earthquakes in this area. We also compared them to the patients during the corresponding period in the prior 2 years (2014 and 2015) as a control. There were a total of 54 cardiovascular events from April 16 to June 30, 2016 (27 HF, 10 cardiopulmonary arrest, 5 arrhythmias, 4 AMI, 3 angina attack, 3 symptomatic venous thromboembolism, 2 others). The total incidence of HF was significantly higher compared with the average of the past 2 years (27 in 2016 vs 5.5 in the past 2 years, $P < 0.01$). In the patients with HF, 22 patients (81%) were defined as elderly patients (>75 years old). Eleven patients (40%) had a preserved left ventricular ejection fraction. Twenty patients (74%) had a previous history of HF. Disaster influence on deterioration of HF was suggested by patient history in the twenty patients (74%). Precipitating factors included anxiety, sleep disorder, interruption of medication, malnutrition, uncontrolled hypertension, arrhythmias, myocardial ischemia and infection. Our results suggest the importance of preventing HF in catastrophic disasters, especially in elderly people.

SELF-MONITORING OF BLOOD PRESSURE IN PATIENTS TREATED WITH ANTI-ANGIOGENIC DRUGS

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Introduction: Anti-angiogenic treatments (AAGG) are increasing used among therapeutic drugs in cancers. By their systemic action, they are often responsible for an increase in arterial pressure (hypertension), requiring regular blood pressure control. To date the interest of non-supervised blood pressure self-measurement at home (BPSM) compared to supervised blood pressure monitoring telemonitoring (TM) have not been formally established.

Materials and Methods: Seventeen patients (mean 71 yrs ± 5 years) were enrolled at the University Hospital of Angers and ICO Paul Papin and treated by an AAGG (Sunitinib - or Bevacizumab). They realized self-measurement of blood pressure according to the two different protocols (BPSM and TM) during two treatment cycles. We studied the impact of the monitoring protocols on the hypertension diagnosis, and the contribution of supervised monitoring in the therapeutic management and finally the impact on quality of life assessed by questionnaire.

Results: We have demonstrated a significant impact of self-measurement protocol in terms of number of diagnosis of hypertension ($p < 0.0005$). The difference in term of therapeutic modification was 3 days (± 3) for TM vs. 4 days (± 3) for conventional BPSM (NS*).

Conclusion: These preliminary results encourage the use of supervised rather than non-supervised blood pressure monitoring to early detect hypertension. Supervised blood pressure monitoring, increases the quality of data collection, facilitating their interpretation and allows the diagnosis of acute events with alerts. Furthermore, this supervised monitoring method enhances patients' sense of security without being experienced as binding.

SESSION 3575 (POSTER)

CAREGIVING AND CARE VALUES I

STRESS AND DEPRESSION AMONG CAREGIVERS FOR OLDER MEXICAN AMERICANS WITH AND WITHOUT STROKE

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The purpose of this study was to examine the association between caregiver stress and depression among caregivers for older Mexican Americans with and without stroke. The older adult and caregiver ($n=864$) data were from the Hispanic Established Population for the Epidemiologic Study of the Elderly (H-EPESE) – Wave-7. Caregivers were mostly female (73%) and their average age was 58 years. The older Mexican Americans were mostly female (65%) with an average age of 86 years. We used the Center for Epidemiologic Studies Depression Scale (CES-D) and Perceived Stress Scale-4 (PSS-4) to assess caregiver depression (CES-D > 16) and stress (PSS-4 > 4), respectively. Caregivers were divided into four groups based on whether the person they cared for previously had a stroke and their own level of stress: not stroke and no stress

($n=508$) – reference group, stroke and no stress ($n=67$), not stroke and stress ($n=251$), stroke and stress ($n=36$). Sixty-two (7%) caregivers demonstrated clinical depression. The multivariate analyses revealed that caregivers with higher stress caring for individuals with and without stroke were more likely to be depressed (OR 6.2, 95% CI=2.0–19.3 and OR 8.2, 95% CI=4.2–16.1, respectively) compared to those with no stress caring for individuals without stroke – after adjusting for caregiver and individual demographics, and caregiver comorbidities. Caregivers provide a unique perspective of the individual and often experience their own health problems when coping with the challenges of caring for a loved one with functional needs; hence it is essential to account for their burden and enhance their support.

PERSPECTIVES OF OLDER PEOPLE RECEIVING INFORMAL CARE ON FRAILTY, QUALITY OF LIFE, AND AUTONOMY

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Despite numerous researches concerning frailty in older people, frailty is often approached in relation to negative outcomes (mortality, institutionalization, co-morbidity, etc.) and do not consider positive outcomes such as quality of life and autonomy. Furthermore research often provides evidence of the effects of informal care on the wellbeing of informal caregivers and not of the older care recipient. Consequently, this paper aims to explore the quality of life and autonomy of older people, and how informal care contribute to this. Therefore, we analyze semi-structured, qualitative interviews among community-dwelling older people from Belgium ($N = 121$) from the D-SCOPE study, an international research project that focuses on prevention and detection of frailty in older people. Results indicate that older people receive informal care from different types of informal caregivers (partner, daughter, neighbor, etc.), which provides support within different domains of frailty. Although informal care can improve the quality of life of older people in several ways, older people often experience losses in their autonomy resulting in a decrease in quality of life. Older care recipients furthermore acknowledge that informal caregivers can also be frail. Conclusively, this study provides evidence that informal care counteracts the feeling of frailty in older people, and enforces their quality of life. However, informal caregivers need to be supported, as frailty not only occurs in older care recipients but also in informal caregivers.

RESILIENCE AND RESOURCEFULNESS IN ALZHEIMER'S FAMILY CARE PARTNERS: OBSERVATIONS OVER FIVE YEARS

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Care partner strengths are often overshadowed by the well-documented negative consequences of caring for a family member with dementia. Since spring 2012, twelve cohorts of care partners ($n=125$) participated in Memory Makers, an eight-week Alzheimer's education and support group. After

“graduating,” many chose to stay connected to each other and the facilitators via the Alpha Community, a friendship group, named by one of the participants, with activities chosen by members, and a social worker to handle the logistics and lead discussions. The Alphas gather for monthly lunches, museum and music programs, support groups, tailored workshops and less structured activities. The Alpha Community care partners have displayed unanticipated resilience and resourcefulness while facing progressive challenges. Heroic efforts were observed in caring for relatives with acceptance and dignity, even as Alzheimer's advanced over four years. These strengths may be attributed to traits and resources of the individuals, but also to distinctive interactional characteristics of the community. Although just being “in the same boat,” and knowing “you are not alone,” seems to foster resilience and resourcefulness, the unique social engagement of the Alpha Community allows participants to learn from each other, rely on one another and share a survivorship frame of reference. Observation of resilient, resourceful themes in Alpha Community participation indicate beneficial outcomes in several domains, including increased self-confidence, validation of feelings, decreased isolation and increased use of respite. The Memory Makers group has been integrated into the Duke Geriatric Workforce Enhancement Program inter-professional team education activities.

CHARACTERISTICS OF FAMILY CAREGIVERS OF OLDER PEOPLE IN IRELAND: A NATIONAL PROFILING STUDY

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Profiles of family caregivers indicate that most are female in the middle to older years and carry substantial caregiving responsibilities for, typically, one family member. This paper reports the findings of a national study, which profiled family carers of older people in Ireland. Based on a sample of 2,311 family caregivers, the survey generated profiling data on caregivers' demographic characteristics, caregiving activities, and care recipient characteristics. Our sample contained a higher proportion of female caregivers in the older age category than that reported in recent profiling studies and our care recipient profile indicated a high proportion of older women with high levels of dependency. We observed a statistically significant difference between the perceived relationship quality before and after caregiving had commenced. Providing fine-grained information on family caregiving in Ireland, the study complements national census data and provides evidence that can inform national social policy and enable international comparisons.

LATENT CLASS APPROACH TO DIFFERENTIATE REASONS CAREGIVERS SEEK RESPITE CARE SERVICE

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The Corporation for National and Community Service's Senior Companion (SC) program offers opportunities for adults to provide assistance to individuals who have difficulty with daily tasks, and provide respite to their families.

The sample consisted of 72 caregivers seeking respite service for the first time, and included females (83%), White (53%), married or living with a partner (64%), caring for their spouse/partner (39%) or parent (35%), and ages 29–88. Respondents were asked to rate the ways in which a SC might support them as caregivers for an aging friend or relative. A latent class analysis, based on 12 motivations for seeking SC respite services, suggests that caregivers have difficulty meeting their own needs, some in more areas than others. The analysis identified three distinct types of motivation based on caregivers' need for respite service and the needs of their care recipient: Critical (46%), Essential (17%), and Moderate (37%) Need. A multinomial logistic regression analysis found that motivation was not associated with caregiver's employment status. Caregivers were more likely to belong in the Critical and Essential Need groups if the care recipient had the following characteristics: difficulty preparing meals, getting in and out of bed, and need transportation services. The findings advance knowledge about variance in caregivers' respite needs and could inform programmatic efforts required to support individuals in their caregiving roles, spur creative thinking about identifying families most in need of service, finding additional ways of helping families support elders in their homes, and training SC volunteers and supervisors.

COST OF FAMILY CAREGIVING: SHORT AND LONG-TERM FINANCIAL CONSEQUENCES OF CANADIAN CAREGIVERS

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Due to the progressive aging of population, family caregiving is in greater need in Canada. However, accumulative evidences have identified the negative financial issues family caregivers would encounter. Current study, based on the Canada General Social Survey (cycle 26): caregiving and care receiving, intends to understand the financial consequences of becoming family caregiver from both short-term and long-term perspectives. Bivariate and multivariate analyses are conducted to explore the financial consequences in short and long term. Bivariate analysis indicates that when compared to non-caregivers, family caregivers would have more out-of-pocket expenses for home modification, professional services and medicine and so on. Additionally, caregivers report more financial behaviors, including borrow money, take loan, use saving and sell off assets, which would cause them financially disadvantage. What's more, results also indicate the greater amount of working accommodations caregivers make to meet their caregiving responsibilities. These working adjustments, including reduce working hours, shift to part-time position, turndown job promotion and so on, would certainly affect caregivers' income level and the entitlement of pension or other income security for future. Further multivariate analysis indicates that family caregivers who are female, lower education level, from ethno-cultural background, and providing higher intensive caregiving, with limited access to community services tend to suffer from negative short and long term financial consequences. The findings increase the evidence of negative financial impacts on family caregivers; also emphasize the importance of providing necessary support to caregivers from a long-term perspective.

TECHNOLOGY PERCEPTIONS AMONG CHINESE FAMILY CAREGIVERS OF PERSONS WITH DEMENTIA: A SEX-GENDER LENS

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Background: Dementia is a major public health concern associated with significant caregiver demands. While technologies are available to assist with caregiving, there is a paucity of information on caregiver needs and preferences for these technologies, especially among Chinese family caregivers of persons with dementia.

Objective: The purpose of this study was to examine the technology needs and preferences of Chinese family caregivers of persons with dementia in Canada.

Methods: A cross-sectional pilot survey was conducted through the Yee Hong Centre of Geriatric Care in Ontario, Canada in English and Mandarin. Respondents could complete the questionnaire over the phone, internet, or by mail. Frequency distributions, Wilcoxon Signed Ranks Test and multiple regression analyses were used to examine difference by sex/gender.

Results: The majority of the 40 respondents to date did not demonstrate knowledge about technology that can assist with caregiving. Ease of installation and reliability were identified as the most important features when installing and using technology. Despite little knowledge about technology, respondents demonstrated a positive attitude towards technology use during caregiving. Controlling for age, female respondents were significantly more receptive to technology compared to males.

Conclusions: Our findings suggest a need to increase awareness of technology options to assist with caregiving in this population. They provide insights for future development and marketing of technologies that better align with the needs and preferences of male and female caregivers. Further exploration of additional environmental and social influences on technology perception is warranted to better understand and tailor technologies for this population.

INTERACTIVE ONLINE COUNSELING FOR FAMILY CAREGIVERS OF PEOPLE WITH DEMENTIA

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The elderly population continues to grow in all European countries. With age being the strongest known risk factor for dementia, the prevalence of people with dementia is increasing, too.

The care and support needed by these mentally ill people is primarily provided by relatives within the home environment. Most of them are at high risk of developing depression and becoming socially isolated.

In the context of the EUROFAMCARE study it becomes obvious that the use of support services (e.g. counseling services) is very low in Germany. Dementia is still a topic out of bounds and 78% of family caregivers do not even make use of support services at all.

An increase in service usage can be assumed if low-threshold access to available information and support services is provided.

Online counseling could be such a low-threshold possibility of access.

An honorary and fourfold web-based online counseling service for family caregivers of people with dementia is presented. The counseling concept and several low-threshold elements are defined. One-year access statistics are shown regarding a variety of counseling offers.

Statistics and data visualization methods are included in the website, such as dementia city maps showing proportions of demented people in different urban districts. Easy access to regional epidemiological data is suggested to have a taboo-breaking effect with positive impact on "silent" family caregivers, thus promoting the usage of counseling and support services.

Conclusions are drawn concerning further improvements to increase community awareness of dementia and to ensure accessibility to target groups of family caregivers.

IMPACT OF WORLD WAR II-RELATED EXPERIENCES ON CURRENT INFORMAL CARE IN GERMANY

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Some of the worst crimes against humanity in history were committed by Nazi Germany, with many of the victims still suffering from their experiences today. Until about 15 years ago, it was difficult to discuss the psychological consequences of experiences undergone by non-persecuted German individuals during World War II, such as bombing, sexual assault or displacement. However, as the people concerned are now getting old, the topic has become increasingly important in current care situations. This study represents the first empirical research on the effects of war-related experiences on informal care in Germany.

The study is based on 21 interviews with informal caregivers caring for someone with WWII-related experiences. Most of the interviewees were women caring for a parent. The data was analysed with Content Analysis.

The results show that care recipients' war-related experiences seem to influence their relationship with the caregiver, both prior to and during the care situation, and also the burden perceived by the caregiver. Most caregivers describe the relationship with the person being cared for as ambivalent or even problematic. For instance, they found callousness on the part of the care receiver, a potential consequence of WWII-related experiences, to be a burden.

Understanding the psychological effect of war-related experiences as a potential source for care recipients' behaviour will make it easier for caregivers to interpret such behaviour appropriately and to comprehend how some of their emotional bonds with the care receiver have emerged.

HOME CARE SERVICES EFFECTS ON SUBJECTIVE HEALTH AND CARE BURDEN OF FAMILY CAREGIVERS IN EAST ASIA

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Family caregivers experience poor health and high care burden levels as a consequence of continuing to provide intense care to their relatives. Previous research shows that poor health and care burden of family caregivers is not only a risk to the caregivers themselves, but also has negative effects

on the quality of care for frail elderly. However, there has been less published about home care services in East Asia. The study was to explore the effects of home care services on the subjective health status and care burden of family caregivers caring for their frail elderly who live with them at home in East Asia. The study used the 2013 survey data of the family caregivers who live with frail elderly in Japan, Korea, China, and Taiwan. The survey methods were the interview method. The overall sample data included 783 Japanese, 611 Koreans, 800 Chinese, and 555 Taiwanese. Multilevel models with data were used to examine the subjective health status and care burden. This survey was approved by the ethics committee of Tokyo University of Social Welfare. The care burden of family caregivers was negatively associated with the use of visits, short stay services and adult day-care services. The subjective health status of family caregivers was negatively associated with use of home-visiting nurses and visits short stay services. These findings support that some home-care services may affect the health status and care burden of family caregivers in East Asia both positively and negatively.

IMPACT OF OLDER ADULTS' TECHNOLOGY USE ON THEIR SPOUSE CAREGIVERS' CAREGIVING AND SOCIAL ENGAGEMENT

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Introduction: Digital technology enables older adults to maintain independent life and involve in social engagement. Older adults' digital technology use also can affect their caregivers' caregiving experience and their life styles. However, little attention has been paid to whether older care recipients' digital technology use affects spouse caregivers' care involvement or their social engagement.

Methods: This study used 233 couples of community-dwelling older adults and their spouse primary caregivers from the 2011 National Health and Aging Trend Study and its companion National Study of Caregiving. Multiple regression analysis and Poisson analysis were performed to examine the associations between older adults' technology use and their spouse caregivers' hours of care and social engagement respectively. Older adults' technology use was measured by the online activities for a) health information (e.g., communicating with providers) and b) instrumental tasks (e.g., grocery shopping).

Results: Older adults' Internet use for instrumental tasks was negatively associated with their spouse caregivers' hours of care, but positively associated with spouse caregivers' social engagement after controlling for other relevant variables. However, older adults' health information technology use was not associated with their caregivers' care involvement or social engagement.

Discussion: Older adults' digital technology use for instrumental tasks reduced time invested in informal care and increased probabilities of engaging in social activities among their spouse caregivers. The findings imply that the online activities for instrumental tasks not only help to maintain independence in later life, but also support spouse caregivers to spend more time on socializing with family, friends, or relatives.

EXHIBITING CREATIVE STRENGTH IN THE COMMUNITY: FAMILIAL CAREGIVING, THE ARTS AND DEMENTIA

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This research took place in St. John's, Newfoundland, Canada between 2012 and 2014. This qualitative arts-informed research elicited the stories of ten individuals with the experience of caring for a loved-one with dementia. Beginning with one on one semi-structured interviews, the participants described their caregiving journey and their understanding of creativity as well as its connection to dementia and dementia care. Following the interviews, the participants engaged in the process of creating a piece for an exhibit in the community. Through poetry, photo, painting, short story, geo-caching, mixed media, digital story, singing and song-writing, the ten participants exhibited their creative strengths. Findings show that encouraging creativity in caregivers addresses the health and well-being of caregivers, those living with dementia, and the community. This paper explores the potential of a strengths-based perspective when combined with creativity. This talk provides an overview of the arts-informed research process, a photographic walk-through of the "Care-full Pieces of Creativity" exhibit, and a discussion of its impact.

THE EFFECT OF CAREGIVING FOR OLD DIABETIC INPATIENTS' ONE-YEAR READMISSION IN SOUTHWEST OF CHINA

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Objective: Diabetes is one of the most common chronic diseases in older adults in China, accompanied with higher demanding on caregiver. But the impact of caregiver on old diabetic inpatient in one-year readmission still unknown.

Method: This longitudinal study was conducted at the Center of Gerontology and Geriatrics, West China Hospital from December 2011 to October 2012. All participants were followed up until December 2013. Demographics of diabetic inpatients (60 years and older) and ADLs, IADLs, timed "Up and Go" test (TUG), frailty were assessed, their caregiver were assessed by the Chinese version of the validated Zarit Burden Interview. The demand of caregiver was defined as following: more than two dependence of ADL and/or IADL and TUG more than 30s. The number of one-year readmission were collected by HIS or phone.

Results: A total of 145 diabetic inpatients were enrolled. Patients with caregiver were 67(46.21%), only 37(55.23%) of them targeted the standard of caregiver demand. Average age of all caregivers were 59.39 ± 14.35 (range 24 to 90), 52(78.8%) of them were female, 54.5% were patients' spouses. Half of patients 39(58.21%) with caregiver readmitted to hospital less than 1 time in a year. After adjusting by age, gender, Marital status, level of education, evaluation of caregiver's current health status (OR 0.391), occupation

besides caregiver, caregiver's attitude (OR 3.259) and their mood to their patients (OR 2.071) were the risk factors for one-year readmission.

Conclusion: For diabetic inpatients in China, the standard of caregiver demanding criteria need to set up. Caregiver's psychological problems should be paid more attention.

MENDING MAYA: AN ANALYSIS OF AGING AND INTERGENERATIONAL CONNECTION IN DELHI, INDIA

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Past research suggests that intergenerational programming can have positive effects in bridging generational gaps. In an effort to explore intergenerational programming in one specific, cosmopolitan community in India, this research examined intergenerational connection and understanding and tested the effectiveness of implementing an art-based intergenerational intervention called Mending Maya. The intervention engaged seven young adults from a young adult's empowerment and learning center and eight seniors at an old age home. This eight-week intergenerational intervention connected both young adults and seniors through three specific art forms: music, arts and crafts, and theater/meditation. Before and after the conclusion of this intergenerational intervention, intergenerational connection and understanding were explored in semi-structured interviews with senior program participants and young adults from the surrounding community (pre-program interviews), and with young adult intervention participants (pre and post-program interviews and structured assessments). Results revealed that intergenerational arts programming in New Delhi, India can be an effective way to repair and restore webs of attachments between generations both inside and outside the actual parameters of the program. Aspects of the program that appeared essential to supporting these effects were utilization and maximization of existing community resources and a focus on cultural values that emphasize family and community. The final discussion synthesizes perceptions of aging in a changing world and program evaluations in order to paint a picture of aging as it is currently understood in Delhi, India. The discussion also suggests ways the Delhi community can utilize intergenerational programming to enhance personal and community development through civic engagement.

EXAMINING INTERGENERATIONAL RELATIONSHIPS AMONG OLDER ADULTS IN TWO CITIES IN TRANSITION

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The successful aging model marked by an emphasis on the self has dominated the gerontological tradition in a majority of the western industrialized countries. However, this narrative of active, socially engaged and consumer centric aging is not a contextually homogenized process as experienced by older adults elsewhere, where "meaningful decline" defines older adults' renegotiation with familial relationships, expectations, religion and death. Borrowing social-psychological and gerontological perspectives the current study examined the co-existence of these two contrary models-disengagement

and successful aging in two cities that are in transition Ahmedabad (Gujarat, India) and Saskatoon (Saskatchewan, Canada). Drawing from in-depth interviews this study examined intergenerational relationships and expectations around filial ties, emotional bonds, network ties, cultural ideologies and their contribution in forging the aging identity in these two contexts among older Indians in Ahmedabad and those in the transnational setting. Findings suggest that despite the Asian traditional values and expectations surrounding caregiving and support from adult children older Indians in Saskatoon have reconfigured their expectations and are re-negotiating between the two cultural worlds by embracing the successful aging model. In contrast, a structured dependency in terms of economic support and psychological needs is preserved, legitimized and nurtured in the older adult-adult children relationship in Ahmedabad where older parents contribute to household and grandparenting duties while expecting caregiving, support and respect in exchange. By adopting a comparative perspective, the study demonstrates how everyday life of older adults is constructed, lived and produced and role of cultural forces shaping the experience of growing old.

LEARNING HEALTHY AGING ACROSS GENERATIONS: THE CONTRIBUTIONS OF OLDER ADULTS

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This study aims to explore the contributions and impact of older adults in the college course of elderly health promotion. There were 83 undergraduate students taking an intergenerational course between 2015 and 2016, learning with the active older adults in eighteen weeks. The course was designed with life course theory and the transtheoretical model to increase the students' awareness of health and cared about family older adults. It also involved intergenerational teaching strategy to let students and older adults learned together about elderly health. Furthermore, students were acquired to conduct a healthy lifestyle project and wrote three reflection papers between the learning processes. This study adopted qualitative method that triangle analyzed 249 reflection papers, 83 healthy lifestyle reports and 32 curriculum observation records, and doubly recorded by a health educator. The result showed

that the intergenerational learning increased the students' health awareness and improved understanding what is aging. Older adults were as a role model of healthy aging, provided the real living experiences, let the students understood that aging is a continuing process which is not always accompanied with a weak body. Healthy aging is based on practicing healthy lifestyle everyday from young to old. The active engagement of the older adults allowed students to realize the importance of mental health in the later life. Health assessment and health lifestyle project had aroused students' concerns that their unhealthy lifestyle had been harmful for their health, so improved to practice healthy life actively. Active older adults enhanced the learning effects.

SESSION 3580 (POSTER)

CRITICAL AND CULTURAL GERONTOLOGY

OLD AGE, NEW SCIENCE: GERONTOLOGISTS AND THEIR BIOSOCIAL VISIONS, 1900–1960

H. Park, *History, Nanyang Technological University, Singapore, Singapore*

My presentation is based on my new book, *Old Age, New Science: Gerontologists and Their Biosocial Visions, 1900–1960* (Pittsburgh: University of Pittsburgh Press, 2016). This book offers a novel interpretation of gerontology's origins, after W. Andrew Achenbaum's pioneering monograph, *Crossing Frontiers* (1995). I argue that what I call the "biosocial visions" profoundly shaped the structure of American and British gerontology in their early years as well as early gerontologists' effort for public engagement, which left persistent problems regarding gender, race, and class. While Achenbaum concentrated on the history of social gerontology, I focus on biological and medical scientists in the first half of the twentieth century, because they and their visions constructed gerontology as a multidisciplinary science. I show how their biomedical research fostered their individualistic discourse of seniors' self-help based on scientific experts' advice as well as their rhetorical resources for cooperating with social gerontologists. I also analyze the notion of "scientific rigor," which Achenbaum took for granted in his historical study of biogerontologists, such as Nathan Shock. In my presentation, I deal with scientific rigor as a contentious discursive strategy subject to constant negotiations. While these negotiations were instrumental in gerontology's emergence as a respected science in America, the situation was different in Britain, where institutionalized public welfare and national health insurance was considered prior to scientific studies of aging, especially during the post-Second World War efforts for promoting a welfare state. This resulted in the underdevelopment of gerontology in Britain, while seniors there enjoyed a better provision of national insurance and pension, which American gerontologists deeply suspected with their individualist ideal of self-help.

SYSTEMATIC REVIEW OF THE IMPACT OF ARTS FOR HEALTH ACTIVITIES FOR OLDER PEOPLE IN CARE HOMES

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As the population of older adults increases, so too will the number of older people requiring long-term care. Older people who live in care homes are vulnerable to stressors which may impact upon both physical and psychological wellbeing. There is interest in the benefits of arts for health for older people in care homes, but no systematic review has yet been carried out. In this systematic review, potentially relevant qualitative and quantitative empirical studies were sourced from EMBASE, AMED, CINAHL, PsychInfo and Medline, without date restrictions. Additional hand-searching and 'grey literature' searches were also conducted. An inclusion/exclusion form was used to screen for eligibility and all studies underwent data extraction and quality appraisal. PRISMA (Liberati et al, 2009; Moher et al. 2009) guidelines were adhered to throughout. A total 1091 papers were identified from the searches. Of these,

179 were potentially eligible for inclusion and screened, leaving a total of 88 relevant studies that were included. These studies covered a range of arts activities, designs, methods and different outcomes related to overall health, wellbeing and quality of life. Findings were then synthesised mapped to form a typology of arts activities and their benefits. This systematic review showed that evidence of the impact of Arts for Health on wellbeing in older people who reside in care homes is varied and encompasses a range of arts activities and outcome measures. Furthermore, the quality of evidence was shown to vary across studies.

THE ASSOCIATION OF LIVE PERFORMANCE ATTENDANCE AND COGNITIVE DECLINE IN A BIRACIAL POPULATION STUDY

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Research on healthy aging practices continues to explore innovative ways of supporting older adults and there is a growing need for understanding how cognitive decline may be associated with the aging process (Rajan, Hebert, Scherr & Evans, 2012; 2013). In examining the long-term association of musical performance attendance on changes in cognitive functioning for older adults, we tested the hypothesis that attendance at live performances (concert, play, or musical) will be associated with slower cognitive decline. This study used a sample of 5,567 older Americans age 65 and older with two or more cognitive assessments over 15 years from the Chicago Health and Aging Project. A linear mixed effects regression model adjusting for demographic variables was used to assess cognitive decline in a biracial population sample of African Americans (AAs) and European Americans (EAs). More frequent arts attendance was associated with a higher level of baseline composite cognitive function among older African Americans and European Americans; this association was almost twice as high among EAs than AAs. Attending 10 or more musical events per year was associated with 15% slower cognitive decline among AAs and 30% slower cognitive decline among EAs. A similar association was observed for change in MMSE among AAs and EAs. Our findings suggest that attending a higher frequency of live performances was associated with slower decline in cognitive function and that attending live performances should be encouraged as a valuable component of arts participation and enrichment in the lives of older adults for its cognitive benefits.

LIVING CANVASES: BRIDGING INTERGENERATIONAL UNDERSTANDING AND CONNECTIONS THROUGH ART

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Living CanvasesSM is an intergenerational life review and art-making program designed to bring together younger and older individuals and the community as a whole. During a series of workshop discussions, elder participants chart their life stories and share important turning points in the life course. Audio recordings of workshop discussions and

written descriptions of turning point experiences are then shared with young artists who use elders' stories as inspiration for the creation of visual, performance or other forms of art. Turning point stories and the art the stories inspired are then shared during a recognition reception which brings together elder workshop and young artist participants and the broader community. This presentation will share findings from an implementation feasibility assessment of the institution of the program in older adult community service and residential organizations. To date, 69 older adults, 46 young adult artists, and six community organization collaborators have participated in the program. Initial findings of the implementation feasibility assessment indicate overwhelming positive experiences among program participants. Older adult participants positively endorsed participation in the workshops and perceptions of the recognition reception (e.g., 90% felt they learned something valuable, 93% enjoyed sharing their life experiences, 93% felt honored). Young adult artist participants also reported many benefits (e.g., 100% learned valuable life lessons, 82% were inspired). Our presentation will address the challenges and promises of utilizing art inspired by elders' life stories as a tool for intergenerational connection and community building.

EXPERIENCE OF HEALTH AMONG CENTENARIANS: EXPECTATIONS AND ADJUSTMENTS

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Health issues among very old age concern concomitant illnesses and other physical or cognitive impairments that affect daily functioning. This situation often results in the loss of autonomy, including giving up of leisure activities that used to be part of everyday life and that used to give meaning to it. Particularly, research on centenarians has pointed out a discrepancy between the objective assessments of their health versus their health experience. The present study examines how centenarians experience health in daily life with the aim to better understand their own needs. Part of a broader survey conducted in the U.S. (Fordham Centenarian Study, N = 119; 78.2% females; 19.3% African American and 79.8% White), we analyzed the answers given by 77 centenarians to open-ended questions about their current challenges, by applying a thematic content analysis technique (Braun & Clarke, 2006). Findings indicate 3 different types of perceived challenges: 1) lived corporeality, 2) sociocultural activities and interactions, and 3) existential being and psychological adjustments. These challenges are embedded in concrete living conditions, and their integration at psychological level implies constant modifications. Centenarians' health experience appears as a dynamic process where representations and expectations are continuously readjusted to both, corporeality and sociality. Aging successfully appears related to the progressive transition to a different "lived world" with specific needs. In this "world", loss is an overarching key issue where new ways of living that can provide pleasure are found. This study points the interest of adopting a comprehensive perspective to the understanding of ageing.

AGEING, IDENTITY, AND EDUCATION—THE ROLE OF EDUCATIONAL GUIDANCE IN THE THIRD AGE

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Research on late-life learning emphasizes its contributions to wellbeing, autonomy and inclusion in older age (Jenkins & Mostafa 2015), and even though participation rates in adult education in most European countries are rising (UNESCO 2013), senior education can't yet be considered a fundamental part of older adults' lifestyles. Policy has discovered the concept of educational guidance to attend to this challenge (CEDEFOP, 2009), but its role for retired adults is yet to be researched.

Taking a cultural gerontological approach, this paper analyzes how older adults perceive and construct the role of education and guidance for their own doing of age. Analyzing 15 qualitative interviews with retired adults (57–75 years), we explore the role education and activity play in identity management and how guidance can open possibilities for new forms of education and ageing.

Results show an ambiguity of ageing as an experience of 'late freedom' on the one hand and fear of health decline, often accompanied by social and spatial disengagement on the other. Older age as a time of freedom is perceived as a life-stage of self-management. This perspective opens potential for guidance as individual coaching. Older age as physical decline is perceived as a biological determination that needs to be postponed as long as possible. This perspective opens potential for guidance as preparation for the transition to fourth age. Both perspectives follow, however, a determinist logic that calls for a third potential of guidance, namely the reflection of images of ageing that facilitate a humanization of older age.

HOPE AND HEALTH IN AGING MEXICAN-AMERICAN WOMEN WITH A LIVED EXPERIENCE OF INTIMATE PARTNER VIOLENCE

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Intimate partner violence (IPV), a serious preventable public health problem, affects one in three women worldwide and crosses all boundaries including age, ethnicity, religion, and socioeconomic. From a salutogenic perspective, this qualitative study, guided by Interpretive Interactionism, not only explored the lived experience of IPV in aging Mexican-American women but captured the healing journey of 12 women, aged 55–85, recruited from the U.S.-Mexico border region. Each of the women, four of whom were Spanish speaking only, completed two semi-structured 60–90 minute audiotaped interviews. The interviews were coded and categorized. Epiphanies, transformational moments within the IPV experiences, were identified and major themes interpreted. The narratives revealed six themes that portrayed strength throughout and beyond IPV and highlighted influential factors in health and healing: "Un torbellino"... "A whirlwind of violence and emotions;" "A decision to leave for good;" "Healing and salutogenesis;" "A desire to break the cycle;" "Who am I today?"... "Proud, courageous, and content"..."Orgullosa, valiente, y contenta;" and "Life teaches us so much." All of the women in this study voiced a desire to break the cycle of violence for future generations and their wisdom offers hope. The findings underscore the

importance of holistic, culturally sensitive models of healing to improve health outcomes for aging women affected by IPV among other adversities. Given the mandate for an upstream approach to decrease IPV, the inclusion of aging survivors in primary prevention efforts merits further exploration.

TOWARD A GLOBAL GERONTOLOGY? HOW DO GERONTOLOGISTS THINK ABOUT GLOBALIZATION?

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It is acknowledged that globalization is becoming more and more important for establishing a better understanding ageing and later life. The effects of the global economic crisis have destabilized many of the assumptions and policies around old age and challenged assumptions about ageing and place. These transformations increasingly question what has been described as the 'methodological nationalism' of much gerontological research. However, we would argue that globalization has often been under-theorised within gerontology and within research on older age. This paper outlines the differing ways in which gerontologists have conceived and deployed definitions of globalization. Drawing on Appadurai's model of differentiated dimensions of globalization we argue for the need to move away from unidimensional conceptualisations of globalization and towards the examination of how these dimensions, from the economic to the cultural, combine to create the uneven landscapes of global ageing. We contend that globalization should not be simply reduced to one over-riding logic which leads to 'a race to the bottom'. Neither should it be 'added' un-problematically to existing gerontological theories and approaches as just one more factor to take into consideration. Our paper argues that the relationship between globalization and later life is not simply about determining structures but is also about the changes to their lives that older people themselves have brought about through their own social and cultural engagements. These differing levels are now increasingly central to understanding the implications of the global transformation of ageing and later life.

AGING AS A BIOCULTURAL CONCEPT: A CASE STUDY OF ACTIVE AGING IN JAPAN

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Japan has the world's most aged nation with a large baby boomer population transitioning from young-old to old-old age. In an attempt to compress morbidity and minimize demands on the nation's generous long-term care insurance program, the government has been promoting preventive self-care that emphasizes activity. Drawing from over a year of ethnographic research in Japan on disease prevention in old age, we propose a new cultural analysis of how activity is understood to lead to health in old age.

In the discourse and practice of prevention in Japan, mental, physical, and social activity is said to be intrinsically beneficial to health in old age, but the discourse also allows for resetting social norms about how healthy seniors

should behave. In a climate of global exchange of knowledge, more explicitly binding activity with health in old age can be regarded as a direct reference to “Successful Aging” or “Active Aging.” However, the activity spoken of in gerontology, policy, and among lay seniors in Japan also indexes a cultural worldview wherein the body and surrounding environments are said to emit and circulate energies reminiscent of popular or shrine Shinto and Confucian notions of *ki*. “Activity” in this frame stimulates and restores latent energetic potentials within individuals to flow from the self into the world that in turn leads to healthy aging. We discuss how activity and healthy aging are inherently bio-cultural concepts, and ask how governments might expressly condition discourse around healthy aging to align with those alternate framings.

LIFE REVIEW AND REMINISCENCE: THE VALUE OF BEING HEARD

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Life Review and Reminiscence: The Value of Being Heard

From the beginning of time there have been storytellers, before the written word there was the spoken word. Telling stories about ourselves is part of what makes us human. If we are not given the opportunity to be heard, we lose a significant part of our identity. There is growing research that giving an older person an opportunity to tell their story not only alleviates stress, loneliness and depression but can save money.

Researchers; Bohlmeijer, Valenkamp, Westerhof, Smit, and Cuijpers (2005) used a pre-post test design that consisted of 12 group sessions, 2.5 hours each, engaged participants in reminiscence and creative expression, the goal of which was to reduce levels of depression. The pretest and posttest (one week after the intervention) included well-established depression scales, measuring in part, -mastery and meaning of life. There were 79 participants and their average age was 66 years, 70 % were female, and 55.7% lived independently. Results from the pre- and post-test analyses showed marked improvement on the depression scale (i.e., a reduction of 3.4 points) and on the mastery scale.

A Netherlands Study at the University of Twente (2015) asserts improvement in the mental health of older adults after “life reviews” were conducted compared with usual care conditions: 6-month follow-up treatment response was 54.0% and 27.5% in the life-review and usual-care conditions, respectively. The difference in effectiveness was statistically significant at $p=.001$. In addition, this intervention cut medical costs.

THE IMPACT OF RELIGIOSITY ON MEANING-MAKING AMONG OLDER ADULTS

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Recent research has examined the construct of religiosity in relation to meaning-making and purpose of life. Additional studies have found that religious coping is strongest in older adults compared to younger cohorts. Using data

from two Massey University studies: The Health, Work, & Retirement Longitudinal Study (HWR) and The New Zealand Longitudinal Study of Ageing (NZLSA), the purpose of this study was twofold. First, the study aims to identify the extent to which older adults utilize religion. Second, the study analyzes the impact of religiosity, or lack thereof, on their sense of meaning and purpose in life. In 2008, data was collected nationwide with 2-year reassessment intervals. The sample consisted of 6,653 older adults between the ages of 55 to 70 who were living in New Zealand and were randomly selected from the electoral roll. Of participants surveyed, 32% reported attending religious services and 20% reported that their faith was an important piece of their lives. A logistical regression was run and a significant association was found between religiosity and meaning-making. While it is not the role of clinicians to advocate any specific systems of beliefs, they should remain cognizant of the manifold spiritual questions which may arise throughout the aging process. This analysis posits that religiosity may offer a unique cognitive framework and may be a valuable resource in mitigating older adults’ feelings of loss of control, improving their life satisfaction, and strengthening their sense of purpose and meaning in life.

CULTURAL AND LINGUISTIC ADAPTATION OF AN EVIDENCE-BASED STRESS-BUSTING PROGRAM FOR CAREGIVERS

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In the United States, 17.6% of the population is Hispanic, yet many preventative health programs are not culturally or linguistically adapted for Hispanic communities. This gap hinders Hispanics, especially those who prefer to speak Spanish, from accessing culturally appropriate health information and overcome health disparities. Hispanics are 1.5 times more likely to develop Alzheimer’s disease than non-Hispanics. The Stress-Busting Program for Family Caregivers, rated by the Administration of Aging at the highest level of evidence, addresses the needs of caregivers of people living with dementia. The Spanish version of the program was produced following translation and consensus protocols, culturally adapting the translation and format to reflect core Hispanic cultural values. The translation, adaptation, and delivery methodology of the program meet eight criteria (Meleiss, 1996) needed to consider the Spanish version of the Stress-Busting Program for Family Caregivers culturally competent. The criteria are: contextuality, relevance, communication styles, awareness of identity and power differentials, disclosure, reciprocation, empowerment, and time. The incorporation of these methodological practices for program translation and adaptation can serve as a model for translational research for other interventions that need cultural adaptations for ethnic minorities. This project contributes to closing the gap in health disparities experienced by Hispanics.

SESSION 3585 (POSTER)

CULTURAL, DIVERSITY, AND MINORITY ISSUES, ABUSE AND DISCRIMINATION

PARTICIPATION IN LOW-INCOME FINANCIAL ASSISTANCE PROGRAMS BY OLDER ADULTS IN CHINA

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Objective: Guided by Andersen's help-seeking behavior model, this study identified factors that contributed to older adults' participation in low-income financial assistance programs in mainland China.

Methods: The data used were extracted from the 2008 Chinese Longitudinal Healthy Longevity Survey (CLHLS). This study included 11,720 community dwelling older adults who were of 80 years or older. A logistic regression analysis was used to identify factors contributing to older adults' participation in low-income financial assistance programs.

Results: The study results showed that 32.1% of older adults participated in low-income financial assistance programs. With respect to predisposing factors, older adults' age ($OR=1.09$, $p<0.0001$), co-residence status ($OR=0.78$, $p=.0003$), and marital status ($OR=1.56$, $p<0.0001$) were significantly related to their participation in the programs. With respect to enabling factors, older adults' residential locations ($OR=1.31$, $p=0.0001$), financial strain $OR=1.09$, $p=0.01$), pension status ($OR=.26$, $p<0.0001$), perceived instrumental support ($OR=.64$, $p<0.0001$), and perceived emotional support ($OR=1.41$, $p=0.002$) were significantly related to their participation in the programs. In addition, older adults' self-reported health status ($OR=.89$, $p<0.0001$), felt loneliness ($OR=1.11$, $p<0.0001$), and functional limitations in instrumental activities of daily living ($OR=1.02$, $p=0.01$) were significant need factors to their participation in the programs. The study findings suggest that low-income financial assistance programs seem to reach the vulnerable older adults. However, the study findings also reveal potential urban biases of the programs. Research and policy implications of these findings will be discussed.

LIFE COURSE ANALYSIS OF GAMBLING AMONG OLDER CHINESE-CANADIANS

H. Luo, *University of Manitoba, Winnipeg, Manitoba, Canada*

It is evident that cognitive, personality, and psychological aspects cannot explain all gambling behaviors among older Asian-Canadian people. Cultural and structural variables also play a role in the development of gambling among older people, as well as their previous life histories and their social supports. Applying life course analysis with a constructivist grounded theory approach, this study drew a sample of six Chinese and seven Filipino older gamblers in a central Canadian city to understand the development and behavior of gambling, including seven females and six males. While the majority of these gamblers demonstrated minimal to moderate levels of problems, two were assessed as problem gamblers by the Canadian Problem Gambling Severity Index.

From the perspectives of lifelong development, human agency, cohort, timing, and linked lives, older gamblers

reported varied pathways to recreational gambling or problem gambling as results of intertwined familial, structural, and environmental factors. Traumatic childhood experience (mainly caused by wars and underdeveloped economics), stressful survival environments in young and mid-adulthood (particularly after migrating to Canada as an immigrant or refugee), conflicts and transitions within the family in mid- and late adulthood (as direct or indirect consequences of early life stress), along with the cultural norms and personal attitudes towards gambling, appear to influence gambling trajectories for these older Asian-Canadians. The presentation concludes with a critical discussion of the effectiveness of current intervention practice, as well as a proposal for a prevention-intervention-support model based on the strengths of life course perspectives, for helping professionals working with minority older adults.

ENVIRONMENTAL DESIGN AND QOL IN LONG-TERM CARE FACILITIES

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The current concept of long-term care (LTC) facilities has shifted from a homogenous health care institution, to that of individual person-centered care. The design characteristics of the physical environment is a particularly noteworthy aid in caring for elders with dementia. As such, this concept of person-centered care has been adapted and implemented by LTC facilities worldwide in slightly different manners. As dementia progresses, elders tend to find their quality of life (QOL) rooted in environment settings; therefore, a purposeful therapeutic environmental design can have a positive effect on the well-being and functionality for those with dementia. The purpose of this research was to examine the relationship between the environmental design in LTC facilities and its effect on elders with dementia's daily activity patterns and quality of life. The data for this research was collected at Assisted Living facilities in San Francisco and comparable level of care facilities in Japan. Environmental scales (TESS-NH/RC, EAT-HC, and PEAP) were used to assess the environmental design of the senior facilities. The residents with dementia were observed using the Dementia Care Mapping tool and then classified using the Quality of Life-Alzheimer's Disease assessment. The study hypothesized that facilities with higher scores in physical environment attributes would have a positive impact in the resident's quality of life. The findings of the research define the similarities and differences in quality of life for persons with dementia between American and Japanese facilities. The results of this study will be issued.

PERCEPTIONS AND EXPERIENCES OF WORKPLACE-BASED AGE DISCRIMINATION IN AUSTRALIA

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The Australian Human Rights Commission in 2011 appointed an Age Discrimination Commissioner who has conducted widely publicized campaigns to improve attitudes to ageing and combat ageism. This paper examines perceptions and experiences of age discrimination in the workplace among

Australians aged 18+ years, with a focus on those aged 55+ years.

Data are from a representative national sample of adults in the Australian Attitudes to Ageing (AAA) study conducted as a component of the Australian Survey of Social Attitudes (AuSSA) in 2015–16 ($n=1211$).

Results show that overall 46% of people perceived age discrimination to be common in Australia. Participants believed that compared to younger workers, older workers (55+ years) were more likely to be made redundant (82%), less likely to be promoted (72%), and more likely to have difficulty adapting to change (59%). The majority disagreed that they were less productive than younger workers (74%).

In regards to experiencing age discrimination, younger people (18–24 years), were more likely to report age as a factor in being turned down for a position (23%), being treated with disrespect (53%) and being ignored (41%). Significant differences were found in terms of age and gender, for example, more women reported they had been ignored (31%) and treated with disrespect (30%).

The findings are interpreted in the context of Government policies, demonstration projects, and other interventions intended to maintain workforce participation and increase self-funded retirement as responses to population ageing.

GAMBLING AMONG CULTURAL MINORITY OLDER ADULTS: A MIXED METHODS SYSTEMATIC REVIEW

H. Luo, *University of Manitoba, Winnipeg, Manitoba, Canada*

Despite growing numbers of older gamblers, many of whom are cultural minority group members, there has been a lack of systematic reviews of gambling among this particular population. This is the first systematic review of empirical evidence in the literature on how gambling has been affecting older adults from cultural minorities. This review applied a mixed methods approach to examine both quantitative and qualitative studies published between 1996 and 2016. A thorough search of seven databases yielded 17 articles with a total sample of 9,044 older gamblers of cultural minority backgrounds. Eleven were quantitative studies and six were qualitative (including one mixed methods study). Nine studies (53%) focused or included Asian seniors, five (29%) on African-American older adults, four (24%) included indigenous populations, and one (6%) included a Hispanic sample.

Lifetime gambling prevalence rates range from 26.6% to 92%, while problem gambling rates from 2.2% to 17%. Onset ages vary from as early as 7 or 8 to 69. Causes of gambling include enabling (environmental) factors and motivational (personal) factors. Enabling factors are cultural acceptance, socializing/bonding power of gambling, social networks, accessibility (availability, transportation, and low entry barriers), and external stimuli. Motivational factors include intentions of reducing boredom, increasing socialization, enjoying freedom, reducing stress, and winning money. Both categories of factors can also act as buffers that hinder gambling behavior. Findings on consequences of gambling, personal coping strategies, and intervention practice are also synthesized. The review is concluded with a critical discussion of findings, gaps in research, and suggestions for future investigation.

SKILLED NURSING FACILITIES THAT DISPROPORTIONATELY SERVE MEDICARE BENEFICIARIES IN THE U.S.

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With more than \$62 billion in annual spending, post-acute care (PAC) has become Medicare's fastest growing category of health care expenditures and a major source of regional variation in overall Medicare spending. Yet, studies have not evaluated care quality for minority patients who are discharged to skilled nursing facilities (SNFs) after acute care hospitalizations. The objective of this paper is to assess the concentration and quality of SNFs that care for black and Hispanic patients, including those in Medicare fee-for-service (FFS) and Medicare Advantage (MA). We used cross-sectional data of SNF performance measures and facility characteristics associated with quality of care from 2013. There were approximately 575,147 White, 65,562 African American and 33,354 Hispanic Medicare enrollees in FFS and MA aged 65 and older admitted to a SNF. Approximately 27% of SNFs accounted for 80% of all admissions for black patients. Care was even more concentrated for Hispanics, with 19% of all SNFs accounting for 80% of Hispanic patient care. SNFs with higher fraction of blacks (~30%) were more likely to have less direct care: Total RN hrs/day/resident (0.02), higher hospitalization rate (3.00%), and lower star ratings (0.63) compared to SNFs with no black patients. Differences remained the same after we stratified by whether patients were in MA. Only minor differences were found for SNFs with higher fraction of Hispanics. Racial and ethnic minorities in the Medicare program, particularly blacks, are concentrated within a small number of SNFs with worse measured performance and characteristics associated with lower quality.

PARTICIPATORY RESEARCH PROJECT FROM THE PERSPECTIVE OF ELDERLY MIGRANTS FROM THE FORMER SOVIET UNION

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In the context of increased urbanization and migration in the last century, public health research has evolved to explore the impact of urban environments on health. Especially community-based participatory research, that involves direct contact with migrant participants, can provide a more comprehensive understanding of complex health and social issues and aims for social change for example, by developing health interventions on behalf of people who are disadvantaged. Usually this approach is designed to enable migrant participants to take greater control over their lives by providing mechanisms through which they could define and solve their own problems rather than rely on outside "expert".

But what happens, if the direct access to the relevant migrant participants is difficult and specific barriers (e.g. mistrust, experience of discrimination, power imbalances,) cannot be overcome? By taking the example of my ethnographic research, I would like to show from the point of view of elderly migrants from the former Soviet Union, participated as a group in a health intervention program in Germany, how they construct insider-outsider-status of researcher, practitioners and policy-makers. Through observing, interacting with, participating in their activities, and analyzing data (fieldnotes, interviews), I found out the relevance of ethnicity,

age and gender among this group and the multiple lines of differentiation and the interplay of these categories within the group. Results of analysis clearly indicate that the group creates mechanisms of inclusion and exclusion in order to protect themselves from marginalization and to keep their group as a space of security and well-being.

OLDER ADULTS' GENDER IDENTITY AND SEXUAL ORIENTATION: THE IMPORTANCE FOR END-OF-LIFE CARE

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As Canada's population is aging, so too is the lesbian, gay, bisexual, and transgender (LGBT) community. Although the body of literature on LGBT aging is growing, very little of the research focused on end-of-life care originates from Canada. To begin to fill this gap, pilot research with LGBT older adults was conducted in three regions in Ontario. This presentation will feature findings from focus groups on the lived experience of twenty-three self-identified LGBT older adults. Despite commonalities pertaining to perceptions of end-of-life that apply generally to aging and older adulthood, through our analysis a key finding is that sexual orientation and gender identity have unique implications for end-of-life. Key themes include the need for autonomy and control and unique considerations around social connections and supports. A salient finding was related to the heteronormative assumptions of many health and social care providers and fears about need to 'return to the closet' to receive quality end-of-life care. Integrating the research literature and the lived experience of our participants, recommendations are proposed and will be presented as a 'Call to Action.' These recommendations encompass new directions for clinical practice, research, and law and policy, and taken together their implementation would lead to cultural competence in the area of LGBT aging across the health continuum, with the goal of improving end-of-life and quality death experiences.

TWO BERLIN RESEARCH PROJECTS: HOUSING PROJECTS AND LONG-TERM CARE FOR LGBT SENIORS

R. Lottmann¹, M. Castro Varela^{2,1}, I. Kollak¹, 1. *Alice Salomon University Berlin, Berlin, Germany*, 2. *Institute for Human Sciences, Vienna, Vienna, Austria*

GLEPA ("Gleichgeschlechtliche Lebensweisen und Pflege im Alter") analyzes discrimination practices against LGBT elders, who are in need of care. The study focuses on the special demands of LGBT elders in long-term care facilities and evaluates the chances of a Dutch care certificate ("The Pink Passkey"). GLEPA also examines the opportunities and risks of LGBT housing projects for the mentioned target group.

A first research was based on interviews with experts and tenants of the "Lebensort Vielfalt", a housing and care project that opened in 2012 in Berlin, organized by the gay and lesbian community and a gay counselling organization. Subsequently, GLEPA is based on narrative interviews with

LGBT elders, who are in need of care, professionals working in long-term care facilities as well as on discussions in focus groups of experts.

The research was able to isolate LGBT-related strategies and requirements to avoid heterosexism, homo- and transphobia and other forms of discrimination in the care of elderly LGBT people. In addition, GLEPA defined LGBT-specific needs and expectations a supportive (long-term) care should meet.

The results of the qualitative research provided a basis to outline new models of community care-based services, both within and outside the LGBT community. GLEPA renders visible the consequences of discrimination against elderly LGBTs as well as the potential of a biography-sensitive care service capable to offer a more individually tailored care-approach. Furthermore, the possibilities of a certificate for LGBT-sensitive care will be discussed.

USING EVIDENCE TO REVISE COLORADO ADULT PROTECTIVE SERVICES' ASSESSMENT PROCEDURES

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In 2014, Colorado's Adult Protective Services implemented a statewide, electronic assessment tool that captures risk and safety data on older clients who are at risk of abuse, neglect, and exploitation. The assessment tool is designed to help guide service planning and monitor outcomes over time. This study aimed to validate the assessment procedures by analyzing retrospective assessment data for one year (n = 1,581 cases), surveying with case vignettes to determine reliability (n = 49 workers), and conducting focus groups on utility, feasibility, and areas for improvement (n = 42 workers). The assessment included 70 risk and safety factors across the areas of: physical functioning, environmental context, financial resources, mental health and cognition, medical issues, and support systems. Findings indicated ways revisions could minimize repetition, reflect better the scope of practice for adult protective service workers, and calculate valid total scores for monitoring changes over time. From the preliminary analysis, the scores tend to trend as expected with follow-up risk scores being lower than baseline risk scores. Similarly, follow-up safety scores are higher than baseline safety scores. Themes regarding areas for improvement include: (1) omitting risk factors that are not modifiable / not applicable from total score calculations; (2) including items regarding client refusal of services; (3) simplifying the mental health and cognition subscale; and (4) increasing training to decrease subjectivity. Implications from this study can highlight best practices in assessment procedures and how research-practice partnerships can be used to improve adult protective service response to elder maltreatment.

ADDRESSING ELDER ABUSE IN ETHNO-CULTURAL MINORITY COMMUNITIES IN BC: MAPPING THE KNOWLEDGE GAP

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This project represents a collaborative effort between academic researchers, elder law practitioners, and not-for-profit multicultural service provider administrators

and staff. It addresses elder abuse in relationship to two other salient themes, the law and ethnicity, identified by the National Initiative for the Care of the Elderly as priority areas for research, networking, and knowledge transfer in improving the care of older adults. The project has three main objectives: (1) to explore the nature of elder abuse in the two largest ethnocultural minority communities in BC, the Chinese and South Asians; (2) to conduct a mapping exercise to determine what elder abuse tools – both digital and paper – currently exist for these communities; and (3) to present our assessment to a meta-focus group of key service provider representatives to solicit their feedback on our findings, and to create both a visual map of resources and an agenda for developing needed tools. Two key outcomes that have emerged from this leadership collaboration are: (1) a visual map of existing and needed resources that will be used to build awareness to prevent, recognize, and respond to elder abuse in these communities; and (2) the development of one awareness-building tool for each community – a poster – that fills an identified gap in the current resource pool. In the end, the project served to improve support for elder abuse response mechanisms by: (1) facilitating the sharing of resources across participant organizations and their affiliates; and (2) enhancing already-existing informal and formal networks of support across sectors.

TRADITIONAL CHINESE MEDICINE AND PHYSICIAN USE: FINDINGS FROM CHINESE AMERICANS IN THE PINES

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Background

Immigration from China accounts for the majority of the Asian American population. Despite a growing population, little is known about how Chinese immigrants use health care services. Particularly, the extent of traditional Chinese medicine use and its concurrent effects on health care service use is poorly understood. To address this knowledge gap, this study uses existing data to examine older Chinese immigrants, their use of traditional Chinese medicine (TCM), and physician contact.

Methods

This study analyzed data from the Population Study of Chinese Elderly in Chicago (PINE), a community-engaged, population-based epidemiological study of older Chinese adults living in the Greater Chicago area (N=3158). Negative binomial regression models were used to examine physician contacts.

Results

Eleven percent of the sample used acupuncture, and 12% used massage therapy. Over 90% of acupuncture users had physician contact. Negative binomial regression results showed that using acupuncture and massage was associated with increased frequency of physician visits. A moderating model was tested to isolate the effects of TCM use and chronic medical conditions, which showed an increase in the number of medical conditions among acupuncture users was associated with decreased frequency of physician visits.

Discussion

This study revealed the effects of culture and health on physician contact. The use of TCM did not reduce physician contacts. The moderating effects of the number of medical conditions implies a need for those suffering from the burden of diseases. Gerontological practice and policy should seek to integrate approaches to meet the needs of older adults.

RURAL AGING HEALTH RESEARCH: RECRUITMENT AND RETENTION STRATEGIES

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Recruitment and retention of older adults in research can be challenging, especially within the rural context. Drawing from three different rural aging studies in Saskatchewan, Canada, this presentation will discuss the challenges and range of strategies used to recruit and retain research participants in a rural setting. Specifically, this presentation will address: 1) unique challenges within the rural context; 2) a range of recruitment and retention approaches; 3) the strengths and barriers of using these methods; and 4) reflections and lessons learned to strengthen future research. The challenges spanned personal, structural, and societal contexts and included poor health, smaller population, distance, many living alone, distrust of outsiders, and limited access to health services. Two of the studies utilized a community based approach to recruitment with active involvement of community leaders and local partners in four rural communities. The third study involved service providers in the home care network and local community members within two regional health authorities. Our approaches highlight the importance of relationship building through regular researcher presence in the community and participation in local events to build trust before recruitment begins. Our strategies included: community advisory boards; local information sessions; flexible methodologies; in-person interaction; attending community events; trust and relationship-building; and using diverse forms of communication (e.g., newsletters and workshops) to share study updates and findings. We will reflect on the supports and barriers associated with these strategies and offer lessons learned to assist other researchers interested in aging research.

SESSION 3590 (POSTER)

DATABASES ON AGING

AGER (ACUTE GERIATRICS): A NEW DATABASE OF CLINICAL AND BIOLOGICAL DATA FROM ACUTE GERIATRICS WARDS

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Since October 2014, geriatricians of 5 geriatric wards in teaching hospitals within the FAST (Fight Ageing and STress) university department (Pierre et Marie Curie university, Paris, France), implement a common database named AGER (Acute GERiatrics). For each patient hospitalized for an acute pattern, 134 social, clinical, therapeutic, biological and evolutionary (collection at 1, 3, 6, 12 months) datas were collected systematically and prospectively. The aim was to include 1500 to 2000 patients per year.

Preliminary results of 1261 patients aged 75 years or older, mean age 86 ± 6 years, sex ratio female/male 2, median hospital stay 12 days [8–16], were obtained with the first extraction in May 2015 (will be complemented by a second extraction under 12 and 18 months from the beginning of inclusions). These patients, whose 75% of them were hospitalized from emergency departments, had several comorbidities (median Charlson score: 3 [1–4], 29% with dementia) and poly-medication (median number of medications 6 [4–9]). The first reason for hospitalization was falls (23%), followed by impaired general condition (17%) and acute respiratory distress (12%). Delirium was present in 40% of hospitalizations. Patients' outcome at the end of hospitalizations were divided into: back to home (52%), rehabilitation (31%), transferred to an other ward (10%) and death (7%). At 6 months, 23% of patients had died and 9% were newly institutionalized.

AGER, with specific clinical data on complex geriatric patients, will allow the establishment of epidemiological studies and bio-clinical ancillary studies focusing on acute stress.

CLINICAL TRIALS NOVEL METHODOLOGIES AND BIG DATA FOR OLDER ADULTS

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Standard designed clinical trials like phase3 confirmatory studies may be inadequate for collecting good long-term clinical data in older adults. Concomitant chronic diseases and poly-therapy related exclusion criteria may prevent the trial to enrol a representative sample of the target population. Rigid scheduling of visits and investigations negatively affects compliance and retention rate while increasing the risk of biased results.

A novel approach, based on a permanent clinical trial infrastructure, e.g. patients and clinical investigators from a geographic area, could overcome these current limits. A permanent data platform integrates different source data: clinical data, imaging, physical activity recording, disease related biomarkers, and patient reported outcomes. Data can be accessed and re-purposed at the end of the initial study, e.g. to answer to secondary (not pre-specified) questions by regulators.

The implementation of such a clinical trial platform is enabled by the novel information and communication technologies (ICT) allowing informal communication with patients and continuous data collection from home, minimizing travels to the investigational site.

SARA-OBS, a multi-centre study, aims to observe and capture 6-month changes in physical function and body composition from 300 older patients living in the community but at risk of mobility disability and physical dependency.

An adaptive data-warehouse infrastructure is the basis of this approach, and will be described. Body sensors and adapted, remotely administered questionnaires will empower the elderly participant by providing a simplified way for communicating with their physician and the staff. A dedicated website with relevant health information will identify SARA Clinical Data Platform entry point.

AGE-RELATED CHANGES IN HYPOTHALAMIC-PITUITARY-GONADAL AXIS AMONG AGING POPULATION

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Background: To evaluate age related changes of sex hormone in aging population.

Materials and Methods: A total 28529 participants, aged 20 to 89 were recruited from four MJ Health Screening Centers in Taiwan from 2012 to 2015. Sex hormone, sex hormone binding globulin (SHBG), follicle-stimulating hormone (FSH) and luteinizing hormone (LH) were measured. Age groups were divided into a 5-year interval for further analysis.

Results: In men, total testosterone (TT) decreased from 6.0 ng/ml at age 20–25 years to 5.3 ng/ml at age over 80 years. Free testosterone (FT) decreased from 134.4 pg/ml at age 20–25 to 67.3 pg/ml at age over 80 ($\beta = -0.88$ pg/ml per age group, $p < .0001$). SHBG, FSH and LH increased with age. The values of these hormone in two age groups (20–25 and 80+ years) were as follows: SHBG, 29.3 and 68.6 nmol/L ($\beta = 0.52$, $p < .0001$); FSH, 2.8 and 17.5 mIU/ml ($\beta = 0.14$, $p < .0001$); LH, 3.2 and 11.0 mIU/ml ($\beta = 0.05$, $p < .0001$). In women, the values of TT and FT at age group 20–25 and 80+ years were: TT, 0.42 and 0.28 ng/ml ($\beta = -0.003$, $p < .0001$); FT, 6.1 and 3.2 pg/ml ($\beta = -0.05$, $p < .0001$). Interestingly, SHBG concentration reveals a cubic curve, the lowest and highest level were 59.9 nmol/L at age 55–60 and 80.2 nmol/L at age over 80, respectively. As expected, E2 declined sharply at age 51–55 ($\beta = -2.66$, $p < .0001$). In contrast, FSH and LH increased after menopause.

Conclusion: Age related changes in hypothalamic-pituitary-gonadal axis is sex-dependent. TT, FT and SHBG patterns were different among age groups compared with Western population.

ASSOCIATION OF SUPPORT ON THE MORTALITY OF OLDER ADULTS WITH DIFFERENT LIVING ARRANGEMENTS IN TAIWAN

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The present longitudinal investigation study evaluated the effects of support on the mortality of older adults with different living arrangements in Taiwan. The data were obtained from the Taiwan Longitudinal Study on Aging, 1996–2007, which included those aged ≥ 67 years, with 1492 males and 1177 females. Living arrangements were divided into four categories: living alone, living only with spouse, living with family and living with others. Support was divided into two categories: providing receiving social support. The effect of providing/receiving social support on the mortality of the elderly was determined using Cox regression analysis, according to various living arrangements.. Participants who lived with family had lower educational levels (illiterate or elementary school) and more instrumental activities of daily living (IADL) and activities of daily living (ADL) disability; however, they provided more social support than those in other living arrangements. After adjusting for several potentially confounding variables, including IADL and ADL disability, the results showed that older adults living with family and providing social support can lower their mortality rate by 11 per cent (Hazard ratio = 0.89; 95 per cent confidence interval = 0.83–0.96; $p = 0.0018$).

In conclusion, when living with family, the lives of the elderly can be dramatically extended by providing social support.

TRENDS OF THE MAIN CAUSES OF HOSPITAL ADMISSION AMONG THE BRAZILIAN ELDERLY ACCORDING TO SEX

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Considering the accelerated aging in Brazil and in the world, the causes of hospitalizations tend to change over time. This study aimed to evaluate the trends of the main causes of hospital admissions of Brazilian elderly in public institutions or private ones with contract agreement. This retrospective study used secondary data from the Hospital Information System of the Brazilian Ministry of Health. Data were collected for 2005 and 2015, and the five main causes of hospitalization among the elderly ≥ 60 years were included according to the chapters of ICD-10. In 2015, occurred 2,789,300 hospitalizations, while in 2005 occurred 2,224,147. The distribution was similar (about 50%) in both years for both sexes. In 2015, 24.1% of men's hospitalizations was by Diseases of the Circulatory System (DCS), 14.8% by Respiratory Diseases (RD), 11.4% by Neoplasia, 10.8% by Digestive Diseases (DD) and 8.1% by Diseases of the Genitourinary System. Among women, 23% of hospital admissions was by DCS, 15.1% by RD, 10.2% by Neoplasms, 9.6% by DD and 8.3% by Some Infectious and Parasitic Diseases (SIPD). The proportion of admissions by DCS and RD reduced, and by Neoplasia increased, in both sexes when compared to 2005. In 2005, while SIPD was the fifth leading cause of male admissions, it was the fourth among female. Although in different proportions, the four leading causes of hospitalizations were the same for both sexes in 2015, differing in the fifth one. Therefore, it is important attempting to gender differences when approaching disease prevention among the elderly.

SESSION 3595 (POSTER)

DEPRESSION

THE PREVALENCE OF POST-STROKE DEPRESSION AND ITS PREDICTORS AMONG OLDER ADULTS IN KOREA

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Depression is common after stroke and is associated with adverse health outcomes for older adults. The aim of this study was to explore the prevalence and predicting factors of post-stroke depression (PSD) among community-living older adults who diagnosed stroke in Korea. Secondary data analysis of the 2014 Korean National Elderly Living Conditions and Welfare Desire Survey was used ($N=10,451$). Logistic regression analysis was conducted to examine the predictors of PSD. Depression status was categorized if the score greater than 8/15 on the Geriatric Depression Scale-15 (GDS-15). The prevalence of PSD was 46.5% ($n = 349$) of older adults with medically diagnosed stroke ($n=750$) compared to 31.5% ($n = 3,055$) among those without stroke ($n=9,701$), which was significantly different between two groups ($t=-11.604$, $p<0.001$). In a logistic regression model, factors associated with an increased risk of PSD in older adults are having poor self-rated health (OR = 6.744, 95% CI = 2.829–16.078), limitation of activities of daily living (ADLs) and instrumental activities of daily living (IADLs) (OR = 2.696, 95% CI = 1.859–3.910), experience with falling (OR = 1.510, 95% CI = 1.068–2.135), trouble with vision (OR = 1.403, 95% CI = 1.005–1.958). The PSD prevalence was high and PSD showed a strong association with multidimensional factor among community-living older adults. Preventive intervention should be developed to decrease the PSD among Korean older adults.

MASKED DEPRESSION IN OLDER MEN: HYPERTENSION, SILENT CEREBROVASCULAR DISEASE, AND METABOLIC SYNDROME

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Addressing subthreshold and subsyndromal depression in cerebrovascular conditions, diabetes, and obesity may reduce morbidity and risk for major depression. However, depressive symptom profiles reflecting distress may not involve dysphoric mood, and those reflecting illness-related alexithymia limit emotional self-awareness. I used the first wave of population-weighted data of the New Haven Epidemiological Study of the Elderly (EPESE) to examine symptom profiles of subsyndromal, and subthreshold, depression in cerebrovascular conditions with co-occurring excess weight and diabetes. These data (2,812 non-institutionalized older adults) combined a stratified, systematic, clustered random sample from independent residences and a census of senior housing facilities. Physical conditions included progressive cerebrovascular disease (hypertension, silent cerebrovascular disease, stroke, vascular cognitive impairment) and co-occurring excess weight and/or diabetes (without complications). These conditions and interactions (clusters) simultaneously predicted twenty depression items (CES-D scale) and a latent trait of depression in participants experiencing subthreshold

or subsyndromal depression (CES-D > 10). I used the MLR estimator in Mplus and an innovation I recently created for estimating unbiased effects from Multiple Indicators-Multiple Causes (MIMIC) models with exhaustive specification. Robust findings ($p < .05$) were identified from models with and without adjustments for confounding factors and depression level. Symptom profiles reveal masked depression in older males, related to the metabolic syndrome (hypertension-overweight-diabetes; silent cerebrovascular disease-overweight; silent cerebrovascular disease-diabetes). Several clusters are equivocal regarding masked depression; one emphasizes dysphoric mood. Replicating findings could identify patient subgroups with the metabolic syndrome for targeted, cost-effective screening of subthreshold and subsyndromal depression.

MASKED DEPRESSION AFTER STROKE OR WITH VASCULAR COGNITIVE IMPAIRMENT: SEX, OBESITY, DIABETES STATUS

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Addressing subthreshold and subsyndromal depression in cerebrovascular conditions, diabetes, and obesity may reduce morbidity and risk for major depression. However, vascular depression may be masked by low endorsement of dysphoric mood. I used the first wave of population-weighted data of the New Haven Epidemiological Study of the Elderly (EPESE) to examine symptom profiles of subsyndromal, and subthreshold, depression in cerebrovascular conditions with co-occurring excess weight and diabetes. These data (2,812 non-institutionalized older adults) combined a stratified, systematic, clustered random sample from independent residences and a census of senior housing facilities. Physical conditions included progressive cerebrovascular disease (hypertension, silent cerebrovascular disease, stroke, vascular cognitive impairment) and co-occurring excess weight and/or diabetes (without complications). These conditions and interactions (clusters) simultaneously predicted twenty depression items (CES-D scale) and a latent trait of depression in participants experiencing subthreshold or subsyndromal depression (CES-D > 10). I used the MLR estimator in Mplus and an innovation I recently created for estimating unbiased effects from Multiple Indicators-Multiple Causes (MIMIC) models with exhaustive specification. Robust findings ($p < .05$) were identified from models with and without adjustments for confounding factors and depression level. In both genders reporting a stroke, and in older women tested separately, depression was masked when excess weight, but not diabetes, was experienced. Masked depression was detected in the same context among older women with vascular cognitive impairment, and in both genders with vascular cognitive impairment when they were not overweight or diabetic. Replicating findings could identify subgroups for targeted, cost-effective screening of depression.

SLEEP PATTERNS IN OLDER PEOPLE WITH MOOD DISORDERS

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Introduction: Sleep and mood disorders are frequently seen in elderly, with important consequences on morbidity and mortality. We analyzed sleep patterns in elderly with mood disorders.

Material and Methods: A transversal study performed on 840 randomly selected patients previously diagnosed with mood disorders, divided into 2 equal groups: adults (50–64 years), elderly (≥ 75 years), with equal number of women and men. Study based on a questionnaire regarding sleep patterns and quality.

Results: Majority of patients in both groups resided in urban area; 1/4 elderly lived alone as compared to only 17% adults. 1/3 of adults and only 22% elderly with higher education. Significantly higher prevalence of day-time sleeping amongst elderly ($p < 0.01$). Elderly sleep less hours. Almost no elderly eat before sleep, while over 1/3 of adults have a meal before going to bed. Significantly more elderly wake-up during night ($p < 0.01$), mainly due to pain and men due to renal-urinary disorders. Elderly take longer to fall asleep ($p < 0.05$), but have less nightmares. Risk factors for sleep disorders have been identified: smoking, toxic exposure, meals before bedtime. Sleep-apnea syndrome was more prevalent in elderly ($p < 0.05$). Mood disorders negatively impact on sleep quality in elderly with frequent interruptions and global reduction. Over 85 years influence of depression on sleep quality decreases significantly ($p < 0.01$). Sedentary life-style more prevalent in elderly and had a significant effect on quality of sleep and mood disorders ($p < 0.05$).

Conclusions: Elderly from urban areas have a poorer sleep quality and women are more prone to both mood and sleep disorders.

INTERNAL CONSISTENCY OF GERIATRIC DEPRESSION SCALE: CHALLENGE FOR NEW PROPOSALS

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High incidence of elderly depression motivates use of screening depression scales in aging; the most used scales by specialized and nonspecialized healthcare staff is Geriatric Depression Scale. Short version of this scale (15 items) was proposed in 1982 with a high effort in its construction and with no modification since then. The aim of this study was to determine the reliability of these 15 item-short version and ultrashort versions (5, 3, and 2 items). This study used information of the *Encuesta Salud Bienestar y Envejecimiento SABE* in Bogotá/Colombia (1957 registers). Statistical analysis showed a high variability in homogeneity items' Cronbach analysis (between 0.59 until 0.23). Factorial analysis showed 3 factors in the scale. This seems to be part of a need to contextualize the scale because the use of it since

1982 without changes and a dynamic depression concept through the years.

SESSION 3600 (POSTER)

EPIDEMIOLOGY I

PREDICTING RISK OF DIABETES-RELATED HOSPITALIZATION IN OLDER PATIENTS WITH TYPE 2 DIABETES

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Diabetes is an ambulatory care-sensitive condition (ACSCs), for which timely, effective, and efficient outpatient care can reduce hospitalization risks. The aim of the study is to develop a prediction model for diabetes-related hospitalization in patients with type 2 diabetes.

Methods: A retrospective cohort study was conducted among 27,498 older patients with type 2 diabetes aged 50–84 years during 2000–2003 from the database of Taiwan National Diabetes Care Management Program (NDCMP). We used the Cox proportional hazard regression model to derive risk scores. The receiver operating characteristic curves were used to evaluate the predictive accuracy. Calibration was assessed by the Hosmer-Lemeshow test.

Results: A total of 5,603 older diabetic patients had diabetes-related hospitalization during 7.39 years of follow-up. The final prediction model incorporated age, gender, smoking, age of diabetes onset, duration of type 2 diabetes, body mass index, HbA1c, variation of fasting plasma glucose, variation of HbA1c, eGFR, total cholesterol, LDL, triglyceride, hypertension, stroke, diabetic retinopathy, disease of peripheral circulatory disturbance, hypoglycemia, ketoacidosis, postural hypertension, anti-diabetes medication and cardiovascular medications. The AUCs of 1-, 3-, 5- and 10-year diabetes-related hospitalization risks were 0.76, 0.74, 0.74 and 0.72 in the validation set, respectively. The predicted and observed 1-, 3-, 5- and 10-year probabilities of diabetes-related hospitalization were similar in the validation set.

Conclusion: We have developed a model that estimates diabetes-related hospitalization risk in older patients with type 2 diabetes, which can serve as a screening tool to identify older diabetic patients who are at higher risk for hospitalization.

HIGH-SENSITIVITY C-REACTIVE PROTEIN AND RISKS OF ALL-CAUSE AND CAUSE-SPECIFIC MORTALITY IN JAPAN

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Background: High-sensitivity C-reactive protein (hsCRP) levels are lower in Japanese compared with Western subjects.

Since it is uncertain whether hsCRP is a potent predictor of mortality at low CRP concentrations, the present study examined associations with all-cause and cause-specific mortality in a large population of Japanese.

Materials and Methods: Subjects were 4,737 men and 6,343 women aged 49–76 years participating in the baseline survey of an ongoing cohort study of lifestyle-related diseases between February 2004 and July 2006. Hazard ratios for all-cause and cause-specific mortality associated with hsCRP levels were estimated using Cox proportional hazards regression.

Results: A total of 436 all-cause deaths occurred during a median follow up of 8 years. The main cause of death was cancer. In men, hsCRP levels were positively associated with the risk of all-cause mortality as well as deaths from cancer and cardiovascular disease (CVD). All-cause mortality hazards for the 2nd (0.34–0.84 mg/L) and the 3rd (≥ 0.85 mg/L) tertiles of hsCRP were 1.27 (95% confidence interval [CI], 0.93–1.73) and 1.75 (1.30–2.37), respectively (p for trend=0.001). In women, increased risk of all cause and cause-specific mortality associated with elevated hsCRP levels was observed, but the associations were not statistically significant.

Conclusions: HsCRP may be an independent predictor of all-cause, cancer and CVD mortality in apparently healthy Japanese men, but not women. The differential effect of hsCRP in predicting mortality risk by sex warrants further investigation.

OPTIMISM AT AGE 90 AND 5-YEAR MORTALITY

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Little is known concerning optimism among the very old. We examined the association between optimism and 5-year mortality among non-depressed 90 year olds.

Subjects were drawn from the Jerusalem Longitudinal Study (1990–2016), an ongoing prospective study of a representative community-dwelling cohort, born 1920–21. Comprehensive assessment at 90 included a 7-question 14-point optimism score, for which quartiles were determined (Q1 lowest-Q4 highest optimism). Depressed subjects were identified using the Short Geriatric Depression Scale, and not included in the current analysis. Mortality data were collected from the Ministry of Interior. Cox proportional hazards ratios (HR) were determined, adjusting for gender, diabetes, ischemic heart disease, and hypertension.

A total of 231 non-depressed subjects were assessed at 90, among whom 11% had lowest optimism score (Q1), 22% medium score (Q2), 32% high optimism (Q3), and 36% very high (Q4). Subjects with highest optimism (Q4) were more likely to be better educated, have improved self-rated health, get out the house more frequently, with lower rates dependence in basic activities of daily living. Optimism was consistently associated with improved survival throughout follow-up from age 90–95: Kaplan-Meier survival analyses according to optimism quartiles (Q1,2,3,4) was 41%, 64%, 66%, 72% (log rank $p < 0.05$) respectively. Using the lowest optimism quartile (Q1) as a reference (HR =1), the adjusted HR's for mortality according to optimism were Q2 HR=0.45 (95%CI 0.22–0.91), Q3 HR=0.49 (95%CI 0.25–0.95), and Q4 HR=0.36 (95%CI 0.18–0.71).

Our findings show that optimism among the oldest old is significantly associated with subsequent survival.

REGIONAL DIFFERENCES IN DISABILITY AMONG COMMUNITY-DWELLING OLDER PEOPLE IN EUROPE

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The objective was to estimate the prevalence of disability among older people in 17 European countries. We also aimed to analyze differences in the profile of disabled individuals between European regions, regarding sociodemographic, lifestyle and health-related variables. This is a cross-sectional study based on the last data of the Survey of Health, Ageing and Retirement in Europe (SHARE project). Community-dwelling subjects aged 65 and over were included. Disability was defined as presenting at least one functional limitation in basic activities of daily living. The prevalence of disability was 9.2% (95%CI:8.5–9.9%), 15.3% (95%CI:14.7–16.0%), 19.2% (95%CI:18.4–19.9%) and 19.2% (95%CI:18.3–20.1%) in Northern, Central, Eastern and Southern European regions, respectively. The prevalence of disability by country was 8.2% (Netherlands), 8.9% (Sweden), 10.9% (Denmark), 13.2% (Slovenia), 14.0% (Germany), 14.5% (Austria), 14.6% (Luxembourg), 17.4% (Czech Republic), 17.5% (France), 18.2% (Italy), 18.5% (Spain), 18.6% (Hungary), 20.5% (Belgium), 22.3% (Estonia), 24.6% (Poland) and 25.1% (Portugal). In Southern Europe, disabled subjects were significantly older, predominantly women, with low education level, more physically inactive, took higher number of drug types, present lower mean memory score and higher prevalence of high blood cholesterol, diabetes, arthritis/rheumatism, dementia, depressive symptoms and affective/emotional disorders ($p<0.001$). The highest proportions of poor self-rated health and obesity were identified in Eastern Europe, while the Northern region presented the highest prevalence of cancer, current/former smokers and alcohol consumption ($p<0.001$). In conclusion, the prevalence of disability was higher in Eastern and Southern Europe and the latter region presented a disadvantaged sociodemographic and health-related profile for the majority of variables.

PREVALENCE OF DISABILITY AMONG COMMUNITY-DWELLING OLDER ADULTS IN EUROPE: A STUDY OF SHARE DATA

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The main objective was to estimate the prevalence of disability among older adults in Europe. Besides, we aimed to characterize the profile of disabled older adults, regarding sociodemographic, lifestyle and health-related variables. A cross-sectional study based on the latest data of the Survey of Health, Ageing and Retirement in Europe (SHARE) is presented. Community-dwelling subjects aged 65 and older were selected. Disability was defined as presenting at least one functional limitation in basic activities of daily living. The final sample was 36078, from which 5784 suffered from disability, representing a prevalence of disability of 16.0% (95%CI: 15.7–16.4%). Taking into consideration the subsample of disabled older people, the most affected activities were dressing (58.7%) and bathing (57.8%), followed by transferring (36.1%), toileting (24.9%), walking (22.9%) and eating (20.1%). Mean number of affected tasks was 2.3 (SD: 1.6) and mean age 77.8 (SD: 7.6) years. The majority of disabled older adults were women (60.2%), with partnership (56.1%), low education level (61.7%), physically inactive (52.8%), current/former smoker (80.1%), with fair/poor self-rated health (84.0%), bad satisfaction with life (61.8%), and depressive symptoms (60.5%). Furthermore, 27.0% were obese, 32.5% presented anxiety and took 3.1 drugs on average. The most frequent related diseases/conditions were hypertension (55.3%), arthritis/rheumatism (46.8%), high blood cholesterol (29.5%), heart attack (27.6%) and diabetes (24.5%). In conclusion, the prevalence of disability in European older adults was 16% and disabled subjects presented a disadvantaged sociodemographic profile, worse lifestyle and quality of life, as well as high prevalence of chronic diseases and psychological disorders.

HEALTH AND FUNCTIONAL STATUS OF NONAGENARIANS

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The U.S. population aged 90 years and older is growing rapidly and there are limited data on the health of this group. The Cardiovascular Health Study recruited 5,888 black and white adults ≥ 65 years in two waves (1989–90 and 1992–93) from Medicare eligibility lists in Forsyth County, North Carolina; Sacramento County, California; Washington County, Maryland; and Pittsburgh, Pennsylvania. Data on health status were collected from baseline to present. As of December 31st, 2015, 1,899 participants had achieved age 90 or older during the study follow-up and had available measures. Nearly three-fourths of women (72%) and men (74%) had one or more of the following chronic conditions by age 90: cardiovascular disease, cancer, chronic obstructive pulmonary disease, and dementia; and the mean number of prescription medications was 6 (SD 4). The majority of women (75%) and men (60%) reported difficulty on one or more instrumental activities of daily living; fewer reported difficulty on activities of daily living (50% of women and 37% of men). Modified Mini-Mental Status Exam scores indicated cognitive deficits in both women and men (mean=82;

SD=16.5 for both genders). The majority of women (59%) and men (62%) reported being in good or better health and without depressive symptoms (76% and 77%, respectively) at age 90. After age 90, medication burden, functional status, cognitive function, and depressive symptoms worsened with age similarly in women and men. Persons surviving to age 90 and older had a high burden of morbidity and disability, yet remained optimistic about their health status.

EXECUTIVE FUNCTION AND PHYSICAL DECLINE TRAJECTORIES IN COMMUNITY DWELLING NON-DEMENTED OLDER ADULTS

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Purpose: There is strong evidence that older persons with cognitive impairment are often physically impaired. However, whether cognitive function predict future changes in mobility has not been evaluated. We tested the hypothesis that Trail Making Test A (TMTA) performance predicts rates of decline of Short Portable Physical Performance Score (SPPB) over a 9-year follow-up in 470 InCHIANTI participants (235M, 71.3 $\pm$ 5.0ys, 235F, 72.5 $\pm$ 5.8ys) 65 years or older with Mini Mental State Examination (MMSE) $\geq$ 26 at baseline.

Methods: Trajectories of SPPB changes with aging were estimated by Latent Class Growth Curve Models (LCGCM), separately in men and women. Predictors of SPPB rate of decline were identified by logistic regression models.

Results: Two longitudinal trajectories of physical functional decline (slow and fast) were identified in both for gender. The same significant predictors of SPPB decline were found for men and women: age (OR=1.13 and OR=1.17), TMTA>79seconds (OR=2.5 and OR=2.9) and number of diseases (OR=1.4 and OR=1.6).

Conclusion: Age, impaired executive function and multimorbidity predict accelerated decline of lower extremity function in both men and women. Simple cognitive screening could facilitate early recognition of changes in physical functioning.

EFFECTS OF APOE GENOTYPES ON COGNITIVE AGING IN THE MIDDLE-AGED AND ELDERLY: A15-YEAR FOLLOW-UP

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Relationship between ApoE- ϵ 4 allele and longitudinal changes of cognitive abilities were examined in middle-aged and elderly community-dwelling Japanese. The participants were 2088 men and women (age: 40–79, excluding history of dementia) who participated in the National Institute for Longevity Sciences- Longitudinal Study of Aging. They were tested in up to eight times, for approximately 15 years. Cognitive abilities including general knowledge and processing speed were assessed using Information and Digit Symbol Test, components of Wechsler Adult Intelligence Scale-Revised. Participants with 1 or 2 ApoE- ϵ 4 allele were

considered ϵ 4 carriers (n=406, 19.4%). General linear mixed models were comprised of fixed effects of ApoE- ϵ 4 (carriers/non-carriers), baseline age, follow-up years, their interactions and covariates (sex, education, BMI, alcohol intake, marital status, occupation, current smoking, past and present illness and retest effect). Individual variance (intercept and slope) assigned as random effects. Results indicated that main effects of ApoE- ϵ 4 were not significant for both test scores. However, the interaction terms, ApoE- ϵ 4 $\times$ age $\times$ follow-up years were significant for general knowledge and processing speed (p=.016; p=.004), suggesting the effect of ApoE- ϵ 4 on cognitive changes differed depending on baseline age. Predicted trajectory substituting baseline age and ApoE- ϵ 4 status indicated that differences in slopes between ApoE- ϵ 4 carriers and non-carriers were significant after 55 years of age for general knowledge, and 57 years of age for processing speed, with rate of decline in ApoE- ϵ 4 carriers being larger than that in non-carriers. In conclusion, APOE- ϵ 4 might affect the decline in general knowledge and processing speed from the latter half of their 50s.

CHILDHOOD ADVERSITIES AND HOME ATMOSPHERE AS DETERMINANTS OF DISABILITY AND UNEMPLOYMENT PENSION

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Childhood adversities have been linked with adverse life events, but less is known about the long-term effects of childhood home atmosphere in terms of work career. We investigated whether childhood adversities and home atmosphere were associated with disability or unemployment pension. In the Helsinki Birth Cohort Study (born 1934–44), 2001 cohort members had data available on 9 childhood home atmosphere items e.g. whether it was supportive or warm (sum score 0–36, higher score indicating more favorable atmosphere), and 9 childhood adversities e.g. unemployment, parent's long-term illness or divorce (sum score 0–9, coded into no; one; and two or more) assessed in 2001–04. Of those, 1528 had data on type and time of retirement provided by the Finnish Centre for Pensions. Adjustments were made for childhood and adult socioeconomic status, adult lifestyle factors, and chronic diseases. Between 1971 and 2011, 21.0% transitioned into disability, 16.7% into unemployment, 20.2% into part-time, and 42.1% into old age pension. A higher home atmosphere score was associated with a lower hazard of disability pension, fully adjusted hazard ratio (HR) being 0.97, 95% confidence interval (CI) 0.96, 0.99 per one unit higher home atmosphere score. Those who had experienced two or more childhood adversities had a higher hazard of unemployment pension compared to those with no adversities, fully adjusted HR being 1.60, 95% CI 1.18, 2.19. Childhood adversities and home atmosphere might have long-term effects on the length of the work career and retirement.

MIDLIFE NEIGHBORHOOD SOCIOECONOMIC STATUS AND 20-YEAR CHANGE IN COGNITION: THE ARIC-NCS STUDY

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Studies of the association between socioeconomic status (SES) and cognitive function have mostly focused on individual attributes to define SES (e.g. education, income), while few have examined the association of contextual SES characteristics with age-related change in cognitive function.

Using data from the biracial Atherosclerosis Risk in Communities Neurocognitive Study (ARIC-NCS), we examined the association of ZIP code-level median household income, assessed at mid-life, with 20-year change in cognition from mid-life through older adulthood. Cognition was assessed in 13,881 men and women at baseline (1990–1992; median age: 57.3 years, 44.3% men, 23.7% African American) and at two subsequent examinations (1996–1998 and 2011–2013) using the Delayed Word Recall Test, Digit Symbol Substitution Test, and the Word Fluency Test, standardized to the baseline scores. Standardized test scores were then averaged to yield a global cognition domain z score. Multiple imputation by chained equations was used to impute cognitive test scores missing due to attrition.

Using random effects mixed models, adjusted for age, gender, race, and individual-level educational attainment, we observed that the magnitude of the rate of change in global cognition during a median 20.8 years of follow-up was similar across distribution-based tertiles of median household income (high SES: $\beta = -0.99$ (95% CI -1.00, -0.99); middle SES: $\beta = -0.96$ (95% CI -0.97, -0.96); low SES $\beta = -0.96$ (95% CI -0.96, -0.95)). Our findings suggest that mid-life neighborhood SES is not associated with the rate of cognitive decline through older adulthood.

RELATIONSHIP OF GLOBAL CARDIOVASCULAR RISK AND MIDLIFE PHYSICAL PERFORMANCE IN A BI-RACIAL COHORT

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Evidence has suggested the existence of a bi-directional relationship between cardiovascular disease and physical performance in elderly adults, with several potential common mechanisms including chronic inflammation and sarcopenia. Yet, there remains little data on the relationship between CVD risk and physical performance in mid-life. The objective of this study was to determine if global cardiovascular risk measures were associated with score on the short physical performance battery (SPPB) in a mid-life cohort of African-American and white adults followed since childhood. Our study included 845 participants of the Bogalusa Heart Study cohort. We separately examined the relationships between both

10-year AtheroSclerotic CardioVascular Disease (ASCVD) and Framingham CHD risks and poor physical performance, defined as SPPB<10, in logistic regression models, controlling for educational attainment, as a surrogate of socioeconomic status, alcohol, and body mass index. Mean (SD) age was 48.4 (4.9); 63.2% of were women and 33.5% were African-American. A total of 173 (19.8%) participants demonstrated poor physical performance, with median (IQR) ASCVD 10-year risk and Framingham risks of 5.6% (2.3%-11.7%) and 2.5% (0.9%-6.4%), respectively versus 3.1% (1.3%-6.1%) and 1.3% (0.5%-4.8%) in those with good physical performance ($p < .0001$ and $p < .001$, respectively). These relationships both persisted ($p < .01$) after adjustment. These results indicate that global cardiovascular risk is strongly linked to physical performance measures, even in a relatively low-risk, mid-life population. Given this strong association, mid-life cardiovascular risk scores which are commonly calculated in primary care settings may aid in the early identification of individuals who may benefit from interventions designed to prevent frailty.

PRESCRIBED MEDICATION AND MALNOURISHMENT AT RISK OF MALNUTRITION

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Malnutrition is a common health problem in polymedicated older adults. This cross-sectional study investigates the relationship between the prescribed medication and malnourishment/risk of malnutrition. The research was conducted in a representative sample of 749 community-dwelling elders aged 65 years and over, showing a combined prevalence for the malnourished/ at risk of malnutrition group of 14.3% (assessed by the short form of the Mini Nutritional Assessment, MNA-SF). Each medication was categorized according to the Anatomical Therapeutic Chemical (ATC) classification. Low MNA-SF score group (≤ 11 points) consumed a higher number of medications (6.5 ± 3.5 vs. 4.5 ± 3.2 , $p < 0.001$) and presented higher polypharmacy (5 or more, 64.5% vs. 40.0%, $p < 0.001$). The most common drug classes in malnourished/at risk of malnutrition participants were cardiovascular (76.6%), alimentary tract and metabolism (70.1%) and nervous system (68.2%). Stepwise logistic regression analyses revealed that no consuming alimentary tract and metabolism (adjusted OR 1.61; 95% CI 1.01 to 2.56), blood and blood forming organs (adjusted OR 1.69; 95% CI 1.09 to 2.60) and nervous system (adjusted OR 2.16; 95% CI 1.38 to 3.38) drug classes was related to lower MNA-SF scores. Therefore, the consumption of these medications is associated with the presence/absence of malnutrition. These findings reveal the importance of a correct prescribed medication related to the most frequent health problems in older adults to avoid the presence of malnourishment/ risk of malnutrition and to propose appropriate intervention.

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SERUM GDF15 PREDICTS ALL-CAUSE MORTALITY IN A GENERAL POPULATION OF JAPANESE ELDERLY

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Growth differentiation factor 15 (GDF15) is a member of the TGF- β superfamily, which has been implicated in aging and various age-related diseases. We and others have recently reported that the serum GDF15 level was increased in patients with mitochondrial diseases, suggesting its potential as a marker for mitochondrial dysfunction. The epidemiological relevance of GDF15 to adverse health outcomes of the elderly has not been well established. In the present study, we aimed to determine the relationship between GDF15 and all-cause mortality in a general population of Japanese elderly. 1,832 community-dwelling older adults aged 65 years or older participated in baseline surveys in the towns of Kusatsu and Hatoyama in Japan. The serum GDF15 concentration was determined by the AlphaLISA immunoassay. There occurred 134 deaths during a median follow-up of 4.7 years. We used the Cox proportional hazard model to assess the association of the serum GDF15 level with mortality, controlling for important confounders at baseline (sex, age, years of education, number of chronic diseases, diastolic blood pressure, red blood cell count, total cholesterol, eGFR, albumin, cognitive function, gait speed, higher-level competence, and inflammation markers). Participants in the highest quartile (GDF15 concentrations of >974 pg/mL) had a hazard ratio of 2.33 (95% confidence interval: 1.06–5.12) for all-cause mortality compared with those in the lowest quartile (GDF15 concentrations of < 562 pg/mL). These results suggest that serum GDF15 concentration independently predicts all-cause mortality in a general population of Japanese elderly.

SESSION 3605 (POSTER)

FAMILY CAREGIVING

GENDER DIFFERENCES IN TIME USE AND PERCEIVED TIME PRESSURE OF MIDDLE- AND OLD-AGED CAREGIVERS

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Recently in Korea, the academic and societal attentions are focusing on middle and old aged people as the asset providing caregiving to their grandchildren. However, the middle and the old aged people may face not only taking care of grandchildren but also diverse demands of caregiving, such as caregiving for spouse and parents; These caregiving demands are not limited to women. There should be differences in caregiving itself and the effects of caregiving on caregivers between man and woman, considering people act based on gender roles and gender norms. Therefore, we can expect that caregivers show the gender differences in time spent and perceived time pressure according to how they conduct their caregiver's role.

The sample was drawn from the 2014 Korean time diary data collected by the Korean National Statistical Office, including caregivers aged 50 and above. Caregivers are defined as people who reported that they did family caregiving

activities when the data was been collecting. Frequency, percent proportion, mean, t-test, and chi-square test were used.

The total number of people family caregivers aged 50 and above was 2885 and 68.8% of caregivers were woman. About 88.2% of caregivers taking care of grandchildren were female. About a half of male caregivers(53.7%) took care of their spouses and about 5% male caregivers provided caregiving to their parents suffered from dementia.

Male caregivers spent more time on studying($t=2.287$, $p<0.001$) but less time on family caregiving($t=-22.205$, $p<0.001$), household labor($t=-30.121$, $p<0.001$), personal care activities($t=-297$, $p<0.01$) and social participation($t=-8.15$, $p<0.001$) as compared to the female. Nevertheless, male caregivers perceived greater time shortage than female($\chi^2=32.096$, $df=3$, $p<0.001$).

The results of the study showed that male caregivers spent less time for caregiving, house chores and personal care. However, they replied higher level of time pressure. These findings imply that male caregivers felt more stressed due to their caregiver's role which is unfamiliar to them. Therefore future studies should focus more on male caregivers, and find out proper way of supporting them.

THE EFFECT OF INTERNET SUPPORT GROUPS ON CAREGIVER SOCIAL SUPPORT AND SELF-EFFICACY: A META ANALYSIS

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Research has shown that family caregivers often become socially isolated as they experience the burdens associated with caring for their loved one. The 24 hour nature of caregiving prohibits attendance at traditional support groups. Various small intervention studies across disease categories (Alzheimer's, cancer, stroke, etc.) have tested Internet based social support groups with caregivers. In an effort to examine the effect of these online groups on social support and self-efficacy we conducted a meta analysis. The sample was selected from a search of systematic reviews published since 2014. Studies included in the final sample from those reviews must have been conducted after 2000 with family caregivers of adults with chronic health problems (not mental health). The intervention had to include the Internet and three or more participants. Five online intervention studies measured social support with a total sample size of 222. Three online intervention studies measured self-efficacy with a total sample size of 132. In both cases there was no publication bias found. Results found that 59% of the effect size in social support was a true variance in effect. Likewise, 18% of the effect size in self-efficacy was a true variance in effect. Online technology can significantly improve caregiver's social support and self efficacy. Further high quality studies may reduce heterogeneity and lead to further robust findings.

EXPERIENCES OF OLDER CAREGIVERS FOR PERSONS WITH MAJOR PSYCHIATRIC DISORDERS

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Across developed nations, relatives often provide high levels of caregiving to persons with major psychiatric disorders (PD), with it being estimated that there are more than 8 million such caregivers in the U.S. Caregivers for persons with PD is an aging population and more than 40% of such caregivers are at least 60 years of age. Surprisingly, caregiving provided by older persons to persons with PD has received little attention from researchers and practitioners. Using a U.S. community recruited sample of 741 older (60+) caregivers for persons with PD, the present analysis describes the experiences and perceived impacts of caregiving by older persons. Caregivers provided caregiving for a median of 10 hours a week and had provided caregiving for a median of 10 years. 46% reported that as a caregiver they feel alone and 45% described caring for a person with PD as very emotionally stressful. 22% described their health as fair or poor, with an entire 56% reporting that caregiving worsened their health. Finally, 45% reported having difficulty talking to others about the recipient of care's mental health issues. Many older caregivers are not in contact with traditional mental health providers; aging professionals should assess and address the impacts of caregiving on said persons. Older caregivers experiencing emotional and physical strain may benefit from being referred to family psychoeducation and/or to treatment agencies that may be able to alleviate the burden of care. Socially isolated older caregivers or those perceiving stigmatization may benefit from attending social support services.

PERCEIVED BENEFITS OF A TRAINING PROGRAM FOR FAMILY CAREGIVERS OF PEOPLE WITH DEMENTIA IN CHILE

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In Chile most of care for persons with dementia is delivered by family relatives and research of interventions targeting caregivers of persons with dementia is very limited. This qualitative study explored perceived benefits of an education and training program for family caregivers of older persons with dementia. Setting was the Program Kintun for persons with dementia in the city of Santiago, Chile. Intervention was founded using the theoretical frame of readiness in family caregivers of persons with dementia by Gitlin et al (2014), based on a progressive cycle in the development of skills that allow caregivers to move towards higher levels of self-efficacy.

Participants were 65 family caregivers who attended a 4-session intervention between years 2014–2015, guided by one occupational therapist and one psychologist. Data were collected through 4 focus groups and field notes, and were analyzed through content analysis, with open coding to develop main themes. Three main themes were identified and these themes represent the global areas of benefits that participants perceived. Theme one “Being able to manage the unknown” which relates to self-efficacy as participants described their perceived capacity to face situations that were new and to which they had not previously developed a solution. Theme two was “Stop the fight”, which relates to learn about dementia and the acceptance of the disease. Third theme was “Meeting someone like me”, which relates to the

access to support by meeting others who are facing similar challenging situations and doubts.

GRANDPARENTS CARING FOR GRANDCHILDREN IN THE UNITED STATES AND CHINA

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The United States and China have very different social norms and expectations regarding providing care to grandchildren. This study is interested in how providing grandchild care is shaped by these two cultures. Using data from the China Health and Retirement Longitudinal Study (wave 2013) and data from the Health and Retirement Study (Wave 2012), we compared the prevalence and characteristics of grandparents caring for grandchildren in the United States and China.

The sample comprises of 9,676 American grandparents (*Age* = 64) and 6,527 Chinese grandparents (*Age* = 60) aged 45 and over. Providing grandchild care is more prevalent in China (50%) than in the U.S. (31%). The US grandparent caregivers are disproportional females (78% verses 52% in China), whereas Chinese grandparent caregivers are disproportional married (78% verses 57% in the US).

The U.S. and China share some determinants in providing grandchild care, such as age, gender, education level, mobility, household size, and numbers of dependent children grandparents have. However, there are significant differences. The US grandparents who are married and healthier are more likely to provide care, whereas Chinese grandparents who are in better economic status and have fewer adult children are more likely to provide care.

Findings of this study suggest that grandparents' availability and abilities to provide care are two important aspects in determining care provision in both countries, although these two aspects may be manifested by different factors in each country. Future study may explore more characteristics of grandparent caregivers and differentiate types of grandchild care.

PERCEPTIONS OF LATINO CULTURAL VALUES RELATED TO CAREGIVING

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Latinos have a tendency to age at home and are less likely to use formal care services. Familial caregiving is common for spouses or adult children. The purpose of this paper is to identify Latino cultural values that influence caregiving practices of relatives with Alzheimer's disease and related dementia. Interviews were conducted with sixteen Latino caregivers, 50 years and older, who were the primary caregiver of a relative with ADRD for a minimum of 4 hours daily, for the past 6 months. Interviews were conducted in English and Spanish, were recorded, transcribed, translated and coded according to directed content analysis. Latino cultural values identified were familismo, marianismo, machismo and fatalismo. Familismo was mainly mentioned regarding the preference to age at home and not use formal care services. Both men and women mentioned the value of familismo and the notion that if their loved ones are put in

homes then they will not receive love and proper care, and therefore, die faster. Marianismo was identified in caregiving actions, described as natural practices and obligations performed by women. Machismo was noted in descriptions of actions as men's duties to protect their family. Fatalismo was cited as ways to express gratitude for positive situations, and appreciation for avoidance of negative situations. Creating services or programs that provide information for Latino communities that acknowledge and incorporate cultural values into providing care can benefit the care recipient and also the familial Latino caregivers.

OLDER CAREGIVERS LIVING IN DIFFERENT CONTEXTS IN BRAZIL

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The number of older people that provide care to another elderly individual is increasing in the world. The context that they live can influence the quality of the care. The aim was to compare the differences in sociodemographic, care and health variables of older caregivers living in urban, rural and poverty contexts. There were household interviews, with $n=344$ older caregivers that provided care to a dependent older adult in Brazil. We evaluated sociodemographic and care characteristics, and the health variables: activities of daily living (ADLs), self-reported pain, frailty, cognition, satisfaction with life, familiar functioning, burden, stress and hope. Regarding the care context, 55.1% were living in urban areas, 21.3% in poverty areas and 23.6% in rural areas. In all contexts, the majority of the caregivers was female, with an average age of 67 years and cared for the spouse. The poorer caregivers were less educated ($p \leq 0.05$) than the others. Older carers living in poverty areas received significantly less emotional and material help to provide care, were less satisfied with life, were more frail, had more cognitive deficits, had the worst family functioning level and the lower level of hope when compared to the ones living in urban and in rural contexts. However, caregivers of poverty areas were more independent to the ADLs. The other variables were not significantly different. The results showed important differences between contexts. The professionals working in primary health care centers should consider these differences when planning interventions that focus on help this specific group of caregivers.

COLLEGE STUDENTS' CAREGIVING CONSCIOUSNESS: EFFECTS OF THE IMAGE OF ELDERLY AND INTIMACY

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Influenced by the filial piety concept of Confucianism, most of the Korean family takes care of their parents even though not living with them. But the caregiving consciousness has lowered especially among the young people. This study examined how the image of elderly and intimacy impact on college students' caregiving consciousness. The data were collected by self-filled up survey among 353 college students

in Seoul and Chungnam during December of 2015. Based on literature reviews, a 16-item scale on caregiving consciousness, an 8-item scale on intimacy and a 12-item scale on image of elderly were used. College students' caregiving consciousness (3.96: economical>physical>emotional) and intimacy level (3.99) were higher than the average, while mean score of the image of elderly was a little lower (2.91: social>psychological>physical). Among the demographic variables, only sex and birth order were significantly related to economical caregiving consciousness. In multiple regression analysis, intimacy, the social image of elderly and living experience with grandparents were the significant predictors. College students, who had the intimate relationships with their parents, the positive social image of elderly, and living experience with grandparents, were more likely to have positive caregiving consciousness. In conclusion, intimacy was found as the most influential factor. Therefore, it is suggested to develop and implement the program making parent-child relationships steady. Also, it is necessary to improve the negative image of elderly and understand the elderly properly through aging experience program, intergenerational program, and voluntary activities for the elderly.

PROJECT ELDER IN FAMILY: MODEL OF PUBLIC POLICY OF FAMILY CARE IN RIO DE JANEIRO

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Through the observation of demographic changes and oriented by The Madrid Plan, the Government Secretariat of Active Ageing, Resilience and Care of the City of Rio de Janeiro highlighted the need to develop public policies aimed at quality of life, rights and confrontation of social inequalities, and created, in 2006, the project Elder in Family to ensure the permanence of elders in their home and integrated in their community. The objective is to avoid institutionalization, reducing social vulnerability and making it possible to stay in residence, through financial support, referring to 45% of the minimum wage, and social assistance to those who are unable to provide subsistence or have it provided by family. Assessment for inclusion was done by technical team following criteria of age (60 and plus); dependence degree I, II and III; personal or family income of up to two minimum wages; social vulnerability; possession of valid documents; writs or judicial follow-up; waiting time for inclusion. Monitoring is accomplished through periodic technical visits, annual registration and quarterly meetings with family. Goals achieved were 382 elders assisted in 10 years, 172 (45%) dropped out, 210 elders (55%) remain assisted; main causes of exclusion are deaths (>70%), followed by nonattendance of inclusion criteria, change of municipality and temporary support programming. It was not identified any case of institutionalization and there are 200 elders awaiting to be registered. The result was obtained through a low cost project, easy implementation and maintenance, prioritizing intersectional actions of the Government.

HISTORICAL TRENDS IN DEMENTIA FAMILY-CARE: A NEW GENERATION OF CAREGIVERS

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Family caregivers' represent the backbone of support to older adults who have a chronic condition such as Alzheimer's Disease (AD). Given the changes in the health care environment and in family structures and dynamics, it is important to understand the current demands on caregivers and how these vary with the context of caregiving. This paper will present comparison data from the Miami site of the Resources for Enhancing Alzheimer's Caregiver Health (Reach) II trial and our on-going trial, Caring for the Caregiver Network. The trials were conducted with family caregivers of AD patients in the same geographic area two decades apart, had similar eligibility criteria and used similar recruitment strategies. We use baseline data for the two studies to compare and contrast caregivers who join an intervention trial separated by two decades, the nature of the caregiving challenges they confront, areas of need, and magnitude of stress and burden. We discuss secular changes in health, social service systems, and public awareness of AD and caregiving that might account for observed differences.

HOMICIDAL THOUGHTS IN FAMILY CAREGIVERS OF PEOPLE WITH DEMENTIA

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Family caregivers of people with dementia have higher than average rates of suicidal ideation, but there has been no research on homicidal ideation in this population. The aim of this study was to explore thoughts of homicide in family caregivers of people with dementia. Twenty-one in-depth interviews were conducted in Australia with people who were currently, or had previously been, caring for a family member with dementia. Transcripts were analysed thematically and seven themes were identified: active thoughts of homicide; understanding homicidal thoughts in others; passive thoughts of death; euthanasia; homicidal thoughts in other caregiving situations; abuse; and disclosing thoughts of harm. Two of the 21 caregivers had actively contemplated killing the person with dementia, four expressed a passive desire for the death of the person with dementia, and four reported physically or verbally abusing the person with dementia. Only one caregiver had previously disclosed these thoughts, but disclosing helped to normalise the experience and facilitated access to support. Caregivers who had not contemplated homicide said they understood why others had. This is the first study of homicidal ideation among family caregivers of people with dementia and the findings have immediate implications for health professionals and service providers. More research is required to determine the prevalence of homicidal ideation in the caregiving population and understand the relationship between thoughts of homicide and a preference for euthanasia. After this session, participants will be able to explain why some caregivers contemplate homicide and identify directions for research and clinical practice.

CAREGIVING WITH GRATEFULNESS: THE ROLE OF GRATITUDE IN COPING WITH DEMENTIA CAREGIVING

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Taking care of a family member with dementia takes a heavy toll on the psychological well-being of caregivers. Nonetheless, a growing body of research has begun to examine gains and growth among caregivers, as well as the factors sustaining their noble pursuit. Positive psychology may have much to offer in this line of inquiry. Gratitude is widely perceived as a key factor to psychological well-being by different cultures and religions. Gratitude intervention has also been found to be one of the most robust categories of positive psychological interventions, especially for older adults. Hence, this study set forth to examine the role of dispositional gratitude in dementia caregiving under the resources-coping model. Using the structural equation modelling approach, we investigated the associations among dispositional gratitude, coping strategies, psychological resources and psychological distress in the context of dementia caregiving. Findings with 101 Chinese familial caregivers of persons with dementia (mean age = 57.6, range = 40–76; 82% women) showed that gratitude was associated with the greater use of emotion-focused coping (positive reframing, acceptance, humour, emotional social support seeking, religious coping) and psychological resources (caregiving competence and social support). Psychological resources and emotion-focused coping in turn explained the relationship between gratitude and lower levels of psychological distress (caregiving burden and depressive symptoms). The present results indicate the beneficial role of gratitude on coping with caregiving distress and provide empirical foundation for incorporating gratitude in future psychological interventions for caregivers. The potential of applying positive psychological constructs in supporting dementia caregivers will be discussed.

MEANING IN STROKE FAMILY CAREGIVING: A PILOT PHENOMENOLOGICAL STUDY

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Meaning in caregiving has been identified as an important influence on stroke family caregivers' responses to caregiving and the consequences of caregiving. While the role of meaning plays in stroke caregiving has been recognized, the research foci are mostly on the western populations. Due to different cultural, economic and social backgrounds, caregivers from other populations, such as the Chinese population, may perceive caregiving differently and thus attribute different meanings to it. A hermeneutic phenomenological study was conducted to illuminate meaning in caregiving from the perspective of the Chinese stroke family caregivers. A total of five stroke family caregivers were included in this pilot study. Data were collected through unstructured interviews and analyzed by a three-step analysis method including naive reading, structural analysis, and comprehensive understanding. Meaning in caregiving was interpreted as a physical, psychological and social suffering, and an obligation came from social norms and the ethics of Confucius. Caregivers also perceived caregiving as an opportunity and a subjective choice to maintain love and hope, to gain personal growth, and to achieve harmony within the family. After caregiving

was normalized in daily life, it became a natural part of life. This study has identified important culturally relevant meanings among the Chinese stroke family caregivers. Findings of this study will empower health and social care professionals to develop culturally relevant interventions to support the Chinese stroke family caregivers and the stroke survivors.

CAREGIVING AND SERUM BIOMARKERS: COMPARING EFFECTS ACROSS POPULATION-BASED AND CONVENIENCE SAMPLES

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Several previous studies have compared biomarker indicators of stress, inflammation, and immune system functioning between family caregivers and noncaregivers. Most studies have used small convenience samples of specific caregiving subgroups (e.g., spouses of persons with dementia) and used poorly described noncaregiving comparison groups. Published reviews have noted these limitations and also documented clear inconsistencies in the findings, but definite conclusions have, nonetheless, been offered, and dysfunctional biomarker effects of caregiving are typically characterized as established facts. In our presentation, we will report meta-analyses that objectively summarize the previous findings and report new findings from the national, population-based, Reasons for Geographic and Racial Differences in Stroke (REGARDS) study. REGARDS includes a diverse sample of 2468 caregivers who had measures of C-reactive protein (CRP) and white blood cell count (WBC) obtained from serum samples. A matched sample of 2468 noncaregivers was identified using propensity-score matching techniques that balanced the two groups on 15 demographic, health history, and health behavior variables. Caregivers in the REGARDS study did not differ significantly from matched noncaregivers on the natural logarithm of CRP or on WBC ($p > .36$), but the caregivers who reported high caregiving strain (17% of all caregivers) had significantly higher logCRP ($M = 0.97$) and WBC ($M = 6.10$) levels than less strained caregivers ($M_s = 0.84$ & 5.88 , respectively; $p < .03$). Differences between studies using convenience samples and those using population-based samples will be discussed, including the importance of using more rigorous methods to assemble suitable noncaregiving comparison groups.

CHANGES OVER TIME IN FAMILY CAREGIVING FOR DISABLED OLDER AMERICANS, 1982–2012

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This paper examines trends in informal caregiving for community-dwelling disabled older Americans between 1982 and 2012. We decompose hours of care received from spouses and children according to changes in: (a) the number of *potential* spousal and child caregivers (“family

structure”), (b) the likelihood that existing spouses and children are caregivers (“the propensity to give care”), and (c) the amount of care provided by individual spousal and child caregivers (“caregiving intensity”). We use data from two nationally representative surveys, the National Long-Term Care Survey (1982 and waves every five years from 1984 through 2004) and the Health and Retirement Study (waves every two years from 2000 through 2012). Disabled older people reported having fewer informal caregivers in 2012 than they did 30 years earlier. Hours of care received from spouses, children, and other family members declined during the 1990’s but have remained fairly constant since then. With regard to the decompositions, existing spouses’ and children’s decreasing likelihood of being caregivers led to fewer spousal and child caregivers per disabled older person in 2012 than in 1982, but the amount of care provided by individual spousal and child caregivers has been similar across the thirty years. Because the intensity of care provided by individual family caregivers has remained fairly constant since the early 1980s, the needs of family caregivers who experience high stress and a high time burden continue to deserve our attention.

THE SHARE PROGRAM FOR EARLY-STAGE DEMENTIA CARE DYADS: PROMISING RESULTS FROM THE RCT

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Receiving a diagnosis of Alzheimer’s disease brings with it many stressors and concerns for both the person receiving the diagnosis and his/her family caregiver. During this early stage of dementia it is possible to engage both care partners, the person living with dementia and the caregiver, in a psychosocial intervention that addresses future care. Yet, few programs actively engage both members of the care dyad in order to gain an understanding of each person’s preferences and for developing a plan targeting future care needs. This presentation describes the SHARE program (Support, Health, Activities, Resources, and Education), a six-session psychoeducational intervention for early-stage care dyads, and presents the feasibility and efficacy findings from a randomized controlled trial with 128 care dyads. Results indicate that compared to care partners in the control group, SHARE participants: 1) were able to construct a balanced care plan, 2) increased in their use of services ($p < .003$), 3) experienced improved dyadic relationship functioning (caregivers only, $p < .030$), and had higher program satisfaction especially for caregivers (p values ranging from $< .05$ to $< .001$). Although no differences were found between the control group and SHARE treatment group for mood or depression, it was encouraging that these potentially difficult discussions about the future course of dementia were not upsetting to either care partner, but rather helpful and productive. Results suggest that a prevention approach targeted for care dyads in the early stages of dementia holds great promise for improving outcomes and creating a manageable plan of care for the future.

SLEEP IN OLDER CAREGIVERS AND NON-CAREGIVERS: THE NATIONAL HEALTH AND AGING TRENDS STUDY

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Studies of older caregivers of persons with dementia, Parkinson's disease or cancer in clinical samples indicate that caregivers have poorer subjective and objective sleep than non-caregiver controls. Less is known of older caregivers from population-based studies. We identified 948 community-dwelling participants who reported providing care for a spouse/partner, sibling, parent or other older relative, and 3,760 non-caregiver participants living in the community from the 2011 National Health and Aging Trends Study. Our sleep outcome measures were self-reported prior-month frequency of trouble falling asleep (i.e., sleep latency >30min), trouble returning to sleep when waking earlier than desired, and sleep medication use. Responses were on a 5-point scale (1 = every night, 5 = never). We selected responses of "some," "most," or "every night" to indicate a sleep problem; "rarely" or "never" indicated its absence. The prevalence of each sleep problem was similar in caregivers and non-caregivers. In a model adjusted for age, gender, marital status, education, self-reported health, depressive and anxiety symptoms, and heart attack or heart disease in the past year, we found that being female, having poor self-reported health, and greater levels of depressive and anxiety symptoms were associated with a greater odds of prolonged sleep latency, trouble falling asleep, and greater sleep medication use (adjusted odds ratios ranged from 1.06 to 1.69, all $p < 0.05$). Among caregivers, poor self-rated health and greater anxiety scores were associated with all three sleep problems. These findings may help target sleep interventions to subgroups of caregivers at higher risk of poor sleep.

SESSION 3610 (POSTER)

FAMILY CAREGIVING

FAMILY CAREGIVER CONFLICTS AND SUPPORT OF PEOPLE WITH DEMENTIA IN LONG-TERM FACILITIES

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Purpose: This study developed Family Conflict Scales for family caregivers for persons with dementia in long-term care facilities to explore the relationship between family conflicts and family support. **Design and Methods:** The scale was developed through forward- and back-translations, interviews of 12 staff members in long-term care facilities, and cognitive interviews of 12 family caregivers who met operational definitions in this study. The test was conducted with 334 family caregivers and a retest was conducted with 318 family caregivers who had indicated willingness to participate further. **Results:** The internal consistency was relatively high for all scales (Cronbach's

alpha > 0.87); sufficient retest reliability was demonstrated for all scales (intraclass correlation coefficient > 0.69). The confirmatory factor analysis supported a three-factor model. Convergent and discriminant validity for each Family Conflict Scale (in Japanese) subscale and Family APGAR were acceptable. Family caregivers who received no family assistance for caregiving perceived more conflict in their family than those receiving family assistance. **Implications:** The Japanese version of the Family Conflict Scale for family caregivers of persons with dementia in long-term care facilities was developed. The reliability and validity of the scale were verified. When providing support to family caregivers in long-term care facilities, it is necessary to consider the family from multiple viewpoints, including family conflicts and support conditions from other family members.

REVIEW OF FACILITATING AND CONSTRAINING INFLUENCES ON FAMILY CAREGIVING IN LONG-TERM CARE

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Context: Family caregivers continue to be involved after the transition of the older relative into long-term care and the family caregiving is carried into the context of long-term care regardless of the caregiver burden prior to the transition. With family as context, this review examines the mutually influencing dynamics of older adults in long-term care, their family caregivers and their environment, including the facility and staff.

Purpose: The aim of this review is to study the facilitating and constraining influences on family caregiving in long-term care.

Method: This was a narrative literature review of studies from seven databases

Results: Four major themes emerged: The caregiving journey of families endures despite significant stress experienced by them before, during and after transitions of their older relative into long-term care. The changing nature of interpersonal relationships with entry of a relative to long-term care is an underpinning of the caregiver journey. The mismatch of role expectations of family caregivers and staff in long-term care is a challenge to family caregiving. Family caregiving appears to be sustained by being preservative in nature at the time of and after transition to long-term care.

Conclusion: A better understanding of the facilitating and constraining influences on the family caregiving journey in long-term care could be instrumental in the ways in which older people, family caregivers and staff can help to forge a community and clarify roles and expectations and support each others' well-being, and furthermore inform policy and practice.

RE-EVALUATING THE RELATIONSHIP BETWEEN CARER STRESS AND INSTITUTIONAL CARE UTILISATION

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Background: Controversy exists in the literature about whether carer stress is a risk factor for institutional care use by care recipients, or just an epiphenomenon. We tested competing models of the contribution of carer stress to institutional care utilisation by community-dwelling older people.

Methods: Secondary analysis of The Irish Longitudinal Study on Aging (TILDA). A structural path analysis tested theoretically informed models of the relationship between carer stress and institutional care utilisation by community-dwelling older people.

Results: Two competing models were tested. One in which carer stress was found to be an independent predictor of institutional care utilisation by care recipients (OR: 1.47; 95% CI: 1.05–2.06; AIC: 2813.67 BIC: 2866.83) and one in which stress was an epiphenomenon of the process of institutional care utilisation (coefficient: 0.37; 95% CI: 0.06–0.68; AIC: 2860.56 BIC: 2913.73). Both models appear equally valid, suggesting a bi-directional relationship between carer stress and utilisation of institutional care by community-dwelling older people.

Conclusions: Results suggest the effects of institutional care utilisation on carer stress are as convincing as the effect of carer stress on institutional care utilisation, which has implications for current theories of the role of carer stress in institutional care utilisation.

COGNITIVE PROFILE AND FACTORS ASSOCIATED WITH THE COGNITION OF OLDER CAREGIVERS

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Cognitive impairment is prevalent in elderly individuals and can influence the performance of tasks, especially when these are related to the delivery of care. The objective was to identify the cognitive profiles and factors associated with the cognition of elderly caregivers of elderly Brazilian individuals from a primary healthcare service. A total of 350 individuals, 60 years old or older, who cared for an elderly individual dependent in regard to at least one daily living activity were interviewed in their homes. Cognition, assessed by *Addenbrooke's Cognitive Examination-Revised* (ACE-R), was the outcome of interest in the logistic regression model. The results show that older caregivers were mainly women (77.6%), aged between 60 and 69 years old (59.3%), married (90.1%), and with low income (70.8%). In regard to cognition, 144 (41%) older caregivers obtained scores below the median adjusted by education. Association between being a caregiver and obtaining a score below the median in the ACE-R was found for the following: being a woman (OR=2.10; 1.06–4.18); providing care to father- or mother-in-law (OR=9.40; 1.16–76.2); being frail (OR=2.60; 1.13–6.05); living with spouse and child (OR=2.71; 1.34–5.46); not having affective support (OR=1.81; 1.05–3.11), and being dependent in instrumental daily living activities (OR=0.82; 0.72–0.93). The percentage of older caregivers who scored below the median on the ACE-R is of concern. Loss of cognitive functions among older caregivers can be a complicating factor when it affects care provided to another elderly individual, not only because the quality of care provided may be affected, but also because it can become very costly for caregivers.

CHANGES IN SUBJECTIVE BODY PAIN OF FAMILY CAREGIVERS: A COMPARATIVE LONGITUDINAL STUDY

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Many studies have examined caregiver burden, but limited research has been conducted on the changes in the health conditions of family caregivers over time. The changes in family caregivers' physical health during long-term caregiving should be explored and suggestions for supporting home caregiving should be proposed. This study tested the changes in subjective body pain of family caregiver's during long-term caregiving for the elderly, using a longitudinal, comparative research design.

Self-assessments of family caregivers and non-caregiver counterparts were repeated at baseline, six-month, and one-year intervals to test the change in subjective body pain over time. The collected data included demographics, health behaviors, and health conditions, and subjective body pain measured using the Margolis pain scale. A mixed model with a random intercept was applied to test the change in subjective body pain over time during long-term caregiving. We collected data from 95 family caregivers and 136 non-caregivers. Average age of caregivers and non-caregivers was 65 and 63 years, respectively. The subjective body pain varied among individuals (random intercept, $p < 0.05$). However, over time, average pain scores became significantly higher among caregivers than among non-caregivers, after controlling for sociodemographic characteristics and health-related variables. (Estimates of caregiving variable was 5.45 ($p < 0.05$)). It was suggested that long-term caregiving caused negative changes in family caregivers' subjective body pain. Comprehensive support is required to protect family caregivers' health.

INTERNET-BASED INTERVENTIONS FOR CAREGIVERS OF OLDER ADULTS: SYSTEMATIC REVIEW

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Internet-based interventions helping caregivers of older adults to cope with caregiving tasks can offer an efficient and accessible alternative to traditional face-to-face interventions. However, little is known about the existing links between intervention components and outcomes. A systematic review was conducted in databases with keywords

relevant to internet, caregivers and self-management interventions. Studies had to report on an intervention delivered mainly using the Internet and on caregiver specific outcomes, include at least one care recipient older than 50 years and score high level of evidence. A narrative synthesis of components (e.g. content, multimedia use, interactive online activities and provision of support), caregiver outcomes (e.g. on stressors, mediators and psychological health) and behavior change techniques was conducted. A total of 2338 articles were screened. 12 randomized controlled trials were included covering 10 internet-based interventions. 5 interventions led to statistically significant results on caregiver outcomes, mostly reporting impacts on depression or anxiety ($n=4$). From these interventions, 4 incorporated remote professional support with either synchronous (e.g. videoconference, $n=1$) or asynchronous (e.g. email, $n=3$) components and all were highly interactive with quizzes on educational content ($n=3$) or online questionnaires on health status ($n=2$). All 5 interventions provided instructions for behavior change, 4 provided social support and 3 used modeling techniques. In sum, internet-based interventions that are interactive, model appropriate behavior, incorporate professional support and provide instructions and social support can lead to better outcomes in caregivers. More studies isolating the specific effect of components are needed to better understand the underlying mechanism of action.

FAMILISMO, ACCULTURATION, CAREGIVING BURDEN WITH KNOWLEDGE OF AND CONFIDENCE IN HOME HEALTH SERVICES

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Familismo (valuing family over individual needs including aging adult care) is often theoretically central to research about family caregivers of aging adults of Mexican descent and other allocentric cultures. *Familismo* has been shown to have strong protective outcomes, yet act as a barrier to use of supportive care, such as home health care services (HHCS). Acculturation (an individual's acceptance of dominant viewpoints, operationalized as "Anglo" or "Mexican" "orientation") varies in its associations with variables; e.g., *Familismo*. We explored family caregivers' associations among *Familismo* and Acculturation with Caregiving Burden, Knowledge of HHCS, and Confidence in HHCS, as part of a randomized control trial to increase Mexican-descent aging adults' use of HHCS. Some results were in the expected direction; e.g., *Familismo* positively associated with Mexican orientation ($r=.328$) and negatively with burden ($r= -.294$); Knowledge of HHCS associated with Anglo orientation ($r=.252$). However, Fear of HHCS, a subscale of Confidence (reverse coding), negatively associated with Mexican orientation ($r= -.304$); results varied by spouse/other and offspring caregivers. Spouse/other caregivers' Fear positively associated with English Language Preference subscale ($r=.383$); Offspring caregivers' Fear negatively associated with Spanish Language Preference subscale ($r= -.404$). Perhaps older, English-speaking caregivers had had more negative experiences with the healthcare system increasing fear; perhaps younger, non-English-speaking caregivers had been assigned more bilingual, culturally competent

providers, decreasing fear. Researchers, clinicians, and policymakers should standardize measures of *Familismo* and Acculturation, and address the complexity of differential cultural needs when designing interventions to improve families' access to services in the US and globally.

STATE OF THE ART OF FAMILY CAREGIVING FOR PATIENTS WITH HOME MECHANICAL VENTILATION: A LITERATURE REVIEW

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Patients with home mechanical ventilation (HMV) constitute a small but increasing population worldwide. A greater understanding of family caregivers of HMV-dependent patients is needed. This paper aims to present a literature review on family caregiving for patients with HMV. The databases searched were the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Google Scholar, Science direct, ProQuest Nursing, and PubMed. The search included all English language literature published from 2008 to 2016. The synthesis method was used to identify and explore family caregiving in patients with HMV. The population eligible for inclusion consisted of family caregivers serving as main caregivers for patients depending on invasive mechanical ventilation at home. Studies were excluded if the research focused on non-invasive HMV or the patients' experience did not involve family caregiving. Thirty-four papers were identified as relevant to the topic of interest. Their data revealed that the state of the art in family caregiving for patients with HMV comprises five main aspects: (i) complexity of caregiving demands, (ii) ethical dilemma and legal issues related to HMV care, (iii) caregiving burden experienced by family members, (iv) family caregivers' adaptation, and (v) factors influencing the family caregiving experiences. The results of this review highlight the lack of knowledge in this field. Further research on the deeper exploration of family caregiving experiences for patients dependent on HMV in diverse cultural contexts is recommended.

SLEEP AND CAREGIVING AMONG ADULT DAY HEALTH CARE PROGRAM CAREGIVERS: A PILOT STUDY

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Background: Older US veterans and their caregivers often report significant sleep disruption, but little is known about caregivers' attitudes towards sleep therapies. This study explored caregivers' attitudes toward therapies for managing veterans' sleep problems and their own sleep issues, and collected pilot data about caregivers' sleep and daytime function.

Methods: A focus group was conducted with caregivers ($N=5$) of US veterans at one adult day health care program. Participants completed a questionnaire including demographic

items, Pittsburgh Sleep Quality Index (PSQI), Insomnia Severity Index (ISI), Zarit Burden Interview (ZBI), Perceived Stress Scale (PSS) and Flinders Fatigue Scale (FSS), and a five-day sleep diary.

Results: Caregivers (100% female spouses of veterans; mean age=72) were primary caregivers for an average of 10 years (mean care hours per week=70). Four had PSQI>5 indicating poor sleep quality. The average ISI was 7.4 ± 4.7 with 3 having at least mild insomnia. The average ZBI was 28.1 ± 8.5 with 3 at risk for depression due to high caregiving burden. The average PSS was 13.6 ± 6.6 , indicating medium stress levels. Four experienced fatigue due to poor sleep. Two experienced nocturnal awakening due to caregiving. Four napped during the day. They reported sleep compression (gradually reducing time in bed to improve sleep quality), indoor physical activity, and outdoor light exposure were acceptable sleep interventions for themselves and veterans.

Conclusions: Caregivers experience poor sleep quality. They perceive the core elements of a behavioral sleep intervention targeting both members as acceptable. Potential benefits to patients and caregivers may be improved sleep and reduced stress.

THE MEDIATING ROLE OF SLEEP QUALITY ON WELL-BEING OF WORKING FAMILY CAREGIVERS

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It has been recognized that many caregivers of dementia patients have sleep problems, and that these sleep problems are often related to the nighttime behaviors of the care recipients. Recent studies have found that approximately two-thirds of caregivers suffer from sleep disturbances, and that poor quality of sleep of caregiver is linked not only to physical and psychological burdens but also to an increased risk of depression. This study aimed to investigate whether the well-being of caregivers is mediated by sleep quality and its relationship to behavioral and psychological symptoms in elderly relatives by using a mediational model. We studied 105 working family caregivers (49 men and 56 women, aged 21–64 years) in a cross-sectional design. We assessed well-being based on scores from the K10 scale, subjective self-rated health and satisfaction with daily life. Well-being of caregivers was impacted by the level of behavioral and psychological symptoms that elderly relatives were experiencing. Quality of sleep also affected well-being in working family caregivers, and that has role which controlling affect from behavioral and psychological symptoms in elderly relatives. In conclusion, maintaining quality of sleep in working family caregivers is important for reducing caregiver frustration and improving the balance between work and family life. If caregivers can maintain a high quality of sleep, caregiver burdens and the psychological distress are reduced; therefore, high quality of sleep not only promotes positive control of life and health but also improves overall well-being in caregivers.

WORLDHOOD OF ELDERLY BRAZILIAN CAREGIVERS AND THEIR OPENNESS TO THE WORLD OF CARE

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To understand how the worldhood of elderly caregivers, that delivery care to elderly people, is constituted. A Phenomenological research, conducted in the domicile of these persons, registered in a public program of home care. Recorded interviews with a guiding question and roadmap were used for characterization. The transcribed interviews were analyzed based on the philosophical hermeneutics and on the understanding of the hermeneutic circle. The units of meaning were discussed through the eyes of Heidegger's phenomenology. Six elderly main caregivers participated, with ages between 72 and 84 years. The following units of meaning formed: The daily life of being in the world as elderly person caring for another, and Historicity and its openness to the world of care. The worldhood constituted by these people is influenced by a hard routine, and it is overloaded and lonely, which make them vulnerable in the face of this routine and in the inherent weaknesses of their ageing process.

OLDER PEOPLE'S EXISTENTIAL LONELINESS FROM THE PERSPECTIVE OF BEING A NEXT OF KIN

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In the health care context, existential issues are important, in particular when death comes closer as among frail older people. The concept of existential loneliness has been described as a condition of life, an experience and a process of inner growth. However, how existential loneliness is perceived as a phenomenon remains unclear. Listening to the voices of next of kin's can be one way to reveal older persons' experience of existential loneliness. Hence, the aim of this study was to explore older persons' existential loneliness from the perspective of being a next of kin. The study was descriptive with a qualitative design and 16 interviews with next of kin's were carried out. The data was analyzed using qualitative content analysis. The findings showed that next of kin's perceived existential loneliness among their relative when mobility and space, were limited, were disconnected from others and were in a process of separation, meaning that they were leaving their lives behind. The findings also showed that next of kin's perceived that the older person's experience of existential loneliness could be reduced by social activities and when being cared for in an environment that supports contact with others.

KOREAN FAMILY CAREGIVERS' EDUCATIONAL NEEDS FOR MANAGING BPSD: THE SECOND YEAR STUDY

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As a second series of the study titled "Let's read their minds", this study aimed to identify Korean family caregivers' educational needs for managing Behavioral and Psychological Symptoms of Dementia (BPSD). Data were collected by focus-group interviews with 8 family caregivers (7 women, mean age = 67.88 ± 9.75) who registered in a local dementia support centers located in Seoul. Five open-ended questions about managing BPSD were asked: What is the

most difficult symptom for you to manage?; What triggers the symptom?; How do you deal with the symptom when it occurs?; Why the symptom bothers?; and What education would be helpful for you? Among BPSD, agitation, aggressive behavior, and apathy were excluded from the interview topic because they were confirmed in the study conducted in 2013. Data were analyzed using content analysis. The difficult BPSD that family caregivers experienced were identified as suspicion, delusion, hallucination, wandering, depression, refusal to care, inappropriate elimination, and inappropriate eating. Most of respondents answered that they first scolded, hit, or argued with the patient when BPSD occurred and wanted to know how to effectively manage the patient's BPSD. The findings suggest that education is necessary for improving family caregivers' competencies to handle BPSD. The education should be comprehensive enough to make caregivers acquire general attitudes towards the persons with dementia as well as specific skills for managing BPSD.

This work was supported by the National Institute for Dementia Grant (2014-02). Correspondence to Jun-Ah Song (E-mail: jasong@korea.ac.kr).

PSYCHOLOGICAL DIMENSIONS AND SOC AMONG ELDERLY PRIMARY CAREGIVERS PROVIDING HOME CARE FOR ELDERLY

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Objective: The present study surveyed the elderly primary caregivers providing home-based care for elderly individuals in local regions of Japan in order to determine whether psychological dimensions and sense of coherence (SOC) differed according to age group.

Methods: The subjects were 67 pairs comprised of elderly individuals aged ≥ 65 years undergoing home care and their primary caregivers also aged ≥ 65 years. The survey items consisted of primary caregiver attributes, Barthel Index (BI), psychological dimensions (mental health; CES-D8), feeling of caregiving burden (J-ZBI), general self-efficacy (GSES), life satisfaction (LSI-K), and SOC (SOC13-5). For comparison, primary caregiver responses were scored and classified into two age groups: 65–74 years and ≥ 75 years. The survey was designed to avoid any potential ethical issues.

Results: SOC was significantly higher among primary caregivers aged ≥ 75 years than those aged 65–74 years. Positive correlations between GSES, LSI-K and SOC were recognized in both age groups. A negative correlation in the J-ZBI, CES-D8 and SOC scores was only seen among the primary caregivers aged ≥ 75 years.

Discussion: Primary caregivers who had a high SOC score exhibited a high level of general self-efficacy and life satisfaction. The results also suggested that primary caregivers aged ≥ 75 years who had a high SOC score had a low feeling of caregiving burden and a high level of mental health. Primary caregivers aged ≥ 75 years had a higher SOC than their 65–74 year-old counterparts, suggesting that a high level of SOC is important in continuing to provide care.

FACTORS RELATED TO MENTAL HEALTH OF ELDER FAMILY CAREGIVERS IN DEMENTIA CARE

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In dementia care, elder caregivers increase recently and it's necessary to consider support according to the age of the caregivers. In this study, the degree of mental health and factor were investigated to consider the appropriate support to the family caregivers. A questionnaire survey was conducted with family caregivers that are caregiving dementia persons at home. Analysis objectives were 81 persons (20 males, 61 females), and age average was 62.91 ± 10.66 years (range 33–88). In this study, the WHO-Five Well-being Index (WHO-5-J), The Erikson Psychosocial Stage Inventory (EPSI) and perceptions about the self of the participants were assessed. Among 81 caregivers, more than 65-years-old persons (elder group) were 32, and less than 65-years-old persons (younger group) were 49. The younger group scored the high points more than the elder group for the total score of WHO-5-J that is index of mental health ($t(79) = 2.26, p < .05$). In the elder group, when caregivers recognized of own as "I am I, myself" ($t(29) = 2.99, p < .01$), the total score of WHO-5-J and identity subscale score of EPSI ($t(29) = 2.19, p < .05$) were high points compared with the caregivers who are not recognized. The significant difference wasn't admitted for the younger group. The difference in the nursing environment wasn't admitted about the degree of mental health and own recognition. In dementia care, it is suggested that the support to maintain or promote the self-identity is needed for the elder family caregivers.

SESSION 3615 (POSTER)

FAMILY, INTERGENERATIONAL, AND CAREGIVING ISSUES

LIFE AFTER CARE: ROLE AND IDENTITY TRANSITION AND FAMILY CAREGIVING

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Framed by an idealist ontology and relational constructionist perspective (Blaikie 2010), this qualitative study explores how family carers experience role and identity transition as they progress from 'family member' to 'family carer', to 'post-carer', with the latter reflecting the cessation of the caring role as the individual being cared for moves to or dies in a care home or dies at home. Such transitions approximate cumulative rites of passage (Van Gennep 1960, Turner 1969) comprising identity rebuilding and present practical and emotional challenges for family carers. In line with Barnhart and Penaloza (2013), we characterize family caring as a dynamic and situated, socially constructed group phenomenon, where the assisting functions of family, friends, and paid service providers create a family caring ensemble (FCE). Depth interviews were conducted with eight family carers, four females and four males, who had experienced loss in relation to their family caregiving role. Emergent

themes relating to carers' experiences of role and identity transitions and losses were induced from participants' narratives (Spiggle 1994). We induced three phases of role and identity transition precipitated by multiple losses across the care giving life course, which we term reconfiguring, distancing and reconstituting. While the role and identity transition phases induced might suggest a linear transition from family member to family carer over time, they were in fact cumulative, multifaceted and overlapping. Each transition require carers to juggle multiple roles, which lead to chronic stress for the duration of the caregiving period and imply intensive identity re-building within and beyond family networks, while over time a sense of renewal and positive emerged as post carers refashioned identities within and beyond the family. We conclude with implications for carer organizations, service providers and policymakers.

THERE'S MORE TO GOOD CARE THAN JUST A GOOD SERVICE: RESULTS AND IMPLEMENTATION OF NATIONAL SURVEY

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With evidence that majority of the infirm elderly live at home and is taken care of by informal caregivers, staying home as long as possible and support of both, caretakers and caregivers, became focus of new European and American actions and policies.

According to SHARE and our survey data, 25.4 % of Slovenians are older than 60 years and 75% of those in need of care live at home (like in other central EU counties). In order to help professionals and governments to improve and assist with the informal care (also in form of different care services) it is essential to understand risk and protective factors for good care, i.e. what helps caregivers to care well for the elderly, what gives infirm elderly their human dignity even in their disability and what are pitfalls in the caregiver-caretaker relationship.

As an answer to these questions large-scale representative survey on the needs, potentials and standpoints of Slovene population aged 50+ was carried out in form of personal field interview by Anton Trstenjak Institute – National Institute of Gerontology. The qualitative analysis showed that 57% of people interviewed were able to list one or more good memories from the time of caregiving or caretaking. Good relationship, ethical fulfillment of human responsibility of the one who is strong against the weaker one and thankful acceptance of help are some of the most prominent answers. Together with the analysis of happiness and content, these results clearly indicate that quality of care becomes significantly higher with congruent relationship between caregiver and caretaker - moreover, if they are not taken into account, even first rate service will not bring content.

ADULT CHILDREN'S ATTITUDES, BEHAVIORS, AND WELL-BEING

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Well-being can be defined as positive or negative personal feeling related with life as a whole. Filial responsibility might be protective or harmful for caregiving well-being. The purpose was to examine associations between filial responsibility attitudes/behaviors and caregiver well-being. A cross sectional study with an intentional sample of 100 children caregivers of older adults from two Primary Health Care Centres was conducted in the south of Brazil. Face to face interviews were developed in 2014 using the Filial Responsibility protocol validated in Brazilian Portuguese (AIRES et al, 2012). Filial responsibility attitudes were assessed through the Filial Expectancy Scale and the Measure of Filial Piety. Caregiving behaviors were assessed through assistance with basic and instrumental activities of daily living (ADL), companionship, financial and emotional support. Well-being was measured by the Caregiver Burden Inventory, the Life Satisfaction Scale, the Personal Well-Being Index and the Quality of Your Relationship Scale. Multiple regression analyses assessed the association between attitudes/ behaviors and well-being scales. It was found a higher frequency of caregiving daughters (74) with a mean age of 54.04 ± 10.17 years, married (42) with a mean of 13.96 ± 4.87 years of study. The children with higher scores of filial piety had significantly higher scores on Personal Well-Being Index ($p=0.001$). Financial support ($p=0.005$) and help in the ADLs ($p<0.001$) were associated with higher scores on the Caregiver Burden Inventory and influenced negatively caregiver well-being. Children caregivers who satisfied their parents companionship and visiting's needs had worse scores of life satisfaction ($p=0.034$).

EMPLOYMENT STATUS OF ADULT CHILDREN IN CHINA: EFFECTS ON CAREGIVING TIME AND DEPRESSIVE SYMPTOMS

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Objective: Involvement in paid employment can affect family members experience as caregivers for older relatives. Based on Pearlin's stress model, this study explores the potential moderating effect of employment status on caregiving time and depressive symptoms among adult children caregivers in mainland China.

Method: Participants included 660 adult children caregivers from a nationally representative sample of individuals aged 45+ ($N=13,204$) from the China Health and Retirement Longitudinal Study (CHARLS) Wave 2 (2013). Multiple linear regression was used to analyze the direct effect of time spent in the caregiver role and the moderating effect of employment status on symptoms of depression of caregivers.

Results: The direct effect of caregiving time and employment status on depressive symptoms varied by gender. Male adult children caregivers reported experiencing higher levels of depressive symptoms if they were currently working ($B=5.428$, $p<0.05$) or spent more hours per year providing care to their parents (or parents-in-law) ($B=2.040$, $p<0.05$). These patterns were not found among female adult children caregivers. Employment status had a moderating effect on the relationship between caregiving and depressive symptoms. Among males spending more time on caregiving, those who were employed experienced lower levels of depressive symptoms ($B= -1.794$, $p<0.05$).

Discussion: Working may buffer the effect of caregiving on depression among male adult children caregivers. Findings offer evidence that Pearlin's stress model is applicable to adult children providing care of elderly parents in mainland China and inform policies and programs addressing employment issues that could support adult children caregivers achieving better health.

SOCIAL DETERMINANTS OF HEALTH, HEALTH DISPARITIES, AND CAREGIVING FOR AGING PARENTS IN CHINA

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Purpose. This study explores the relationship between being a caregiver for aging parents in mainland China and social determinants of health (SDH) (age, gender, urban/rural residency, marital status, education, living arrangement), as well as mental and physical health outcomes and disparities between caregivers and non-caregivers.

Methods. A nationally representative sample of respondents aged 45+ (N=13,204) from the China Health and Retirement Longitudinal Study Wave 2 (CHARLS, 2013) was analyzed. Logistic regression was used to explore the relationship between SDH, health disparities, and family caregiving.

Results. Different aspects of SDH related to family caregiving. Adult children who were women (OR=1.60, $p<0.01$), urban residents (OR=1.73, $p<0.01$), younger adults (OR=0.92, $p<0.01$), married (OR=3.98, $p<0.01$), high school educated (OR=1.57, $p<0.01$) and above (OR=2.32, $p<0.01$), were more likely to be caregivers than non-caregivers. Caregivers were more likely to live with parents (OR=1.69, $p<0.01$) or live with multiple generations (OR=2.28, $p<0.01$). Health disparities were evident. Caregivers were more likely to report being in fair health (OR=1.51, $p<0.1$), having less difficulties with physical functions (OR=0.90, $p<0.1$), but having two or more chronic diseases (OR=1.57, $p<0.01$) compared to their counterparts.

Implications. Health disparities undermine the capacity of adult children in mainland China to engage in family caregiving. This study adds to the discussion about how to support Chinese adult children who will take care of their parents and can help shape and inform policies and programs for vulnerable populations and perhaps leverage opportunities to engage adult children caregivers in getting support with the goal of achieving health equity.

FACTORS THAT INFLUENCE POSITIVE ASPECTS OF CAREGIVING AMONG JAPANESE CAREGIVERS

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Although caring for an elderly loved one at home can be physically and emotionally challenging, some caregivers see it as being a positive experience. This study was conducted to investigate factors behind the differences between caregivers who see it as a positive or negative experience. Participants were 64 family caregivers (78.1% female, $\text{Mage}=65.52 \pm 9.93$) who were asked to describe their emotions and experiences of providing care at home. Of those, 20

participants (31.25%) reported that they view caregiving as being a positive experience. The data obtained from those 20 participants ($\text{Mage}=65.58 \pm 7.87$) were analyzed, and compared with those who view caregiving as being a negative experience.

Results indicated that 85% of the participants who reported caregiving as a positive experience were female, 65% were children or in-laws, 30% were spouses, 30% had a sense of giving back to the person who has cared for them, 65% had either or both informal and formal support, and 95% were living with the loved one. Thirteen of the people participants have been caring for were female (65%) who require either a higher level of care (30%) or a lower level of care (25%).

Based on these results, it may be concluded that the factors behind the differences between caregivers who see it as a positive or negative experience are being female relatives, living with and having a good relationship with the loved one, and having someone who share the responsibility of caring for their loved one. A large-scale study is required to confirm these results.

INFORMAL CARERS IN THE CARE MARKETS

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Care for the elderly in the Nordic welfare states, such as Finland, has been characterized by strong social rights for publicly provided care services. This, however, has been changing in recent decades due to economic harshness and ageing of the population with increasing demand for services. One of the attempts to solve this dilemma in Finland, has been to increase informal care given by family members and other close ones.

To support informal care, a benefit called informal care allowance, has been developed already at the end of the 1980's. It is a combination of a taxable cash benefit and public care services where the caregiver has pension rights and is entitled to a certain number of days off each month. The political aim is to increase the take-up of this benefit.

Simultaneously with the attempt to encourage informal care, also other changes in the care services have been taking place. Previously public bodies, namely municipalities, have been the main service providers while the provision of non-governmental organizations has covered certain service niches. During the past two decades, markets actors have been encouraged with success to become providers of publicly funded services.

This has changed the position of informal carers and those in need of care. Informal carers increasingly have to focus on, not only on care, but also on seeking, comparing and controlling the service providers that increasingly are market actors. This presentation focuses on informal carers as market actors in the context of a Nordic welfare state.

THE IMPACT OF TIME SPENT CAREGIVING ON THE LIVES OF THE HIDDEN WORKFORCE OF UNPAID CAREGIVERS

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As the population continues to age, a growing number of people find themselves in the position of having to provide unpaid care to older adults, whether family members, friends, or neighbors. Studies have shown that caregiving for the elderly and chronically ill can be burdensome and stressful, and can contribute to high rates of depression among caregivers (Ramsay, Walker, Ramsay, Compton, & Thompson, 2012). The longer the hours spent in weekly caregiving, which may comprise activities of daily living, memory assistance, and dealing with behavioral issues, can also interact to increase caregiver stress and psychological well-being (Gaugler, Jarrott, Zarit, Stephens, Townsend, & Greene, 2003). The objective of this research is to better understand the factors associated with caregiver burden. The focus of this analysis was to explore the length of time spent in unpaid caregiving, whether the caregiver worked outside the home, and the number of hours per week devoted to caregiving. A cross-sectional, non-probability convenience sample was used to collect data from caregivers at an intergenerational program and community caregivers (N=183). Caregiver burden was measured using the Zarit Burden Interview (ZBI-12). Results indicated a moderate, positive correlation between hours spent caregiving and caregiver burden. In addition to questions on time, effort and activities related to caregiving, respondents were asked open-ended questions about how caregiving has impacted their lives, in either a negative or positive manner. Content analysis was performed to categorize responses. Some examples include: "appreciating moments more with her" and "created very overwhelming and stressful environment for me".

RECONNECTION—AN EXPERIENCE OF INTERGENERATIONAL PRACTICES WITH YOUNGER AND ELDER GENERATIONS

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The contemporary world is marked by an increasing individualism, leading to an impoverishment of the human experience. One of the consequences is a disconnectedness across generations, where both younger and elder generations have to lose. The aim of this study was to connect these two generations, by empowering the younger generation to act as socio-cultural agents for the elderly, and determine well-being benefits from this interaction. We used planned interactive educational research, and developed strategies and activities to sensitize the young generation to think about old age and aging, to empower the young generation to actively work with the elderly segment, and to invite seniors to participate in the activities. The methodology provided a number of strategies and activities still to be trialed, reflected, evaluated and adapted to enhance their effectiveness. The theoretical framework validated the importance of social actions as agents of change among them: Foucault, Agamben, Arendt, Freire. The number of activities organized resulted in: (i) mobilization of the young generation to engage with the elderly; (ii) enhancement of the level of interest from the younger generation to engage with the elderly, both giving and absorbing value, in an outside of the activities; and (iii) creation of social and cultural opportunities for the elderly community to share their knowledge and expertise with younger generations. In summary, the intergenerational activities reduced elder inactivity,

enhanced elder sense of life purpose, provided greater feelings of function for both generations involved, which may prevent health deterioration amongst the elderly.

THE SELF-INTERACTIONAL GROUP THEORY (SIGT) TO EXPLAIN INTERGENERATIONAL RELATIONS

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Researchers' attempts to focus attention on the importance of relationships to explain intergenerational relations, provide little insight to explain the relational nature of intergenerational relationships. This presentation sets out to demonstrate how data obtained from the Mmogo-method®, in combination with the Intergenerational Group Reflecting Technique, were used to develop SIGT. Drawing on the General Systems Theory and the interactional approach, SIGT explains the relational/interactional nature of intergenerational relations. Relationships are viewed as the reciprocal, continuous communicative interactions between members of different generations. Thus, from a pragmatic perspective, focus or punctuation enables observation and description of different units of the relational interactions, namely the intra-individual, inter-individual, and group units of analysis. The intra-individual unit of analysis encompasses individuals' subjective experiences (emotions/feelings), and the problems or meaningfulness associated with the interactions between people. The intra-individual unit of analysis gives an indication of what takes place in the inter-individual and group units of analysis. The inter-individual unit of analysis involves (1) the context in which the interactions take place; (2) the definition of the relationship; (3) relational qualities (observable behaviour); (4) the motivation (social goals/needs) for interactions between people; and the (5) interactional processes. The group unit of analysis describes intra- and intergroup group behaviour. These units of analysis, which occur simultaneously and reciprocally, are embedded in the broader social, cultural, political and economic environments which informed them. SIGT will be applied to intergenerational relations in a rural South African context.

PSYCHOLOGICAL OUTCOMES OF INTERACTION BETWEEN OLDER PEOPLE AND CHILDREN

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There is strong scientific evidence about positive psychological outcomes of intergenerational interaction both between the relatives, and between unrelated children and older people participating in intergenerational programs. However, it is not clear whether this positive effect is a result of interaction itself, or participating in particular activity, or there is an intergenerational effect. Presumably all these three components supplement each other, and if so, what is the role of intergenerational effect in the positive psychological outcomes of such programs? This research project aims to answer this question, which will help to better understand, evaluate and design intergenerational programs. Using a sample of children, older people and a middle generation (N=300) participating in the intergenerational program "Summer of Age" in Bristol, this study tests the hypothesis that intergenerational interaction leads to a higher level of

subjective well-being. Diversity of activities using in the "Summer of Age" program allows us to control for the type of activity when testing the effect of intergenerational interaction.

WHO SPENDS MORE LEISURE WITH A FAMILY IN LATER LIFE: DO ASSETS MATTER?

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This study aims to test the asset effect on family leisure activity in later life. Using a probability disproportionate stratified sampling method, 1,421 subjects were selected from the nationally representative sample of 10,000 aged 55 and above in Singapore. Of them, 1,086 subjects successfully completed average one-hour face to face interviews with a structured questionnaire for six months in 2012. The complexity of stratified clustering survey sampling required post-survey weightings which needed to be applied for all statistical analyses. Monthly household income, assets (financial and real), and debts were measured with categorical ranges. Latent class analysis estimated an empirical pattern, using the family leisure activity (FLA) profiles (Zabriskie & McCormick, 2001): High (19%), Moderate (63%), and Low (18%) FLA classes. Demographics (age, gender, ethnicity, marital status, education, employment, house type, & religion), family structure (family size, generation, & living arrangement), and health status (physical function, depression, & self-rated health) were controlled. While financial assets were positively associated with higher levels of FLA, real assets had no impact on FLA. Higher income positively influenced FLA, but the effect of debts were complicated. Higher debt increased the likelihood of being a High FLA class than a Moderate FLA class, but decreased the likelihood of being a Moderated FLA class than a Low FLA class. The study findings were partially confirmed the asset effect on FLA, which implies the importance of financial saving intervention such as asset-based programs for older adults' family life.

THE IMPACT OF SOCIAL RELATIONSHIPS ON QUALITY OF LIFE IN HYPERTENSION PATIENTS LIVING IN A SENIOR CLUB

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Objective: To explore the influence of different social relations on the quality of life of hypertension patients who lived in senior club.

Methods: 108 volunteers of hypertension patients in the senior club were researched by the scale of SF-36 and self-made questionnaire. Besides, interviews were conducted in 10 hypertension patients by purpose sampling methods. The interview data were analyzed by Colaizzi method.

Results: (1) There were significant difference in quality of life with different marital status, living state, frequency contact and social support from their families, social workers, neighbors, friends ($P < 0.05$). (2) The interviews reveal how the social relations affect the quality of life. The main effects are as follows: 1) Favorable family relationship is very important to improve the quality of life by the material and spiritual supports from families. 2) In the senior club the social workers can enrich their spiritual life. But the patients

worry about the health and medical conditions especially the EMS of the club staffs. 3) The harmonious social relationships with neighbors and friends have a positive influence on the quality of life, because of the increased social contact and the sharing of knowledge. However, the elders are inert to make Friends and always have small contradictions between each other.

Conclusions: The quality of life in hypertension patients was significantly affected by the social relationship. The club staffs should devote more energy to care the social relationship and provide personalized nursing measures for hypertension patients.

DETERMINANTS OF CAREGIVING BY CHILDREN TO THE FRAIL ELDERLY LIVING ALONE IN JAPAN, KOREA AND TAIWAN

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In East Asia, aging has been proceeding with increase of the elderly living alone. The long-term care policy has been important so that long-term care services are provided to the elderly living alone. But, the role of children in caregiving is still important for them. What are the determinants of caregiving to the elderly living alone by children? We have analyzed it with focus on Japan, Korea and Taiwan. The data we have used were 2013 survey of the elderly living alone in Japan, Korea and Taiwan conducted by our research team. The samples used for analysis were 151 in Japan, 145 in Korea and 151 in Taiwan. This survey was approved by the ethics committee of Tokyo University and Graduate School of Social Welfare. The model was logit model. The dependent variable was whether children and their spouses give care or not. The independent variables were socio-economic status of the elderly living alone, care service use, relationship with children as caregiver. There are significant independent variables at 5% level as follows, medical care service use (+, Korea), elderly income (-, Japan), keeping good relations with children (+, Japan and Korea). In East Asia, determinants of caregiving by children have diversity in East Asia. But, we can show that to keep good relations with children is an important factor in elderly care by family. For long-term care policy in East Asia, it is important to take into account the support to frail elderly living alone and family caregiver.

SESSION 3620 (POSTER)

FRAILITY

THE ASSOCIATION BETWEEN HEALTHY LIFESTYLE AND FRAILITY IN CHINESE COMMUNITY-DWELLING OLDER ADULTS

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The study aims to identify the association between healthy lifestyle and frailty in a community-dwelling population of Chinese older adults. A total of 917 community-dwelling people aged 60 years and older were recruited from

a Chinese city. Frailty was assessed using the FRAIL Scale. A healthy lifestyle accumulation index was constructed using measures on physical activity, daily living habits and social participation. Data on ADL, IADL, depression, cognition and socio-demographics were also collected. The prevalence of frailty was 3.9%, higher in women (4.7%) than in men (2.5%). Women adopted more healthy lifestyles (mean 9.8) than did men (mean 8.9). Increasing age, female, ADL and IADL impairments, and depression were associated with an incremental risk of frailty. Healthy lifestyle was an independent protective factor of frailty (OR = 0.89, 95% CI = 0.82 - 0.97) after adjusting for socio-demographics and general health status, significantly in men (OR = 0.84, 95% CI = 0.73 - 0.97), but not in women (OR = 0.91, 95% CI = 0.82–1.00). Healthy lifestyle accumulation attenuates the risk of frailty in Chinese community-dwelling older adults. This suggests that it is relevant for elders, especially for aged males, to adopt healthy lifestyle in order to prevent or delay the onset of frailty.

PHYSICAL FRAILTY AND ONE-YEAR READMISSIONS AMONG GERIATRIC TRAUMA PATIENTS

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Background: An understanding of acute care readmissions among older adults informs quality improvement efforts and guides policy initiatives. Among geriatric trauma patients (GTPs), studies examining one-year readmissions have been confined to retrospective analyses of trauma registry data and/or large state-wide discharge data. We conducted a prospective cohort study among GTPs who remained alive at four time points over one year, and examined all causes of readmissions, repeat readmissions, and pre-injury frailty status. We hypothesized that pre-injury physical frailty would predict readmissions among GTPs.

Methods: Sample: 188 adults $\geq$ age 65 admitted to a level one trauma center over a six month period (Oct2013-Mar2014) with a primary injury. Pre-injury physical frailty measures were obtained on admission from surrogate respondents. Procedure: After hospitalization, home phone calls were made to patients or surrogates at 30, 90, 180 and 360 days. Data Analysis: Frequency distributions, logistic regression models.

Results: Over a 1-year period, 46 patients (25%) died and 55 patients (40%) still living at 4 time points experienced one or more readmissions, for a total of 125 readmissions. Seventeen patients (31%) had > 1 readmission prior to death or within 1-year. Reasons for readmission included: follow-up surgeries (30%), medical complications (28%), medical comorbidities (22%), and repeat falls (9%). After controlling for age, comorbidities, injury severity, pre-injury frailty and cognitive impairment, pre-injury frailty status was the only statistically significant predictor of at least 1 readmission $\leq$ one-year post injury (O.R.=1.52, p=0.039).

Conclusion: Our findings extend our understanding of the influence of frailty on GTP outcomes, and highlight the importance of frailty screening upon hospital admission to facilitate patient-centered care and shared decision-making.

PATTERNS OF MULTIPLE HEALTH-RELATED BEHAVIORS IN NON-DISABLED OLDER ADULTS WITH FRAILTY

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Previous research has found the protective effects of health-related behaviors such as social engagement and using preventive services on the onset of disability for older adults with frailty. This study aimed to identify heterogeneous performance types based on multiple health-related behaviors, and to investigate the factors associated with the behavioral patterns. Data was drawn from the 2011 survey data of Taiwan Longitudinal Study on Aging (TLSA) with a sample of 1685 individuals aged 58 years or older who had prefrailty or frailty and no ADL disability. Health-related behaviors including smoking, harmful alcohol use, betel quid chewing, leisure-time physical activity, Qui-gong or transcendental meditation, preventive services utilization, and volunteering or community activity were analyzed to identify latent behavioral patterns by applying latent class analysis (LCA) with covariates using a multinomial logistic regression framework. Four behavioral patterns were identified: Healthy Life Style with High Social Engagement (prevalence of 25.4%), Physical Activity (19.0%), Inactive Life Style (37.7%), and Risky Life Style (17.9%). Younger age, being male, lower socioeconomic status (SES), lower number of chronic diseases, and being more frail increased the risk of being in the Inactive and Risky classes. Compared with the Healthy and Social Engagement class, the Physical Activity class tended to have lower SES. Intervention programs improving healthy behavioral patterns to prevent the development of disability for frail older adults could be designed according to the identified related factors. Policies on aging health should focus more on disadvantaged people and those who still have no or few chronic diseases.

FRAILTY TRAJECTORIES OF MEXICAN ORIGIN OLDER ADULTS

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Progressive physical frailty in older adults is associated with increased risk of falls, disability, institutionalization and mortality; however, there is considerable heterogeneity in frailty trajectories over time. We identify heterogeneous frailty trajectory groups and examine the specific contribution of health conditions to frailty trajectories among older Mexican origin adults. We use a sample from the Hispanic Established Population for the Epidemiological Study of the Elderly (HEPESE) with a count of frailty criteria in 1995: slow gait, weak hand grip strength, exhaustion, and unexplained weight loss (n=2040). Using group based trajectory models we identified three frailty groups: low stable (n=96), moderate progressive (n=1456), and high progressive (n=488). The small stable group was significantly younger and had fewer baseline health conditions than either the moderate or high frailty groups, while the high frailty group had comparatively higher rates of stroke and hip fracture

at baseline than the other groups. Poisson regression models found that frailty counts increased with diabetes (IRR 1.19, 95%CI 1.09–1.29 and IRR 1.17, 95% CI 1.10–1.24 respectively) and pain (IRR 1.19, 95% CI 1.09–1.29 and IRR 1.18, 95% CI 1.16–1.41 respectively) and decreased with church attendance (IRR 0.88, 95% CI 0.82–0.95 and IRR 0.88, 95% CI respectively) in the moderate and high groups. Covariates were not associated with changes in frailty in the stable group. These results suggest that while frailty increases for the majority, it does so at different rates. The presence of a small, low frailty group over time warrants further study.

THE LINK BETWEEN DEPRESSION AND FRAILTY AMONG OLDER VETERANS FROM A VA GERIATRIC CLINIC

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Frailty is described as the vulnerability to declining health that could contribute to increased morbidity and mortality. Exhaustion and overall weakness are key components of frailty and may have links to depression. Depression and frailty in many ways may not be distinct from one another and may be bidirectional in nature. As older adults' health becomes compromised, patients may be at higher risk for frailty and depression. The purpose of this prospective pilot study of older veterans (n= 146) mean age = 83.7 (sd=6.1) was to identify the prevalence and associated factors with depression and two measures of frailty (Fried and Gill). In this study of a VA outpatient geriatric clinic, patients were screened for depression using the GDS-15 and for frailty using the Fried Frailty Criteria (weight loss, exhaustion, physical activity, walk time, grip strength) the Gill Frailty Instrument (walk time, sit to stand). In the current study, 25 (17.1%) patients reported some signs of depression (GDS 5 or greater). Regarding frailty, using the Fried criteria 77(52.7%) had some frailty, while 48 (32.9%) were frail. For the Gill criteria, 31 (21.2%) had some frailty and 49 (33.6%) were frail. Depression was correlated with Fried Frailty (r=.30) and its components including: difficulty in walking (r=.22); exhaustion [lack of effort (r=.33) and could not get going (r=.41)]. Depression was not related to Gill frailty, except for its component of difficulty in walking (r=.22). More in-depth studies are needed to fully understand the cyclical nature of the relationship between depression and frailty.

SESSION 3625 (POSTER)

GENDER ISSUES IN AGING

GENDER DIFFERENCES IN CARDIOVASCULAR DISEASE: COMORBID POST-TRAUMATIC STRESS DISORDER AND DIABETES

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Post-traumatic stress disorder (PTSD), an often chronic and debilitating condition with health impacts across the lifespan, is associated with increased risk for both diabetes mellitus and cardiovascular disease. Depression comorbid with diabetes is known to contribute more strongly to cardiovascular disease and mortality than either condition alone, and this risk may be particularly pronounced among women. Similar patterns linking comorbid PTSD and diabetes with cardiovascular risk may be expected, but have not been established. These associations were examined in the Department of Veterans Affairs National Patient Care Database (n=163,184, 4% female), a retrospective cohort study of Veterans 55 years and older. PTSD and diabetes mellitus at baseline (2000–2003) were related to risk for incident cardiovascular disease (myocardial infarction, stroke, or transient ischemic attack) over a 10 year follow-up period (2004–2014) using Cox proportional hazard models. After adjusting for demographic variables, medical conditions, and psychiatric diagnoses, there was a significant three-way interaction between gender, diabetes, and PTSD predicting incident cardiovascular disease (p=0.03). Risk for incident cardiovascular disease was over three times higher for women Veterans with comorbid diabetes and PTSD compared to PTSD alone (HR 3.18, 95% CI 1.10–9.24), but comorbid diabetes did not increase risk for male Veterans with late-life PTSD (HR 0.96, 95% CI 0.86–1.07). These findings highlight the need for research to identify mechanisms contributing to increased risk for morbidity and mortality among women affected by these commonly co-occurring conditions, and the importance of examining gender differences in PTSD and its health-related comorbidities.

MEN AND AGING: NEGOTIATING MASCULINITY

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This poster presents the findings of a qualitative study on men's experience of aging that was conducted in Québec with 24 men aged 65 to 92. Their experience was examined from a subjective and reflexive (relationship to the self, body, others) point of view and based on the conduct of actors in their daily environment and the public arena (Dubet 1994). We will show that older men experience grief associated with aging, especially losses linked to the body in terms of physical aptitudes/performance, sexuality and sex appeal. They see themselves as increasingly unable to meet expectations associated with the hegemonic model of masculinity, in other words, the dominant standards and values concerning masculinity (Thompson and Wemmer 2004), which can be translated into the traditionally male qualities of emotional control, strength, and competitiveness (Roy 2008). Paradoxically, their susceptibility to the hegemonic standards of masculinity, which causes them to experience aging in terms of loss, is also what inspires these men to (re)act, and exercise what could be called their power to act. Faced with the loss of power over their body, older men develop various strategies, which change over time, to negotiate the effects of aging. Of these, the principal ones are: recreating a significant

social network: volunteer work or taking on short-term jobs
2) changing reference group: comparing themselves favourably to men of their age instead of to younger men as they did before; 3) redefining the notion of age – physical age does not correspond to their mental age.

INTERPERSONAL VIOLENCE AND POST-TRAUMATIC STRESS DISORDER AMONG COMMUNITY-DWELLING OLDER WOMEN

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Because prior research on interpersonal violence (IPV) and sexual violence has largely focused on younger women, little is known about the risk and impact of these experiences among older women. To address that gap, the prevalence of physical and emotional IPV from an intimate partner, lifetime sexual violence, and post-traumatic stress disorder (PTSD) symptoms were examined in a multi-ethnic sample of community-dwelling midlife and older women (mean age 60.5, range 41–81). Data were drawn from the Reproductive Risk of Incontinence Study in Kaiser (RRISK), an observational cohort study (n=2,106) of long-term enrollees in the Kaiser Permanente Northern California health care system, with home-based assessment using standardized instruments. In this multi-ethnic sample (40% non-Latina White, 20% Latina White, 20% Black, and 20% Asian), 16% of participants reported ever having experienced physical IPV, and 4% reported physical IPV within the past year. A history of emotional IPV was reported by 21% of participants, and 14% reported emotional IPV within the past year. Lifetime sexual violence, including being groped, fondled, or raped, was reported by 19% of the sample. Over 22% of the sample reported symptomatology indicative of clinically significant PTSD, although the incident trauma exposure related to these symptoms was not assessed. The high rates of reported violence and PTSD symptoms in this ethnically diverse sample highlight the importance of systematic screening and early intervention among midlife and older women, which may contribute to otherwise unidentified mental and physical health care needs in this population.

GENDER-RELATED DIFFERENCES IN THE EFFECT OF SOCIAL DETERMINANTS ON QUALITY OF LIFE IN OLDER AGE

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Gender-related differences in the process of aging have been well documented in relation to life expectancy, prevalence of chronic conditions, and level of disability but still the explanation of the role of social determinants in quality of life, which can play different role in men and women, has remained unclear. The investigation aims to reveal gender-related differences in social determinants on quality of life assessed by a multi-pathway model considering health, social, demographic and living place characteristics.

The sample for the analysis consists of 5099 participants aged 50+ years from general Finnish, Polish and Spanish populations being a part of cross-sectional COURAGE in EUROPE study. The quality of life was measured by WHOQOL-AGE scale. Social determinants were measured by the COURAGE Social Network Index, the OSLO-3 Social Support Scale, the Three-item UCLA Loneliness Scale, participation and trust scales were used. The path model was used to verify relations between different determinants of quality of life by multi-pathway modelling what enabled adjustment for several covariates.

The results showed that the effects of social networks, participation, trust and loneliness on quality of life in pre-elderly (aged 50–64) men and women; which were similar in both gender groups. Gender-related differences in the role of social support, participation and trust in quality of life were observed among older (aged 65–79) individuals, males benefited more from social support, females more from social participation and trust. In the oldest (80+) group gender-related differences were noticed only in the role of social support in quality of life.

FUNCTIONAL STATUS, COGNITION, AND SOCIAL RELATIONSHIPS IN DYADIC PERSPECTIVE

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Health declines can change older adults' social participation and social relationships. Yet, researchers rarely examine how the health and disability of *one's spouse* might affect one's engagement with the social world, even though stressors and life strains are often experienced as a couple or as a family. Using the partner data from Wave II (2010–11) of the National Social Life, Health, and Aging Project (N=953 heterosexual couples), we model the relationship between cognitive and functional limitations in one spouse and reports of social participation and relationship quality in the other. We find that one spouse's functional health is associated with the other's reports of relationship quality (partner effects) but that cognitive health is mostly associated with one's own reports of relationship quality and social participation only (actor effects). These associations vary by gender and by type of social relationship. For example, wives report lower support and higher strain from spouses when husbands have ADLs, but husbands' marital quality is not associated with

wives' functional limitations. Also, husbands report less strain from family and friends when wives have IADLs, but wives do not experience similar "social benefits" when husbands have functional limitations. These findings underscore the importance of gender and both partners' health in shaping social life at older ages.

EXAMINING PREDICTORS OF SELF-RATED HEALTH AMONG MIDDLE-AGED AND OLDER AFRICAN AMERICAN MEN

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An expanding body of literature exists that depict the poor health status of African-American men. Given the broad scope of poorer health among African-American men in the U.S., little is known about the psychosocial factors that influence their perceptions of health. In this study, we extend previous work by examining the influences of sociodemographic (education, income, marital status), physical health (disability status, disease history), and psychosocial indicators (stress, social support) on self-rated health among middle-aged and older African-American men. Data was drawn from the National Survey of American Life to examine perceptions of self-rated health among 1,277 African-American middle age and older men. Our findings demonstrate that physical health and emotional social support play important roles in determining how African-American men view their health. This work underscores the importance of targeting both physical health and psychosocial factors when developing interventions design to improve the health of adult African-American men.

A COMPARATIVE ANALYSIS OF RESILIENCE IN TWO COHORTS OF OLDER, SINGLE WOMEN IN RURAL AUSTRALIA

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Australian rural women are stereotypically perceived as stoic, self-reliant, and used to handling adversity. An ethnographic study conducted in rural Australia identified the developmental trajectories, responses, and profiles of resilience in two cohorts of older, single women living independently in the community: older old widows (aged 80 years and above) who were long-term 'locals'; and newcomers—late middle-aged (55 to 65 years of age) divorcees relocating from the city.

The older old women portrayed a predominantly passive reaction to crises and adversity throughout their adulthood, focused on bouncing back to regain equilibrium. By contrast, the late middle-aged women's response to personal and social disruptions was actively reactive, until they elected to restart their lives in the town. Moving to the town triggered a shift in the resilience responses of both groups of women: over time, the older old women pragmatically adjusted to their changed circumstances, whereas the late middle-aged women were isolated by an unfamiliar and unwelcoming local culture, and ultimately withdrew. For the majority of the older old women, the town's sociocultural norms and expectations limited their personal and social choices, and boxed them in. For them, resilience in later life is acquiescence. Concomitantly, the

late middle-aged women were systematically excluded from fully participating and contributing to the community, and thus boxed out by these constraints. For these women, resilience equates to endurance.

This finding contradicts the almost universal conception of resilience as a proactive, agentic, and positive construct in the literature.

DOING LAT: REDOING GENDER AND FAMILY IN LIVING APART TOGETHER RELATIONSHIPS IN LATER LIFE

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Gender relations in later life relationships have historically been studied within long-term marital relationships. This research shows patterns of high gender conformance earlier in family life, especially when young children are present, and less so later in life. Demographic and socio-cultural changes are giving rise to different partnership forms including cohabitation, divorce, remarriage, and living apart together (LAT), an intimate relationship in which the couple maintains separate residences. Using a life course framework the researcher examines how gender is manifested in the formation and maintenance of LAT relationships in later life using social constructivism and the theory of gender as social structure. A grounded theory qualitative study in the United States with 13 women and 7 men age 59 to 89 reveals patterns of "doing" gender as well as "doing" family earlier in life. LAT relationships in later life appear to be an opportunity to "redo" family in an individualized way, with the men and women both valuing and maintaining the autonomy and freedom that comes in a life stage with lessening work and family responsibilities. Additionally, LAT allows the women in the study to "redo" gender by actively resisting "doing" gender in ways such as being submissive to men, catering to men's needs and wants, and taking on caregiving duties. This study demonstrates how LAT meets the individualistic needs of both men and women in later life, while providing the opportunity to exercise agency to act outside of gender norms and expectations present in earlier life, especially for women.

GENDER DIFFERENCES IN SENIOR TRAVEL CHARACTERISTICS AND WILLINGNESS TO USE A DEMAND-RESPONSIVE BUS

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As with many other countries, Taiwanese society has become an aging society. Maintaining or enhancing senior mobility is a therefore very important issue in promoting an active aging society. Due to social and economic differences (e.g. there are fewer female motorcycle riders than males) and/or activity features influenced by the Chinese culture and tradition, the travel characteristics of elderly females and males are very likely different. Their considerations for transportation services could be different as well. This study investigates gender differences in the travel characteristics of the elderly using a questionnaire survey. In total, 1137 valid questionnaires were collected. Survey analysis reveals that for non-walking trips, the female

elderly subjects are more limited in mobility than male elderly subjects due to limited usage of a cars and motor-cycles. Results also show that bus service with a frequent schedule could increase elderly people's activity levels for longer distance activities. However, many of the elderly live in areas where bus service is infrequent. A demand responsive service (DRS) bus could be an alternative means of transportation. This study builds two logistic regression models separately to explore the factors affecting the willingness of male and female elderly people to use a DRS bus for their medical trips. The greatest differences between male and female subjects appear in the factors of age and most frequent transportation mode for a medical trip. The gender differences in the willingness to use a demand responsive service bus are discussed in this study.

SESSION 3630 (POSTER)

GENETICS

ASSOCIATION OF GENETIC VARIATION OF TOMM40 WITH COGNITIVE DECLINE IN OLDER ADULTS: THE SONIC STUDY

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Background: It is reported that single nucleotide polymorphism (SNP) of the Translocase of outer mitochondrial membrane 40 homolog (TOMM40) gene is significantly associated with late-onset Alzheimer's disease and cognitive decline in various ethnic groups. The aim of this study is to clarify the association of rs2075650 in TOMM40 with cognitive function among 70- and 80-year-old Japanese general population.

Methods: Participants in age 70±1 and 80±1 years (n=550, 517 respectively) were randomly recruited from general population participating in the study of Septuagenarians, Octogenarians and Nonagenarians Investigation with Centenarians (SONIC) study, and part of them received follow-up investigation after 3 years. Written informed consent for genetic analysis was obtained from study participants. Rs2075650 in DNA extracted from blood samples was genotyped by TaqMan PCR method. Cognitive function was measured by the Montreal Cognitive Assessment (MoCA-J). Association of SNP with cognitive function is analyzed by the multiple regression models adjusting potential confounding factors.

Results: There were no significant differences of MoCA-J total score at baseline among each allele in rs2075650 both in 70 and 80 years participants. However, in 80 years participants, there was significant differences in MoCA-J total score among alleles in rs2075650 (AA, GA, GG; 22.0, 21.2, 18.3, respectively; p=0.008) at follow-up examination. In addition,

the TOMM40 (G allele) was significantly associated with a greater decline in MoCA-J total score at follow-up ($\beta=-0.14$; p=0.002), and the effect appeared to be greater in females ($\beta=-0.21$; p=0.001), but not in males and in 70 years participants.

Conclusions: TOMM40 rs2075650 is an independent associated factor of cognitive function in Japanese females aged around 80.

CORRELATION BETWEEN IGF2R RS9456497 AND CARDIOVASCULAR RISKS IN LONG-LIVED CHINESE

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IGF2R rs9456497 was genotyped by iMLDR for 496 Zhuang long-lived Chinese (90–107 y/o) and their offspring (n = 723, 60–75 y/o) and matched healthy subjects (n = 611, 60–75 y/o). Association analyses were then conducted among genotypes and cardiovascular risks. No significantly different risk was detected among genotypes in each group except that the mutant genotype (GA/GG) tended to reduce the systolic blood pressure (SBP) and diastolic blood pressure (DBP) levels in longevity group. However, after sex stratification, total cholesterol (TC) level of each genotype in offspring males was elevated versus relevant genotype in longevity and control group; the triglyceride (TG), fasting plasma glucose (FPG) and BMI levels of each genotype in longevity group were lower while SBP and DBP levels were higher than that of the relevant genotype in offspring and controls. Long-lived females tended to display lower TG, FPG and BMI but higher SBP and DBP levels than offspring and controls; intragroup comparison showed that the FPG level of GG/GA genotype was lower than that of AA genotype in controls while other parameters did not differ across genotypes in each group. After stratified by lipid status, the frequency of G allele was markedly increased in the dyslipidemic subgroup in the combined population and controls. Linear regressive analyses showed that HDL was positively correlated to IGF2R rs9456497 GA genotype while BMI was negatively correlated to AA genotype in offspring group. These results suggest that IGF2R rs9456497 polymorphism is correlated to the cardiovascular risks in a sex and lipid status pattern.

G-395A POLYMORPHISM IN THE KLOTHO GENE ASSOCIATES WITH FRAILTY AMONG OLDEST-OLD PEOPLE

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Background: Frailty characterized as declined physiological reserve and increased vulnerability. It is still on a starting stage of studies on genetic factors of frailty. Previous studies found KLOTHO plays a protective role on several age-related diseases. We proposed a hypothesis of a probable protective effect of KLOTHO on frailty in old people. Thus, we use a very old Chinsed cohort to detect it. **Methods:** This is a secondary analysis of the Project of Longevity and Aging in Dujiangyan (PLAD) study, which conducted in Southwest China. Community-dwelling Chinese people aged 90 years or more were included. Frailty was assessed with a revised FRAIL scale proposed by the International Association of Nutrition and Aging.

G-395A (rs1207568) genotyping in the promoter region of the KLOTHO gene was performed using the TaqMan allelic discrimination assay. **Results:** A total of 632 participants (68.4% female; mean age: 93.5 ± 3.2 years) were included. KLOTHO G-395A polymorphism genotype frequencies for the whole sample were 1.7% AA, 25.6% GA, and 72.6% GG. GG genotype frequencies for the frailty and control groups were 83.6% and 71.2%, respectively. Frailty prevalence was significantly lower in the GA+AA group than GG genotype group (6.9% vs. 13.3%, $p=0.026$). GA+AA genotype subjects had significantly lower risk of frailty (OR: 0.50, 95% CI 0.26 to 0.98) than GG genotype after adjusting for age, gender, education levels, previous occupation, cognitive impairment, metabolic syndrome, habits of smoking, alcohol consumption and exercise. **Conclusions:** KLOTHO G-395A polymorphism associates with less frailty in a sample of Chinese nonagenarians and centenarians.

ASSOCIATION OF APOE WITH COGNITIVE CHANGE IN COMMUNITY-DWELLING ADULTS: THE RANCHO BERNARDO STUDY

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The E4 allele of the Apolipoprotein E (ApoE) gene increases risk for sporadic Alzheimer's disease, yet it is unclear whether E4 accelerates cognitive decline in normal aging. This study examined the association between ApoE genotype and trajectories of cognitive change in community-dwelling older adults from the Rancho Bernardo Study, and assessed whether E4 effects were modulated by sex, education and lifestyle. Between 1988–2016, 1393 adults (1087 E4-; 306 E4+), aged 44–99 years at their initial cognitive assessment, completed a neuropsychological test battery including tests of global cognitive function, executive function, verbal fluency and episodic memory. Participants were tested up to seven times over a maximum follow-up of 27 years. Linear mixed effects models examined age-related trajectories of cognitive change, assessing the influence of ApoE genotype, sex, education, physical activity, alcohol consumption and smoking. No main effects of ApoE on cognitive function were observed. However, E4 carriers showed greater age-related decline than non-carriers on executive function and verbal fluency. Men, but not women, carrying an E4 allele demonstrated greater age-related decline in global cognitive function than non-carriers. Verbal fluency declined more rapidly for those without a college education, but only for E4 carriers. Alcohol consumption interacted with ApoE genotype on age-related decline in global cognitive function and memory, but neither smoking nor physical activity interacted with ApoE status. These findings indicate that the E4 allele may increase risk for cognitive decline with advancing age. This risk differs between men and women, and may be modulated by education and alcohol consumption.

VASCULAR DEPRESSION FUNCTIONS INDEPENDENTLY OF APOE GENOTYPE: THE WISCONSIN LONGITUDINAL STUDY

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Studies evaluating the effect of Apolipoprotein E (ApoE) on vascular depression are sparse, employ heterogeneous methods, and yield inconsistent results. One possibility is that ApoE is a moderator of another predictor such as cerebrovascular burden (CVB). This longitudinal study examines the relationships between ApoE, CVB, and depressive symptomatology in a large cohort sample from mid-life to later-life. Data include 3,203 participants across 18 years from the Wisconsin Longitudinal Study (baseline mean age=53). Depressive symptomatology was measured using the CES-D. CVB was operationalized as hypertension, high blood sugar, diabetes, and other heart problems. ApoE genotyping was completed using saliva samples. Hypotheses were examined via repeated-measures ANOVA and a moderated path model. RM-ANOVA results indicated no significant within-subjects effect of time, time×CVB interaction, or time×ApoE-carriage interaction on depressive symptomatology. Between-subjects effects yielded CVB as a significant predictor of depressive symptomatology ($F(1, 2327)=16.274, p<.001, \eta_p^2=.007$); this effect was not evident for ApoE-carriage. Results supported the hypothesized path model (RMSEA=0.041; CFI=0.959), however ApoE-carriage was not a significant moderator of the 2004 or 2011 vascular depression effect. The present findings do not implicate ApoE as a predictor of depressive symptomatology, or as a moderator of the vascular depression effect, in a large sample of adults spanning 18 years. Results are consistent with some past findings and inconsistent with others. Some work suggests genetics research is vulnerable to type-1 errors, though file-drawer effects remain difficult to quantify. Findings suggest ApoE carriage may not influence expression of depressive symptoms among older adults.

SESSION 3635 (POSTER)

GERONTOLOGY AND GERIATRICS EDUCATION

GEOMAPPING: EFFECTIVENESS OF REACHING RURAL HEALTHCARE WORKERS WITH GERIATRIC EDUCATION?

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According to the U.S. Census Bureau, 15.7% of people living in Arkansas in 2014 were over the age of 65 and by 2030, that number is expected to increase to at least 25%. In addition, 44% of the state's population is considered rural compared to the national average of 19%. Further complicating these data is that only 64.5 primary care practitioners (PCPs) per 100,000 people serve rural Arkansas areas compared to 139 PCPs per 100,000 people in urban Arkansas areas (Rural Profile of Arkansas, 2015). In Arkansas there are 76 Rural Health Clinics, 401 long term nursing facilities (188 in HRSA-designated Rural Areas), and 106 hospitals (29 are Critical Access). Therefore health care practitioners

working in these rural areas need frequent and current information regarding best practices in caring for this growing population.

A study was completed to determine if education from the Arkansas Geriatric Education Collaborative (a HRSA Geriatric Workforce Enhancement Program) was reaching the workers who staff these rural healthcare entities. Geographic patterns of healthcare staff that attended geriatric-focused educational events were analyzed using powerful graphical imagery. Data points have been layered using size, thickness, color and opacity to develop a multifaceted geo map that makes it easy to see and understand the relationships between the data and geography. Older adult poverty levels, education levels, census tracts, ethnicity, healthcare worker geriatric education, and other data points were analyzed and are presented in a visually enhanced format that quickly illustrates trends and hidden stories.

PROVIDING DEMENTIA EDUCATION TO RURAL FIRST RESPONDERS: OUTCOMES IN ARKANSAS

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As the incidence of Alzheimer's disease and other related dementia diagnoses continue to rise and plague our country's older adults, it is imperative that care for these individuals be addressed on every level. Nationally it is estimated that over 5 million seniors are living with Alzheimer's disease today and, by 2050, it is expected that almost 14 million will have the disease. 54,000 of those are living in Arkansas today with an estimate of 67,000 by 2025 (Alzheimer's Association, 2016). Since 44% of Arkansas' population live in rural areas and 19% percent of Arkansas' older adults reside there, reaching and educating these first responders is a priority, yet has been a challenge.

In 2015, it was ascertained that virtually no dementia-related training for first responders was occurring in Arkansas. The Arkansas Geriatric Education Collaborative educators (a Geriatric Workforce Enhancement Program) have taken the Certified Alzheimer's Disease and Dementia Care Training and the Certified First Responder Dementia Training from the National Council of Certified Dementia Practitioners and developed a three hour program and mobilized it to multiple first responder groups. These included the Arkansas State Police Academy, multiple city and county paramedics' organizations, emergency medical technicians, police officers and fire fighters. This presentation will outline the content and method of training, demographics of first responder' groups, pre and post test results, and follow-up qualitative interview findings from first responders who have put their training into action in the field.

DRUG EDUCATION PROGRAM (DEP) FOR COMMUNITY-DWELLING ELDERLY

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Good chronic disease control requires satisfactory medication adherence. Unfortunately, omission of doses is common among elderly due to complicated regimen and

self-perceived adverse drug effects. A 4-week Drug Education Program (DEP) based on Health Belief Model was designed to improve the drug knowledge and hence tackle the drug adherence problem. It was an experimental pre and posttest control group design.

Elderly community centers were approached and randomized into experimental and control group according to a computer-generated list. 108 community-dwelling elderly from 4 centers joined the study. 55 in the experimental group received the DEP once a week for 4 week, while 53 in the control group received social gathering and news sharing for the same duration. There were 30 male and 78 female; with the mean age of 77; the majority of them suffered from hypertension, diabetes and congestive heart failure which required regular follow up and had to take 1-2 drugs daily.

The content of the DEP includes drug knowledge on hypertension, diabetes, pain and constipation. Interactive teaching methods were used to arouse participants' interest, while true-and-false questions to assess the retention of memory at the end of each lesson. A set of questionnaire was used to assess the drug knowledge gain. Upon completion of the DEP, there was significant increase in the drug knowledge (from 9.48 to 12.63; $p < 0.05$) for the experimental group and not the control group. Also, general feedback from the participants has been very positive.

EFFECTS OF UNDERGRADUATES AND OLDER ADULTS CO-LEARNING ABOUT HEALTHY AGING

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This study investigated the effects of integrating inter-generational learning into an elderly health promotion curriculum. A nonequivalent quasiexperimental research design, which involved combining qualitative and quantitative methods, was adopted, with qualitative data used to explore the impact of older adults on undergraduate learning about healthy aging. Ninety-one participants were included in this study. Ten older adults studied together freely with 48 students in the experimental group for 18 weeks. In addition to learning healthy aging theory, the students needed to implement a healthy lifestyle project at the last five weeks. The control group comprised students in a health-unrelated gerontology course that did not involve the addition of any older adults. The evaluation indicators included aging knowledge, attitude toward older adults, the students' self-assessed health, and the students' healthy lifestyle behaviors. The quantitative results revealed that the experimental group performed significantly more favorably than did the control group in the healthy lifestyle behaviors, including regular exercise, sufficient sleep, and late-night snacking. Eighty nine percent of students believed that learning together with older adults can enhance the understanding of healthy aging. Analyzing the students' reflective reports showed that, through the intergenerational interaction, the active older adults served as a healthy aging model, enhancing the students' care about elderly health issues, attention to their own health, and practice of healthy lifestyle behaviors. Students suggested that more time should be allocated for them to

perform the healthy lifestyle project, and that more opportunities should be provided for them to interact with older adults.

LEVELING AND ADAPTING GERONTOLOGY COMPETENCIES: EXAMPLES FROM CANADA AND THE U.S.

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Background: AGHE recently published *Gerontology Competencies for Undergraduate and Graduate Education* (2014) that represents the most comprehensive effort to date to identify gerontology competencies. The challenge for educators is to integrate competencies into gerontological curricula and to use them in measuring the skills of gerontology program graduates. This presentation reports on two such attempts, with particular emphasis on “leveling” competencies.

Developing an Introductory Course in Canada: A group of faculty affiliated with the Council of Ontario Universities is leading the development of an introductory gerontology course in seven modules based on the AGHE foundational competencies. Since it is anticipated that the course would be useful both for students and practitioners, the developers share their perspectives on adapting the competencies for various levels.

Measuring the Skills of Gerontology Program Graduates in West Virginia: The National Association for Professional Gerontologists (NAPG), in cooperation with the Gerontology Master of Arts Program at San Francisco State University, measured gerontology competencies by operationalizing 18 skill outcomes. Forty-nine master’s students wrote 400 essay answers that were tested for inter-rater agreement using one-way analysis of variance. The fact that there was no significant difference among three raters ($f = .28, p = .76$) in scoring essay responses indicates reliability. This method of measuring competencies developed with master’s students has been used as an exit exam for graduates of the Gerontology Associate Arts Program at Bridge Valley Community and Technical College in South Charleston, West Virginia. Researchers discuss the adaptation of competency testing at these two educational levels.

FEAR OF DYING AND DEATH IN SELF AND OTHERS

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People delay advanced care planning for the end of life for many reasons, including anxiety about dying and death. Undergraduate courses on dying and death may, as one objective, address students’ anxiety. The purpose of this study was to examine changes in anxiety about dying and death among undergraduates in an advanced course on those topics. Thirty-two students completed the Collett-Lester Fear of Death Scale (FDS) at the beginning and end of the semester. Paired-samples t tests revealed several significant changes. After taking the course, students reported less

anxiety about their own death ($t(31) = 2.97, p < .01$) but no change in anxiety regarding their own dying ($t(31) = 1.60, p = .12$). With regard to fear for others, students reported less anxiety about both the death ($t(31) = 2.83, p < .01$) and dying of others ($t(31) = 2.49, p < .05$). Students felt more prepared at the end of the semester to handle their own death ($t(30) = 2.92, p < .01$) and the death of others ($t(29) = 2.25, p < .05$). However, the association between preparation for one’s own death and the death of others was far from perfect ($r = .39$), suggesting, for some people, divergent beliefs about preparation. This study offers evidence that a one-semester course on death and dying with undergraduate students can leave them feeling less anxious and more prepared for dying and death. Potentially influential components of the course are described.

INDIGENOUS ELDERS IN RESIDENCE: GROWING RELATIONSHIPS THE ELDERS’ WAY

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Traditionally, Indigenous Elders were the original teachers and leaders in tribal societies. Their role was to improve the overall health and wellbeing of their families through teaching and mentorship. Due to the encroachment of western methods of teaching and learning into tribal communities, the oral traditions and other methods of indigenous learning have been pushed to the wayside. From January through March of 2015, the Indigenous Elders in Residence Program hosted 10 Indigenous Elders who visited classes in the University of Washington School of Social Work, School of Medicine, and American Indian Studies Department. Throughout the program, a total of 36 students completed survey evaluations of the program including demographic measurements, multiple choice questions, and open-ended questions. This study draws primarily on the survey results to describe the demographic characteristics of students, student ratings of the most successful aspects of the program, and a thematic analysis of the students’ comments and reflections on the program. Lunch meetings, workshops, class sessions led by the Elders, and one-on-one mentoring were rated by participants as the most effective and engaging aspects of the program. Primary themes from the students’ reflections include storytelling as pedagogy and community-building through storytelling. Students described storytelling as a meaningful form of pedagogy not previously experienced in the classroom setting. Stories also impressed upon students the importance of community, being “a part of something,” and how their own strengths and prior experiences shape their contributions to community. The success of this pilot program illustrates a promising step toward indigenizing the academic institution and teaching through traditional pedagogies.

BUILDING A LEARNING CULTURE THROUGH AN ENHANCED LEARNING PARTNERSHIP IN CONTINUING CARE

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Continuing and long-term aged care environments provide important health and social support services to older

adults, but are rarely seen as optimum sites for student learning, or as vibrant spaces for personal and professional growth for staff or residents. Creating a supported learning environment within these care settings is vital to enhance quality of care and quality of life for residents, their families and staff, and to promote effective learning experiences for students.

The Faculty of Nursing at the University of Calgary is working with Covenant Care, a non-profit care provider organization, on an innovative partnership aimed at developing a learning culture within a complex care environment in Calgary, Alberta. This enhanced learning partnership is comprised of three core elements: 1) an undergraduate nursing positive placement program (+PPP); 2) research and advanced practice learning opportunities for graduate students; and 3) learning opportunities and workforce development for residents, families and staff. This participatory action research study is exploring and developing a person-centered care and learning culture within a supportive living and hospice setting.

This presentation will detail our developing understanding of the core components of a learning culture within long-term care settings, as well as aspects of culture change, including barriers and facilitators, culture change process, and challenges associated with evaluation and sustainability.

ALIGNING TEACHING IN GERIATRICS WITH CORE ENTRUSTABLE PROFESSIONAL ACTIVITIES FOR ENTERING RESIDENCY

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The Core Entrustable Professional Activities (EPAs) for Entering Residency¹ define behaviors that medical students should be able to do to ensure readiness for residency. Each is mapped to the Physician Competency Reference Set² but mapping to the Minimum Geriatrics Competencies (MGC) for Graduating Medical Students³ has not been reported.

Based on MGC, the author created workshops on 1) identifying and reducing hidden harms of drug therapy, 2) practicing value- and preference-based prescribing/deprescribing, 3) prescribing opioids and 4) writing admission orders. These workshops address the competencies critical to entrustment for EPA 4 through addressing key functions¹ associated with the task.

The following illustrates how teaching and assessment of MGC can be used to meet curricular goals and provide assessment data about student performance of EPAs. A workshop designed to facilitate students' ability to "accurately identify clinical situations where...patient preference, or goals of care should override standard recommendations for treatment in older adults" (MGC 16) addresses the key function, "demonstrate an understanding of the patient's current condition and preferences that will underpin the orders being provided" and critical competency, "make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment" linked to EPA 4 (ability to enter and discuss orders and prescriptions). Assessment of student performance is done through pre- and post-tests and clinical observations. Data from the assessments are used in the summative evaluation for the clerkship.

LIVE-IN STRANGERS: AN EXPERIENTIAL ACCOUNT OF GERONTOLOGY EDUCATIONAL IMMERSION IN SENIOR HOUSING

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Gerontology education programs that combine elements of experiential service-learning, community participation, and residential immersion have been emerging in the United States and internationally. Combining fieldwork, interviews, and immersion methods, this study draws on qualitative ethnographic and phenomenologic design, whereby a student lived in senior housing for 3.5 years. The study is among the longest and most intensive gerontological field experiences ever reported. It is based on more than 2,000 hours of observations and conversational interviews with 14 residents. Major patterns based on observational data show the importance of shared history, support for one another, negotiating environmental tensions, and demand for attention on the part of residents. Major themes derived from interviews elaborate on family conflict, conflict between residents, and life decisions. Results show that a unique combination of physical and social proximity in an intergenerational alliance enables both life enhancement for older adults and learning opportunities for students. A recommendation is made to implement a live-in role more formally.

AN INTERPROFESSIONAL GERIATRIC TRAINING AND OUTREACH PROGRAM: STUDENT, PATIENT, AND PROVIDER OUTCOMES

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The need for older adults to access high quality care can only be fully addressed with a workforce well-trained in the specialty of geriatrics. Geriatric Outreach and Training with Care (Got Care!) is an innovative, interprofessional geriatric training and practice model designed to develop a cadre of healthcare providers skilled in interprofessional, geriatric care. This academic-community partnership includes an interdisciplinary faculty team of geriatric experts from nursing, medicine, dental medicine, pharmacy, physical therapy, social work, and public health. Unique hands-on opportunities are provided for interprofessional students to learn together in the didactic arena and then reach out with geriatric expert faculty to conduct interprofessional home visits to older adults with multiple chronic conditions and high emergency department (ED) use. The purpose of this study was to evaluate the impact of the GOT! Care Program on student (N=177) collaborative practice skills, patient outcomes (N=38), and primary care provider (N=12) satisfaction. Statistically significant improvement was found in student levels of collaborative practice skills in 7 of 8 subscales of the Collaborative Practice Assessment Tool. Improvements in patient experience with care were noted including increases in quality and satisfaction as measured by HEDIS, an increase in referrals to community services such as mental health, social work, and palliative care services, and a decrease in ED use in the sample. Primary care providers report high satisfaction with the program citing GOT! Care, "a more cohesive approach"

to caring for their patients. Implications for interprofessional geriatric education, practice, and research will be presented.

REDUCING AGEISM THROUGH INTERGENERATIONAL SERVICE LEARNING

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Ageism is insidious and ubiquitous. It negatively impacts older adults' stress response, work environment, memory performance, and health care; contributes to elder abuse; and curtails opportunities for older adults to engage in their community's social and cultural life. Ageism also diminishes students' interest in pursuing education and careers in aging-related fields, leading to shortages in the gerontology and geriatrics workforce. Education, combined with service-learning experiences, provides an opportunity for intergenerational interaction, leading to a reduction in ageism. But what aspects of service learning affect ageism? Is education without service learning equally effective in reducing ageism?

Our study comprised three groups of college students who: (1) were enrolled in an aging course with a service-learning project (N = 166), (2) were enrolled in an aging course with no service learning (N = 170), and (3) had not taken an aging course (N = 170); and a group of older adults who were participating in a service-learning project (N = 62). Basic demographic data, educational and personal experiences with seniors, and career interests were collected. Ageism was measured with the Fraboni Scale of Ageism at the beginning and at the end of a semester. Surveys and journal entries were used to assess participants' experiences. Quantitative and qualitative analyses were conducted. Intergenerational interaction has been shown to lessen ageism. Our results confirmed that service learning is a successful way to promote these interactions. We also demonstrated the benefit of an interdisciplinary approach to foster social change within our community.

WEBINARS AS A TOOL FOR GERIATRIC EDUCATION: OUTCOMES OF A WEBINAR SERIES ON DEMENTIA CARE

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Stanford Geriatric Education Center (SGEC) offered a series of 15 webinars (short for web-based seminar) titled "State of the Science: Dementia Evaluation and Management Among Diverse Older Adults and Their Families" in 2013. Stellar speakers from neurology, psychiatry, psychology and family medicine covered a range of topics in dementia care. Targeting providers working with diverse elders and their families, SGEC was able to present the contents interactively and in real time, and extend the 'reach' of this training to more new and diverse audiences.

A total of 1,163 participants from 29 U.S. states and representing 28 disciplines participated in the webinars. 30% of participants indicated that they work in Medically Underserved Communities, 17% works in a rural area, 70% works with ethnic minority patients and around 40% works with non-English speaking patients on a daily basis. Post webinar survey results show that over 90% of respondents reported increase in their knowledge and skills in the training topic. In addition, 98% of participants in each webinar indicated that they plan to either apply the information or skills learned in their work setting or, implement or advocate at least one patient/service improvement. Each webinar has since been archived and made available on the SGEC YouTube channel and has received 38,757 views from 159 countries as of May 2016. In conclusion, this was a successful geriatric education program, evidenced by its broad reach and endurance of the webinar presentations. The challenge lies in improving the response rate for post webinar surveys.

EDUCATIONAL TECHNOLOGIES IN GERONTOLOGY AMONG YOUTH

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The aim of study is to implement the best educational practices among youth in gerontology to achieve clear understanding of healthy aging and improve knowledge's in communication with seniors.

Material and methods: Few educational technologies were implemented: interactive games with using of simulators of geriatric syndromes; education in physical training by using of special exercises for cognitive support (intelligent gym); education in field of local folk and language traditions which can be used in supporting of physical and cognitive functions. The average age of the youth group was 21,2±1,5 years, participants were students of different senior schools, total number of participants of educational programs was 346. For estimation of effects of training programs special original questionnaires were used.

Results: During educational programs the level of knowledge in preventive and healthy behavior increased on 35,5%, the number of healthy habits on 15,5%, understanding of healthy aging on 52,0%, understanding of health and social problems of elders on 70,0%, the level of ageism decreased on 30,0%. 70,0% of participants of education trainers noticed the increased level of understanding of problems of their old relatives and neighbours, 82,5% expressed interest in training because all topics were in fashion in the society.

Conclusion: Achievement of long and healthy lifespan by paying attention to the health status, behavior, habits of younger generation is possible by using of untraditional interactive forms of education of youth in sphere of healthy ageing.

SESSION 3640 (POSTER)

HEALTH AND SOCIAL SERVICE INTERVENTIONS

QUALITY OF LIFE OF USERS OF GERMAN REGIONAL DEMENTIA CARE NETWORKS—RESULTS OF THE DEMNET-D STUDY

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Worldwide the support of people with dementia (PwD) in their own living arrangements is becoming more important. In the last decade 4 different types (stakeholder, organization, hybrid, order-related) of local dementia care networks (DCN) evolved in Germany, offering multiprofessional care and support (by medical doctors, health care services, therapists, volunteers, ...) for PwD. Empirical findings of long-term health outcomes of PwD supported by DCN are lacking yet. The one-year follow-up DemNet-D study was conducted to investigate long-term health related outcomes of PwD supported by 13 DCN all over Germany. Main outcomes were quality of life (proxy QoL-AD) and remaining in own domesticity. Further characteristics were challenging behavior (CMAI), functional abilities (IADL) and depression (GDS). 560 PwD (mean age 80 years, 58% female) were included in the study. Participants reported a moderate quality of life (QoL-AD: 29.1) at baseline. Quality of life remained almost unchanged at follow-up (QoL-AD: 28.1). 78 PwD moved into another living arrangement. Multi-level analysis showed no significant association for all primary outcomes with different types of DCN ($p > 0.05$). Improved QoL-AD scores depended on lower QoL-AD scores at baseline. In general we observed better QoL when PwD showed less challenging behavior and lived together with relatives. The stable quality of life over time and the low number of PwD moving into another living arrangement indicate, DCN are a sufficient way to provide adequate support to PwD.

THE HEALTHY LIVING PROJECT: AN INTERDISCIPLINARY WELLNESS PROGRAM FOR OLDER ADULTS

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Improving older adults' well-being requires recognizing the importance (and interdependence) of physical and mental health. This study describes initial data from the Healthy Living Project, a unique interdisciplinary program combining behavioral/mental health services, dietary guidance, and physical activity interventions specialized for older adults with the goal of improving physical and mental health. Thirty-eight participants (M age = 66.5 years, range = 60 to 83 years; 76% Caucasian; 87% women) completed baseline assessments. Commonly endorsed goals of participation included weight loss (92.1%), healthier eating (63.2%), and strength gains (60.5%); fewer participants endorsed goals of reducing life stress (31.6%) and improving mental health (5.3%). On the PROMIS Global Health Scale, self-reported mental health ($M = 10.8$) and physical health ($M = 11.2$) were comparable but somewhat low. Baseline stages of change ratings placed the majority (59.5%) in the Contemplation stage. Initial dietitian assessments suggested the sample was moderately obese ($BMI M = 34.3$) with high body fat percentages ($M = 42.8\%$). Physical activity assessments including Timed Up and Go ($M = 7.3$ seconds) and 30-second chair stand ($M = 8.3$ reps) suggested some functional disability risk. Moreover, 26.3% were classified as a moderate or high fall risk. Qualitative data from a subset of program completers

revealed significant and meaningful improvements in stamina, strength, energy, fall risk, perceived barriers, and self-efficacy, which is impressive given participants' complex, intertwined mental and physical health needs. The interventions, successes, and challenges of this interdisciplinary and integrated treatment approach in community mental health will be described.

BINGOCIZE: AN INTERVENTION FOR OLDER ADULTS' COGNITION, FUNCTIONAL PERFORMANCE, AND HEALTH KNOWLEDGE

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Exercise interventions and health promotion programs can help maintain or improve quality of life for older adults. However, the majority of older adults in the United States do not adhere to such programs. We designed a novel technological app (for tablets, computers, and phones) that combines Bingo, Exercise, and Health Education, which can be used at older adult facilities remotely. We recruited older adults ($N=38$) from nearby independent living senior communities and randomly assigned them to either a Bingocize group (Exercise+Bingo+Health Education) or a non-exercise Control group (Bingo+Health Education only); both groups used the app twice weekly for ten weeks so we could assess the efficacy of using the program. We collected pre- and post-intervention data on fluid cognition, functional performance, and physical health. The Bingocize group did not show differential improvement (i.e., a Group x Pre/Post interaction) on any of our cognitive executive function tasks, which examined inhibition, shifting, updating, and fluency, all $F(1,35)$, $p > .05$. However, they did differentially improve in some aspects of health and functional performance; for example, they improved in arm curl repetitions, $F(1,35)=4.38$, $p < .05$, $\eta_p^2=.10$. Additionally, both groups improved in their knowledge of the health topics (osteoarthritis and fall risk reduction), $F(1,36)=107.62$, $p < .01$, $\eta_p^2=0.75$, suggesting the program can be used to teach health topics to older adults. Finally, participants in both groups increased health activation, suggesting their perspective on health-promoting behaviors had improved, $F(1,36)=6.30$, $p < .05$, $\eta_p^2=.15$. Overall, the app was well-received by older participants and may be useful in improving adherence to health-promoting programs.

USING ENVIRONMENTAL LIGHT THERAPY TO IMPROVE SLEEP AND NEUROPSYCHIATRIC SYMPTOMS IN DEMENTIA

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Introduction: Alzheimer's disease and related syndromes (AD) is a disease affecting memory but also the relationship with the environment and empower people. No study has shown proven efficacy on the behavior of patients with AD. The main objective of the study was to assess the influence of environmental light therapy on sleep. Secondary objectives

were the study of, anxiety by the COVI scale and behavioral disorders by the NPI scale.

Material and Method: 12 residents of a nursing home with an integrated light therapy in common areas were studied., residents was equipped with a actimeter wrist or ankle for 42 days divided into three periods of 14 days with a standard lightin period 1 and 3 and light therapy on period 2. Sleep time was estimated by two algorithms.

Results: Average age was 84.2 (SD 6.5).Total sleep time during period 2 was significantly increased with 55.1 minutes compared to the period 1 without significant difference between period 2 and 3. For the COVI scale there was a significant decrease of 0,7 point and the NPI scale decrease of 4.7 points significantly between period 1 and 2. For the 2 scales there were no difference between the period 2 and 3.

Conclusion: The originality of this work was not to use a light intensity variation but a color light variation. We reached to show a improvement on sleep and behaviour.

A FAMILY-BASED DIABETES SELF-MANAGEMENT INTERVENTION FOR OLDER CHINESE ADULTS IN CHINA

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Purpose: This study explored the effects of a family-based self-management educational intervention on self-management in older adults with type 2 diabetes in Wuhan, China.

Methods: A quasi-experimental design with repeated measures was employed. Older Chinese patients with type 2 diabetes (N=57) and their family members were assigned to two groups. The intervention group (n₁=29) received a tailored 7 sessions educational intervention and the control group (n₂=28) received routine care in the community. Participants were recruited in the community health center in Wuhan, China. Data were collected at pre- and post-intervention, and at the end of 3-month follow-up. Descriptive analysis and repeated measures analysis of variance were used to analyze the data.

Results: Participants with type 2 diabetes in the intervention group showed significance in greater reductions in A1C, body mass index and waist circumference; and significant improvement in diabetes knowledge, diabetes self-efficacy, self-care activities, and health-related quality of life than those in the control group. Family members in the intervention group had significant improvements in diabetes knowledge and health-related quality of life.

Conclusions: The findings demonstrate that family-based diabetes self-management intervention incorporated self-efficacy theory may help family members support older Chinese adults with type 2 diabetes, modify their lifestyle, and perform self-care activities to improve A1C management.

DYADIC RELATIONSHIP IN HEALTH INTERVENTIONS: PERSPECTIVES OF HOME CARE AIDES AND THEIR OLDER CLIENTS

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Positive social relationships benefit the health of older adults. However, little is known about whether and how

dyadic relationship between the provider and the recipient of an intervention program influences health outcomes. To address this knowledge gap, this study examined whether physical activity intervention outcomes depend on the social relationship between older adults and their home care aides (HCAs) who implemented an in-home physical activity intervention for their older clients in a Medicaid-funded home care program. A total of 50 HCA-client pairs participated in the 4-month intervention in a metropolitan area in the United States. The intervention's primary outcome was clients' function, measured in difficulties and dependence in daily activities. Baseline dyad relationship was measured by 3 negatively phrased items: The client or HCA "Makes me feel frustrated", "Makes me feel angry or provoked", and "Is rude or insulting to me". Clients and HCAs rated each other separately. The relationship was positively rated by both parties in 70 percent of HCA-client pairs, and rated negatively by one or both of the parties in 30 percent of pairs. Mixed-effects analysis indicated that client outcomes significantly improved after the intervention ($p<.001$), controlling for clients' age, gender, education, marital status, living arrangement and health conditions. Dyadic relationship significantly moderated the rate of outcome improvement ($p<.0.05$), indicating improvement was observed only among HCA-client pairs whose baseline relationship was rated positively by both parties. Health interventions for older adults should pay attention to the role of dyadic relationship between intervention providers and recipients.

A MULTIFACTORIAL INTERVENTION FOR HIP FRACTURE PATIENTS WITH COGNITIVE IMPAIRMENT: PROTOCOL OF A RCT

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Fall related hip and pelvic fractures are among the injuries with the most serious consequences for the elderly population. The prognosis for functional recovery markedly worsens in the large subgroup of patients with cognitive impairment. So far, only a small number of clinical trials could show that cognitive impaired hip fracture patients can benefit in some extent from multidisciplinary rehabilitation programs by applying subgroup analyses. However, no specific home-based interventional approach has been designed for this specific target group so far. In the presented ongoing study (2015–2019; ISRCTN 69957256) we are evaluating a multifactorial intervention for hip or pelvic fracture patients with mild to moderate cognitive impairment and their family caregivers (if existing). The 4-month home-based intervention after geriatric rehabilitation comprises two components: (A) a supervised physical exercise training program and goal-setting on physical activity delivered by professionals and lay instructors, and (B) information about the care system, structured problem-solving, and case management are offered by a social worker for patients and their main caregivers. Primary outcomes of this randomized controlled trial are physical

activity and physical performance. Secondary outcomes are falls, fear of falling, depressive symptoms and quality of life. Endpoints are measured before discharge from rehabilitation, before intervention, post-intervention, and at 3-month follow-up. The intervention protocol and first experiences in implementing the study are presented and illustrated with case examples.

TRAINING WITH VIDEO GAMES: EFFECTS ON COGNITIVE AND NEURAL MEASURES OF ATTENTION AND MEMORY

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A major goal of aging research is to find out methods that help to maintaining cognitive and brain health in older adults. Cognitive training with non-action video games seems promising to maintaining and/or improving some cognitive functions. Previous longitudinal studies from our laboratory with trained and passive control participants suggest that the aging brain retains some plasticity and that non-action video training might be an effective intervention tool to improve some cognitive abilities, including processing speed, attention and memory. The current randomized controlled (RCT) study (ClinicalTrials.gov ID: NCT02796508) was designed to overcome some limitations of previous training studies by including an active control group and training expectancy and engagement evaluations. The objectives of this RCT were: (1) to investigate the behavioural and neural effects of training in tasks designed to assess attentional and working memory functions; and (2) to examine the durability of the possible transfer effects after 6 month non-contact period. Seventy-five older adults completed 16 forty-min training sessions over 10–12 weeks. Thirty participants (experimental group) played 10 selected games from *Lumosity* and 25 (active control group) played *The Sims*. Behavioral results showed that after training, both groups improved performance in visual n-back and spatial Corsi blocks working memory tasks and were less distracted in a cross-modal odd-ball task. In summary, these findings suggest certain behavioural improvements after training in both groups. Further analyses of the electrophysiological recordings will unveil possible changes in brain activity associated with changes in task performance after training.

THE COMPASS OF OLDER PEOPLE LEARNING: A MIXED METHODS STUDY OF HEALTH PROMOTION FOR OLDER PEOPLE

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Aim

To explore and better understand the current health promotion activities for Thai older people in relation to hypertension, and to provide the strategies and guidelines for the most effective health promotion for Thai older people.

Methods

The mixed methods research was conducted at the Primary Care Unit, Thailand and was comprised of a quantitative and qualitative study. The quantitative part involved document analysis of the available health education materials. The qualitative part examined the health care providers (HCPs)' perceptions of health promotion and the older people's learning experiences with hypertensive health education. The data for each part was collected in parallel and then analysed separately. The findings were merged to analyse the findings.

Results

The failure of health promotion for Thai elderly was obvious. The findings uncovered that the education provided to Thai elderly was not supportive of their learning capabilities, revealing a gap between the educational activities of HCPs and the elderly's learning outcomes. "The compass of older people learning" model is designed to guide the older people learning and to ensure effective health promotion. The four directions of the compass are: the practicalities, learning methods, facilitators and inhibitors of learning to optimise the health in Thai older people.

Conclusion

Effective health promotion guidelines for Thai older people need to be promoted because of their unique style of learning relating to ageing changes, and their learning culture.

EMPOWERING OLDER ADULTS WITH CHRONIC DISEASES: THE MHEALTH PROTOCOL AND FEASIBILITY TEST

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Although 89% of older Korean adults have at least one chronic disease, most self-management interventions are clinic-based, delivered through face-to-face education, and highly focused on disease information. This pilot study developed and tested a mHealth protocol to empower older adults to manage their chronic diseases at home.

Our mHealth protocol of health empowerment includes Phase 1: standardized mobile tablet training with guidebooks, demonstrations, and guided practice, Phase 2: standardized information for disease management retrieved from the Korean Center for Disease Control about a healthy diet, exercise, and individual diseases, Phase 3: training to use the high-quality mHealth apps for individual conditions, such as a blood pressure measuring tool, a glucose monitoring, and tracking logs, and Phase 4: encouragement to self-select mHealth apps based their individual needs.

A feasibility test was completed with 10 older adults living with one or more of the following diseases: cerebrovascular disease (2/10), ischemic heart disease (3/10), diabetes (5/10), and hypertension (6/10). Gender, educational level, and experience using smartphones influenced learning speed, confidence, and competence. The men required little or no time for Phase 1 while the women who preferred to continue Phase 3 were dependent on the interventionists. The attrition rate was only 20% due to time conflicts, emotional distress, and family discouragement. However, the

health empowerment score improved from 24 to 36 after the intervention ($p < 0.03$). At least 4 weeks with weekly meetings were required. A highly person-centered approach is required to meet individual needs for various types of multiple chronic-disease management.

ORAL HEALTH AND CANCER SCREENING IN NURSING HOMES: MOTIVATION AND OPPORTUNITY AS INTERVENTION TARGETS

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Background: Improving the oral health in the older adult population is a priority of the Healthy People 2020. Poor oral health is a risk factor for many diseases including oral cancer, which disproportionately affects older populations. An estimated 48,330 Americans will be newly diagnosed while 9,570 of all oral cancer patients will die in 2016. Paradoxically, nursing home populations are at the highest risk, yet least likely to receive relatively simple and low cost oral cancer screening procedures. **Methods:** The purpose of this NIDCR-funded pilot study was to use empirical methods to identify interventions that could eliminate barriers to oral hygiene and cancer screening in nursing homes. The Health Belief and COM-B Model provided the conceptual framework. A rigorous recruitment protocol yielded a purposive sample of nursing home administrators and directors who participated in nine discrete focus groups ($n = 34$). Qualitative analysis (NVivo) was used to identify conceptual themes related to potential intervention targets. **Findings:** Participants identified several impediments to oral hygiene and cancer screening. High barriers, low opportunities, and low motivation were themes identified as potential targets for intervention. Framed in the conceptual model, findings indicated that intervention strategies should target increasing oral health awareness to increase levels of perceived seriousness. **Conclusions and Implications:** Our findings provide formative data to support the development and testing of low-cost interventions using established behavior change theories. Interventions that increase awareness should target all nursing home staff involved in the oral health care of older adults.

HEALTH LITERACY SCREENING IN GERIATRIC PRIMARY CARE

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Health literacy is vital to understanding medical information and making subsequent decisions based on this information. Knowledge of patient health literacy may be particularly

important for care providers, as it can provide guidance on how to best communicate with the patient (Nouri & Rudd, 2015). Approximately 100 patients (mean age = 78; 72% female; 14% African American) attending an interdisciplinary geriatrics clinic in West Alabama have been recruited to take part in a variety of behavioral health screenings, such as evaluation of cognitive status and depression. One of the aims of this process was to provide more comprehensive health care to elderly adults by assessing both physical and mental health. It may be particularly important to monitor health literacy within this population, as several studies (eg, Kobayashi et al., 2015) have shown that health literacy decreases in older adults with mild cognitive impairment. In addition, low health literacy has previously been linked with both lower recognition of symptoms of depression and lower likelihood to seek mental health treatment in young adults (Kim et al., 2015). The current study assessed health literacy using a selection of eight questions developed by Chew, Bradley, and Boyko (2004). Health literacy was found to be significantly associated with cognitive status ($r = .34$, $p < .001$), depression ($r = -.26$, $p < .05$), and psychological inflexibility ($r = -.34$, $p < .05$). Based on these findings, knowledge of patient health literacy levels may have important mental and physical healthcare implications in elderly adults.

RESILIENCE BUILDING AND ENVIRONMENTAL MASTERY AMONG OLDER ADULTS WITH VISION LOSS

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Older adults with vision impairment tend to experience losses in Environmental Mastery (EM), a vital component of psychological well-being. Poorly informed about their eye condition and the services and devices that help maintain functioning, they slowly lose the ability to control their activities and environment. We tested the effects a Resilience Building Program (RBP) aimed at increasing concrete planning (CP) for future care needs among older adults with vision loss due to Age-Related Macular Degeneration. Participants aged 60–96 ($N=180$, 63% female, 96% White) were randomized to RBP or control. Both groups attended vision education classes and received large print resource binders. RBP participants received 4 weeks of in-home basic problem-solving and 4 weeks of future-oriented problem-solving training Controls received a friendly visitor. CP and EM were measured at: baseline, after classes, after 4 weeks of in-home visits, after conclusion of the program, after 6 months, and after 12 months.

In multi-level models, a linear and quadratic increase in CP and a linear, quadratic, and cubic curve for EM were detected. Controlling for gender and age, results suggested that the shape of the curve was different for the two treatment groups (GroupXQuadratic and GroupXCubic $p < .05$), but that the groups did not differ significantly in EM at 12 month followup. Adding concrete planning for future care as a time-varying covariate, however, showed that the increase in CP was positively associated with greater EM and improved the model fit ($\Delta\text{Chi-square} = 13.1, df=1$). Future analyses will directly test whether increases in concrete planning mediate maintenance of EM.

SESSION 3645 (POSTER)

HEALTH CARE AND HEALTH PROMOTION

THE FREQUENCY OF GOING OUTDOORS, PHYSICAL PERFORMANCE, AND HRQOL AMONG COMMUNITY-DWELLING ELDERLY

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The purpose of this study was to evaluate the differences in physical performance and health-related quality of life (HRQOL) between the frequency of going outdoors among community-dwelling older adults.

A cross-section of 139 community-dwelling people aged 65 and over was recruited to the study. Physical performance, HRQOL were compared among three groups defined by the frequency of going outdoors in a week: (1) almost once a day, (2) about once per 3–4 days, (3) about once a week. The measurements of physical performance included static and dynamic balance, maximum gait speed, strength. HRQOL was assessed using the SF-36 Health Status Survey. To examine the differences between the frequency of going outdoors and these factors, we used one-way ANOVA.

Firstly, compared with results between the groups, the lowest frequency of going outdoors was significantly lowered physical performance measures; one-leg standing time with eyes open ($p < .01$), timed up and go ($p < .01$), maximum gait speed ($p < .01$), grip strength ($p < .01$), and lower extremity muscle strength ($p < .05$). Secondly, in all the eight dimension of SF-36, the scores were significantly low in the lowest frequency of going outdoors, respectively ($p < .01$). There were no significant age and gender differences between three groups.

These results suggest that the frequency of going outdoors may be a useful indicator for frailty for physical function and HRQOL among community-dwelling older adults.

INTERGENERATIONAL COMMUNICATION ABOUT FAMILY HEALTH HISTORY: DIAGNOSES, CAUSES OF DEATH, AND RISK

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Family health history (FHH) provides health information that is essential for individual risk assessment and preventive care. Members of one generation confer both genetic and shared environmental risk to members of another generation. Diseases affecting grandparents, for instance, can influence risk of disease in their children (second generation) and grandchildren (third generation). However, collection of FHH by the younger generation from the older generation is often infrequent and incomplete. In this paper, we evaluate the extent to which FHH knowledge flows along communication ties in the family network. Specifically, we look at intergenerational consensus on the health status and cause-of-death of grandparents in 35 three-generation families ($n = 177$). We find that 30% of adult grandchildren indicate that they do not know their grandparent's health status with respect to diabetes and heart disease diagnoses, compared with only 11% of second generation members (parent). This pattern is however not explained by established pathways of

communication between generations. In contrast, both the parents and the adult grandchildren are more knowledgeable about deceased grandparents' cause of death (15% and 3% "don't know" responses, respectively). Similarly, we found a low level of consensus between parents and their children about grandparental health diagnoses (21%) and a relatively high level of consensus about cause-of-death of deceased grandparents (44%), likely reflecting the saliency of the loss of a grandparent. Our results suggest that salient family events may represent opportunities to activate intergenerational exchange of family health information.

ROLES OF NEIGHBORHOOD COHESION, DISCRIMINATION, AND OUTLOOK ON LIFE IN PREVENTATIVE HEALTHCARE

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Background: Contextual differences impacting African American (AA) and White older adults are critical to promote healthy aging. **Methods:** A secondary analysis of the Health and Retirement Study (2008–2014; $n = 2390$; 215 AAs and 2175 Whites) examined relationships between neighborhood factors, personal experiences, and preventative health service utilization (breast, cervical, and prostate cancer, cholesterol screening, flu shots). **Results:** Multivariate analyses indicated that AAs were less likely than Whites to report a completed breast (OR=1.79), cervical (OR=1.70) or prostate cancer (OR=1.67) preventative health screening in 2012. Among all women, worse treatment from physicians in 2008 predicted lower cancer screening utilization in 2012 (OR=1.25), while women reporting greater life satisfaction in 2008 were more likely to complete cancer screenings in 2012 (OR=1.10). Men were less likely to report completing a prostate cancer screening if they perceived poorer treatment from physicians in 2008 (OR=1.04) or were stopped unfairly by police (OR=1.52). Race differentiated men with regard to police contact. Police stops also predicted the odds of all participants eschewing cholesterol screening (OR=1.71). At baseline, all older adults were less likely to report: receiving flu shots (OR=1.10); feeling that someone would help them if in trouble (OR=1.11); receiving poorer service than others (OR=1.10); having important things to look forward to in life (OR=1.17); or enjoying making plans for the future (OR=1.10). **Conclusions:** Given the diversity of responses, the importance of viewing all older adults through multiple lenses is critical to health promotion programming.

THE VITALITYNAVIGATOR: A SELF-ASSESSMENT AND SELF-MANAGEMENT TOOL DESIGNED FOR OLDER PEOPLE

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The VitalityNavigator enables older people to assess their vitality and the presence of common (geriatric) health problems. The VitalityNavigator has therefore more modalities: it acts as a self-test for older people to test how fit they are compared to age and sex matched controls and provides a personalised set of factsheets with reliable information on their specific problems and health conditions. The VitalityNavigator is available as online self-test [www.ouder-enacademie.nl], and as free smartphone application. In total, 952 people completed the online self-test VitalityNavigator voluntarily, only by providing the tool on the website. A total of 321 participants (34%) were 70 years or older. Most common self-reported (geriatric) health problems by these older persons (70 years or older) were pain (48%), some trouble with walking (42%), memory complaints (28%), and limited acquaintances (18%). Response rate was higher at the beginning of the self-test (90–100%) compared to last questions (80–85%), this also corresponds with open text fields in which respondents valued the self-test as too long. The smartphone application of the VitalityNavigator is therefore already shortened. As results correspond with Dutch data of the older population, it seems the VitalityNavigator is a suited tool to assess self-reported common geriatric health conditions among older people. Further research will investigate how the VitalityNavigator and its information is used by older people and to what extent it influences the contact with healthcare professionals.

EARLY OUTCOMES OF FIT & STRONG! PLUS: NEW EXERCISE AND WEIGHT LOSS PROGRAM FOR OSTEOARTHRITIS

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Overweight older adults with osteoarthritis (OA) face high risk for disability; however, no evidence-based programs target PA and weight simultaneously. Fit & Strong! (F&S!) is an evidence-based PA program for persons with OA that improves lower extremity (LE) strength and mobility out to 18 months. We present findings from a trial of the new FS! Plus program that addresses PA and weight loss.

This comparative effectiveness trial is enrolling 400 participants (200 in F&S! and 200 in F&S! Plus). To date, enrollees (n=394) are 86% female, 92% African-American, obese (BMI=34.6), with a mean age of 67.9. Mean LE pain and stiffness scores are 5.9 and 3.2, mean Chair-Stands is 8.3 and mean 6-Minute Distance Walk is 1167 feet. The F&S! Plus group had fewer chronic conditions at baseline, but prevalence of common conditions by group was similar.

Preliminary findings on 292 participants with 2-, and 6-month outcomes revealed significant differences in change in BMI ($p<.001$), weight ($p<.001$), waist circumference ($p=.001$), LE pain ($p=.04$), LE stiffness ($p=.004$), LE physical function ($p=.002$), and 6-Minute Distance Walk ($p<.001$), all favoring FS! Plus at 2 months. At 6-months change in BMI ($p=.005$), weight ($p=.006$), waist circumference ($p=.004$), and LE physical function ($p=.02$) remained significant, favoring the treatment group. FFQ diet data show significant changes in total ($p=.006$), dark green ($p=.02$), and orange vegetable consumption ($p=.02$) at 2-months and total ($p=.002$) and dark green vegetables ($p=.002$) at 6-months, favoring F&S! Plus.

This presentation will review the trial design and baseline, 2, 6, and 12-month outcomes.

OLDER PEOPLE'S UNDERSTANDING OF AND RECEPTIVENESS TO ACTIVITIES TO PREVENT COGNITIVE DECLINE

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It is important for older people to engage in evidence-based behaviours to protect their cognitive function. Such behaviours include stimulating cognitive, physical, and social activity. This study assessed older Australians' understanding of the types of activities that are beneficial in the prevention of cognitive decline to inform future efforts to encourage appropriate prevention behaviours among seniors. The specific study objectives were to (1) gauge current levels of awareness of protective behaviours and (2) assess older people's motivation to participate in protective behaviours. As part of a larger research project on healthy ageing, interviews were conducted with more than 250 Australians aged 60+ years. Topics covered in the interviews included current participation in activities perceived to be protective of cognitive health and attitudes to a range of protective activities. Interviews were digitally audio-recorded, with the transcriptions subsequently imported into NVivo11 for coding and analysis. The interviewees were strongly motivated to protect their cognitive health but had limited understanding of effective activities. Most responses were limited to activities such as completing crosswords and playing Sudoku, card games, and other solitary brain exercises. These activities were generally perceived to be enjoyable, unlike physical activity that was often viewed as unpleasant. There was very little awareness of the protective benefits of physical activity and social interaction. The results indicate there is enormous potential to improve seniors' understanding of effective strategies to prevent cognitive decline. The interviewees favoured guidance from doctors and articles in newspapers as the most effective methods of conveying this information.

USING A STATE AGING SERVICES INFRASTRUCTURE TO PROMOTE PREVENTION GUIDELINES

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Supporting prevention behavior among older adults can be challenging because of conflicting media messages and the treatment focus of primary care. State aging services infrastructure can provide an innovative platform for supporting prevention and reaching large numbers of older adults. The University of Pittsburgh CDC Prevention Research Center partnered with the Pennsylvania APPRISE program to deliver the "10 Keys" to Healthy Aging™. APPRISE is a Medicare counseling program offered at senior centers; the "10 Keys" is a series of behavior activation workshops for adults aged 50+ that cover USPSTF and evidence-based recommendations for health promotion.

In 2013–16, 406 older adults (mean [sd] age 75.1 [8.7], 89% female, 5% non-White) completed the “10 Keys” and a pre- and post-test assessment of prevention knowledge. On a 14-point test, respondents’ knowledge increased from a mean of 8.1 [2.3] to 10.0 [2.3] correct ($p < .001$) after a mean interval of 30 days. Improvements in knowledge were seen in every domain except mammography. Participants who reported prevention behaviors (mammography, exercise, bone density tests) scored higher in prevention knowledge at baseline ($p < .01$), suggesting an association between knowledge and active prevention behavior.

In 2016–17 we are following APPRISE/”10 Keys” participants with repeated telephone assessments to determine if participation in the “10 Keys” program increases actionable prevention behavior.

THE RELATION BETWEEN PURPOSE IN LIFE, COGNITION, AND EXERCISE

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Maintaining a strong sense of purpose in life has been shown to decrease mortality and reduce the risk for disease. Greater purpose in life is also associated with a reduced risk of Alzheimer’s disease. It is unclear, however, if attitudes toward purpose in life are related to health behavior choices. To explore the relationship between purpose in life and health behavior choices, participants in the University of Kentucky Alzheimer’s Disease Center cohort ($N=492$), spanning the age and cognitive continuum, completed a ten-item Purpose in Life scale and questions about physical activity. We explored differences in purpose in life between those who were cognitively normal ($N=357$) and those who were impaired ($n=135$). Within each group, we explored whether purpose in life was associated with engagement in physical activity using standard descriptive and comparative statistics. Purpose in life scores were significantly higher in participants with normal cognition compared to participants who were cognitively impaired (mean 39.2 vs. 35.8, $p<.001$). Greater purpose in life was associated with more engagement in physical activity for both cognitively normal ($r=.193$, $p<.001$) and cognitively impaired individuals ($r=.244$, $p=.007$). These relationships remained significant even after including age in the analysis. The findings that purpose in life was associated with engagement in physical activity among both cognitively normal and cognitively impaired individuals, suggests that maintaining a sense of direction and goal directedness may not only play a role in psychological well-being, but may also influence health behavior and physical health as well.

RESILIENCE—WHAT IS IT? THE PERSPECTIVES OF RURAL THAI COMMUNITY NURSES TOWARD ELDERLY RESILIENCE

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This Ethnographic research study describes an understanding of the concept of ‘elderly resilience’ from the perspective of rural Thai community nurses. **Findings:** There was a distinct lack of understanding and hence promotion

of ‘Elderly resilience’ in the rural Thai communities where the data was collected. The perceptions of elderly resilience were therefore described indirectly through four positive responses elicited following adverse situations; the ability to live on their own legs, an ability to express their feelings, to value themselves and possessing religious beliefs. **Conclusion:** Knowledge of resilience as a concept is currently limited. A better understanding of elderly resilience is essential to improve the quality of care for the ageing.

THE BENEFITS OF RETAIL HEALTH CLINICS FOR AGING POPULATIONS

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Retail health clinics (RHC) offer a scope of services pertaining to minor acute conditions and preventive screenings. This emerging phenomenon advertises quick, convenient, and affordable care; therefore, the retail clinic industry has garnered considerable interest among stakeholders in the healthcare industry. This study presents a framework for understanding the RHC industry, its impact on the care continuum and emergency department (ED) overcrowding, and its value for elderly populations.

A systematic literature review was conducted using the online databases *ProQuest* and *PubMed*. Articles ($n = 38$) were retrieved that examined varying facets of the RHC industry.

Our study revealed that there is a rising affinity for RHC services among elderly populations. According to our findings, convenience and proximity to RHCs have been identified as leading factors of clinic use. Additionally, RHCs have received relatively high consumer satisfaction scores, and the quality of care in RHCs is comparable to alternative care settings.

The use of RHCs is increasing among elderly individuals, and this care model has the potential to act as a safety net for aging populations through their transitions of care. Moreover, RHCs may prevent unnecessary ED overcrowding by providing timely care for minor health conditions at low costs. Our findings identify the importance of RHC use and its potential to increase access to care for elderly individuals at lower costs, without compromising quality. RHC use is particularly important among community dwelling elders, family care providers, and healthier aging individuals who are seeking preventive care or treatment for minor illnesses.

THE IMPACT OF HEALTH LITERACY ON HEALTH OUTCOMES AMONG OLDER ADULTS

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Health literacy refers to the ability to obtain, process, and understand basic health information to make health decisions. The objectives of this study were to estimate the prevalence of low health literacy in an older adult population, identify characteristics associated with low HL, and describe the impact of low HL on healthcare utilization, expenditures, and satisfaction with care. Healthcare claims,

membership, and a modified version of the Consumer Assessment of Health Plan Survey (CAHPS) were used for Medicare beneficiaries with AARP® Medicare Supplement Insurance plans insured by UnitedHealthcare (for New York residents, UnitedHealthcare Insurance Company of New York). Descriptive statistics and multivariate modeling were used to evaluate those with adequate versus low HL. Sixty-four percent of those surveyed responded; among these, 16.8% indicated low HL. Lower HL was predicted by male gender, older age, more comorbidities, rural residence, and lower education. Low HL was also associated with poorer outcomes including more emergency room visits, inpatient hospitalizations, fewer flu vaccines, reduced satisfaction with providers, health plans, and overall health care, and lower compliance with evidence-based measures (EBMs). Those with low HL incurred \$3,892 more in annual health expenditures than those demonstrating adequate HL. Low HL is common among older adults, increases healthcare utilization and expenditures, and negatively impacts satisfaction and compliance with EBMs.

SIMULATION: COMPANION CLINICAL PRACTICE FOR BACHELOR OF NURSING STUDENT LEARNING IN RESIDENTIAL CARE

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Nursing students learn in a variety of clinical settings including residential care. Faculties of Nursing administrators and educators understand the need for face to face student learning with older adults, and recognize potential consequences such as development or reinforcement of negative perceptions related to older adults. One strategy we intend to implement in the second year of the Bachelor of Nursing program at the Faculty of Nursing University of Calgary Canada is the use of simulation to improve student learning and attitudes toward older adults. We conducted a literature review to introduce simulation as a companion learning strategy to face to face practice in residential care settings. The purpose of the review was to identify what is known regarding the use of simulation to counter ageism that may be held by nursing students regarding older adults living in residential care. Our CINAHL, Medline (Ovid), and Google Scholar search using key words: 'Nursing Education', 'Simulation', and 'Older Adult' produced 26 articles. Five of the 26 met our inclusion criteria. Our analysis revealed: 1) undergraduate nursing students regard clinical simulation as a positive way to enhance their clinical experiences with older adults; and 2) due to limited evidence more research is required to understand if using simulation will improve student perceptions of older adults when learning and working in residential care. The presentation will outline findings from the literature review and include recommendations related to use of simulation in bachelor of nursing programs with a specific focus on caring for older adults.

SUBJECTIVE MEMORY, MUSCLE STRENGTH, AND SELF-PERCEIVED HEALTH AMONG COMMUNITY-DWELLING OLDER ADULTS

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Although there are many studies on the relationship between physical fitness and self-perceived health among older adults, few studies have identified whether physical fitness affects self-perceived health through subjective perception of memory (whether a mediation exists), and whether the relationship between physical fitness and self-perceived health depends on regular exercise (whether it is moderated by exercise). The purpose of this study was to explore the mediating effects of subjective memory perception and moderating effect of regular exercise on the relationship between physical fitness and self-perceived health among community-dwelling older adults. A cross-sectional, correlational design was used and participants were 236 community-dwelling older adults. The instruments were Hand Grip Strength Test, Subjective Memory Perception Scale, and Self-Perceived Health Status. Results showed that there was evidence of a significant mediating effect of subjective perception of memory on the relationship between muscle strength and self-perceived health (effect= .0003, $p<.05$), indicating that there was a significant indirect effect of physical fitness on perceived health through subjective memory perception. Findings, also, showed that regular exercise did moderate the relationship between muscle strength and self-perceived health for older adults, denoting that there was a significant positive relationship between muscle strength and perceived health, when regular exercise is performed. The findings have implications for intervention strategies for older adults, and suggest the need to develop cognitive strategies and cognitive context for keeping regular exercise and better self-perceived health.

SESSION 3650 (POSTER)

HIV

FRENCH NURSING HOMES: IS THERE PLACE FOR THE AGING HIV POPULATION?

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Introduction: Since availability of potent antiretroviral therapy, number of people ageing with HIV is increasing. They are expected to have close to normal lifespans and about half of these subjects are over 50 in 2015.

Objective: The aim of this study is to determine if French nursing homes have planned to receive this emergent HIV population and have an adequate information on HIV infection, the treatment and specific care.

Methods: A survey focusing on reasons of acceptance/non acceptance of HIV patients and level of knowledge of HIV infection management and treatment was sent to nursing homes located in the Pays de La Loire area. This survey was followed by a phone call of administrative director, in charge of agreement for resident admission following or not medical director advice.

Results: Among the 25 participating nursing homes, only 1 center (4%) was prepared for HIV resident admission. Public nursing homes were more likely to accept HIV residents, and one public nursing home who had already accepted one resident agreed to accept more HIV residents. The main reasons to refuse admission were the risk of contamination, a poor knowledge of the HIV infection, its management and its treatment and costs of antiretrovirals.

Conclusion: In France nursing homes are not yet prepared to welcome the rising aging HIV population. Nursing home staff as well as nursing home physicians must be quickly informed and trained on care, management of specific medical conditions and antiretroviral treatments. Furthermore financial constraints remain a major issue.

A QUALITATIVE ANALYSIS OF INPATIENT GERIATRIC CONSULTS IN THE AGING HIV POPULATION

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In the United States, adults over age fifty comprise half of the entire HIV population. They have significantly higher rates of co-morbidities and experience ART-related side effects. We piloted an inpatient geriatric consult service to address geriatric syndromes in hospitalized older HIV patients.

Methods: Inclusion criteria – patients fifty-five years old and above with HIV admitted to an urban academic medical center. A geriatric assessment was performed by a board certified geriatrician. Validated screening tools were used to assess geriatric syndromes. Open ended questions were asked to allow patients to express any concerns.

Results: Nine patients were identified with a mean age of sixty-five. All patients were agreeable to a geriatric evaluation. Three patients were admitted for neurological disorders, two were admitted for metabolic disturbances, two were admitted for acute pain syndromes, one was admitted for an endocrine disorder and one was admitted for a gastrointestinal disorder. Seven out of nine patients (78%) expressed a decrease in functional status and weakness, six out of nine (67%) were found to have cognitive impairment. Three out of nine (33%) addressed goals of care, three out of nine (33%) had uncontrolled pain and three out of nine (33%) wanted to discuss community services upon discharge.

Conclusion: Our study suggests older HIV patients are receptive to an inpatient geriatric assessment. Major concerns included functional decline and cognitive impairment. Further research is needed to better explore geriatric syndromes, themes of concern and attitudes on aging amongst older HIV patients in an acute care setting.

POLYPHARMACY AND ANTIRETROVIRAL THERAPY IN THE AGING HIV-INFECTED POPULATION: A NEW CHALLENGE

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Introduction: Potent and well tolerated highly active antiretroviral therapies (HAART) have increased life expectancy of HIV population with 50% of the patients over 50 years in 2015. Comorbidities and polypharmacy have been associated with increasing age, increasing risk of adverse drug reactions (ADR), increased hospitalization rates, adherence issues, misuse and drug-drug interactions.

Objective: To evaluate and describe the toxicity associated with HAART in the elderly population.

Methods: All ADR associated with a suspected HAART in the elderly population (65- year-old patients or over) were collected on the French Pharmacovigilance Database from 01/01/2005 to 12/31/2015. After sorting the data according to System Organ Class, the rate of ADR was calculated. Severity, outcome, patient characteristics and comorbidities were also collected.

Results: 319 notifications with ADR were reviewed, among them 159 were serious. The median age was 68 years (range 65–107) with 26% women. Most frequent clinical side effects were skin and subcutaneous tissue disorders (n=77-15.3%), renal and urinary disorders (n=77-15.3%) and gastrointestinal disorders (n=56-11.1%). Nucleoside (or nucleotidic) Reverse Transcriptase Inhibitor- and Protease Inhibitor-including regimens were the most frequent suspected regimens associated with ADRs. Opportunistic infections and comorbidities such as hypertension, diabetes, hyperlipidemia were mainly identified, with 6 or more concomitant medications notified in this context.

Conclusion: This investigation provides a background for subsequent management and understanding of how to optimize the care of these patients that have an increased risk of polypharmacy with medical treatments associated with chronic diseases added to HAART.

POLYPHARMACY AMONG OUTPATIENT HIV-POSITIVE OLDER ADULTS ON ANTI-RETROVIRAL THERAPY IN UGANDA

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Polypharmacy is common among HIV positive older adults on combination Anti-retroviral therapy (cART) compared to younger people in developed countries. The aim of this study was to determine the prevalence, risk factors and adverse effects associated with polypharmacy among the ambulatory older adults on cART in an urban HIV clinic in Uganda. A cross-sectional study was conducted for 5 months in 2015. Systematic random sampling was used to enroll 411 participants aged ≥50 years on cART. Polypharmacy was defined as taking ≥ 4 different non HIV drugs. Data was

collected on socio-demographics (age, sex, household, level of education, BMI, marital status and source of income), previous hospitalisations, prescribing cadre, comorbidities, mini-mental status exam, Karnofsky performance status, frailty index, and potential adverse events of medications (falls, medication side effects). Prevalence of polypharmacy was 15.3%. In multivariate logistic regression analysis, significant correlates of polypharmacy were age ≥ 65 years (OR 2.7 (95% C.I. 1.2, 5.9) and frailty index score of ≥ 5 (OR 9.7 (95% C.I. 1.3-, 76). Participants with rented residences were less likely to have polypharmacy (OR 0.3 (95% C.I. 0.1, 0.97). Falls in past one year were more frequent in the polypharmacy group (21% vs 13%, $p = 0.09$). Potential drug related adverse effects were more common in the Polypharmacy group (25% vs 11% $p < 0.05$). Polypharmacy is common among an older ambulatory HIV positive clinic population in Uganda. More research is required to determine the benefit or harms of polypharmacy in sub-Saharan Africa among HIV positive older adults.

FRAILITY IN OLDER ADULTS (>50 YEARS) LIVING WITH HUMAN IMMUNODEFICIENCY VIRUS (HIV). A CARE PROPOSAL

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The aim of the proposed study is to estimate the period prevalence of frailty using two different approaches in a cohort of HIV patients engaged in care at the Southern Alberta Clinic. This population differs from previous studies of frailty in HIV by the inclusion of a broad and heterogeneous patient population. Another novel element will be the use of a second frailty measure, the Clinical Frailty Scale, which is widely used in care settings. Patients will be grouped by sex and age intervals (50–54, 55–59, 60–64, 65–69 and over 70 years) in order to determine the age-related period prevalence of frailty within the clinic population and to identify potential predictive variables for the development of frailty in PLWHA, such as age, sex, duration of known HIV infection, presence or absence of AIDS, specific age-related co-morbidity, multi-morbidity (defined as 2 or more of these co morbidities), nadir CD4 count, duration of unsuppressed viremia and exposure to both antiviral therapy (ART) and individual agents. This data is routinely collected as part of care and is readily available through the SAC database. The period prevalence of frailty in the study population will be compared to published data on similarly aged populations as well as in older populations (e.g., older adults in the Canadian Study of Health and Aging).

By the time of the International Association of Gerontology and Geriatrics 21st World Congress, in 2017, our study group anticipates having preliminary results from our study, including period prevalence of frailty, using two different frailty scales, as well as preliminary evaluation of potential risk factors for frailty,

Potential long-term implications of this research project range from better care of aging PLWHA to improved planning for future clinic and societal resources to deal with the needs of HIV-infected patients.

SESSION 3655 (POSTER)

INTERGENERATIONAL PROCESSES

OFFSPRINGS' OBLIGATION AND APPRAISALS OF SUPPORT TO PARENTS: IMPLICATIONS FOR PARENTAL DEPRESSION

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Adult offspring is the main source of support for their older parents. Offspring may feel obligated to help their parents, and a sense of obligation further triggers another feeling regarding helping parents (e.g., stress, rewards). Literature has focused on offspring's support to their older parents (actual support and the appraisals) and the impact on their own well-being. However, whether offspring's support and the appraisals are associated with parental well-being is less frequently discussed. This study examined offspring's sense of obligation, support to older parents, feelings of stress and reward, and parental depression. Middle-aged offspring ($n = 190$; 60% women; mean age = 54.68) and their older parents ($n = 221$; 72% women; mean age = 80.17) were included from the Family Exchanges Study 2 (FES2). Path models through structural equation modeling indicated that adult offspring's stronger sense of obligation was associated with less stressful and more rewarding feelings in helping older parents. Furthermore, offspring's lower stress was associated with less parental depression. Consistent with other interpersonal contexts, the manner in which the support is delivered appeared to be crucial to support receivers' outcomes. Adult offspring's feelings of stress and reward when helping their parents not only impacted their own health, but also were associated with their parents' well-being.

LOOK AT ME: MEETING OF GENERATIONS MEDIATED BY WRITING LETTERS

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This study analyzed the benefits of an exchange of letters between different generations, investigating how the act of writing about events of everyday life may be associated with a better self perception of the participants. The research analyzed the participation of eight pairs, each one consisting of a student from the 4th or 5th year of a Primary School aged between 9 and 11 years, and an elderly, over 60 years of age, in 2011 and 2012. A qualitative research was made with letters and questionnaires used as instruments and considered from the perspective of content analysis focused on meanings, and this strategy was methodologically complemented by participant observation. This experience produced positive psychological effects for its participants, both immediate and remote, by contributing to the expansion of the view about the world and themselves. For the elderly, expanding the memory of significant experiences, associated with written records and the possibility of using them in moments of weakness, produced psychological benefits that were observed by the researchers. The experience of living positive emotions brought comfort to the aging process because

it attenuated the perception of social exclusion and loneliness, by reviving the feeling of usefulness and social inclusion, by providing a real life experience and by meeting the needs of this phase of life. The possibility of self-expression also favored the maturation and psychosocial development of children, as the correspondence produced an interlocutor that listened carefully and sought to understand the demands that are specific to childhood.

EXPANDING THE VIEW OF MUTUAL BENEFIT TO SUSTAIN INTERGENERATIONAL PROGRAMS

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Using content analysis, we identified themes in data collected via small focus groups and individual interviews with staff and administrators (N=30) from six sites where child-care centers partnered with adult day services, senior center, and elder volunteer programs. As a USDA CYFAR Sustainable Community Project, emergent themes addressed the impact of intergenerational programming on children, elders, families, and staff as well as issues of sustainability. Resources provided by the project, primarily training on best intergenerational practices, were evaluated as contributing to sustainability. Collaborative partnerships that included Extension Educators, also contributed to sustainability. Sites identified different barriers to intergenerational programming, reflecting their financial resources, diverse partners, and buy-in of program stakeholders. Investigators interpret interviewees' responses, conducted over the 5-year project, as reflecting the unique contexts of each program. For example, the longest running intergenerational program was challenged by staff buy-in, which evidenced itself in observations of participants and staff. In contrast, the newest program achieved early buy-in and had AAA and Head Start resources to support their efforts. Findings bolster previous research indicating that effective intergenerational programs must benefit all stakeholders - not just the youth and elder participants. Taking a participatory approach that involves staff, administrators, and participants promotes mutual benefit with program nimbleness. Support from Extension professionals facilitates stronger, denser network connections for partners to draw upon.

GENDERED ALLOCATION OF SUPPORT FOR AGING PARENTS AND PARENTS-IN-LAW IN TAIWAN

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Adult offspring is the main source of support for their older parents. With the aging population increasing worldwide, how married adults allocate their limited resources to their parents and parents-in-law is becoming a major challenge. Based on the U.S. literature, married women tend to provide more support to their own parents than to their parents-in-law. Men follow their wives and help parents-in-law more than their own parents. In contrast, in the Taiwanese traditional culture, married women should allocate resources to parents-in-law rather than to their own parents; married men are not responsible for helping parents-in-law. However, little is known about whether married adults in Taiwan actually follow the traditional support allocation. This study examined married adult offspring's allocation of financial and practical support based on the 2011

Taiwan Social Change Survey. Married adults with at least one parent and parent-in-law living were included ($n = 535$; 48% women; mean age = 47.25). Multilevel models indicated that women allocated more frequent practical support for parents-in-law than for their parents, and gave the same level of financial support to both parents and parents-in-law. Men gave both practical and financial support more frequently to their parents than to parents-in-law. In general, these findings fitted the Taiwanese traditional expectation of support allocation, especially for men. Although women still fulfill their obligation to help parents-in-law, they may be more inclined to help their own parents due to their increased participation in the labor force. Implications on policy and gender roles in Taiwan are also discussed.

GRANDPARENTS RAISING GRANDCHILDREN SELF-CARE PRACTICES: THE GRANDCARES PROJECT

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Globally, it is well known that grandparents often serve their families by providing instrumental and emotional support. Grandparents may also assume the role of "surrogate parent" or raise grandchildren when the middle generation is unavailable. When grandparents assume the primary caregiving role of their grandchildren, they often experience decreases in their physical and mental health. One aspect of health and well-being that is critical to maintaining and improving optimal health in later life is self-care. Self-care focuses on personal health maintenance and includes positive lifestyle practices. Despite the self-care literature being rooted in the medical field with more than 25,000 articles on the topic, empirical research addressing grandparents' raising grandchildren self-care practices, however, is minimal. Furthermore, although chronic disease self-management interventions are well known, until recently, no program directly targets self-care practices of grandparents. As a result, we utilized methods in community-based participatory research (CBPR), which is often used to identify and meet the needs of at-risk populations, to develop and implement The GRANDcares Project. This presentation will extend the literature on CBPR principles by describing our collaborative working relationships with local and state agencies, including two statewide Extension systems, serving grandparent caregivers. We also will address our research objectives and outcomes related to improving grandparents' self-care. Finally, we will address the theoretical background of CBPR, the challenges and benefits of using CBPR as a recruitment and retention strategy, and suggest guidelines for using this method to support self-care practices of grandparent caregivers in both the United States and abroad.

APPLICATION OF INTERGROUP CONTACT THEORY TO MANAGING AGE-DIVERSE TEAMS

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The outcomes of different generations working together can be mixed. Previous literature has taken a pessimistic view, addressing conflict and social categorization among

generations. Alternatively, we consider an optimistic view, using contact theory to explore employees' perspective on the different career stages as they relate to team effectiveness. Allport identified necessary conditions for positive intergroup contact. Data from the Age and Generations Study were analyzed using Hayes' indirect macro analysis technique, which enables researchers to test multiple mediators in the same model. We examined the mediating effect of attitudes toward different career stages on the direct relationship between supervisor support and team effectiveness and between team inclusion and team effectiveness. Of 1,572 participants, 60.4% were female and the mean age was 50.30 years ($SD=12.10$). Results achieved significant mediation models with supervisor support and team inclusion accounting for respectively, 44.3% and 52.7% of the adjusted variance. The total and direct effects of supervisor support on team effectiveness are 0.50, $p < .001$, and 0.43, $p < .001$, respectively. Additionally, the total and direct effects of team inclusion on team effectiveness are 0.55, $p < .001$, and 0.50, $p < .001$, respectively. Our findings reflect the value of contact theory tenets of authority support and cooperation towards a common goal in supporting successful outcomes of diverse team. Future efforts should explore strategies to optimize supervisor support and enhance team engagement. Improving attitudes toward the out group in age-diverse teams may be key to reducing potential conflict in age-diverse workplaces.

THE EFFECTS OF AN INTERGENERATIONAL SERVICE LEARNING EXPERIENCE ON AGEIST ATTITUDES

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Intergenerational service learning programs address ageist attitudes by bolstering empathetic intergenerational relationships, creating a comprehensive, realistic view of aging, and fostering positive attitudes towards older adults. We examined learning outcomes for undergraduate students enrolled in: 1) an experiential, 2) didactic aging content, and 3) introductory psychology courses. Students completed pre- and post- surveys measuring empathy and attitudes toward older adults and persons with dementia (PWD) and community service. Students enrolled in the experiential course exhibited improved attitudes towards PWD, Wilks' $\lambda = 0.952$, $F(2,355) = 8.98$, $p < .0001$ ($M = 14.25$, $SD = .36$) relative to students in psychology of aging ($M = 12.59$, $SD = .17$) or PY 101 ($M = 11.87$, $SD = .12$). Moreover, attitudes towards community service were improved for students enrolled in the experiential course, Wilks' $\lambda = .502$, $F(2, 356) = 176.436$, $p = .000$ ($M = 27.71$, $SD = .41$) relative to students in psychology of aging ($M = 25.29$, $SD = .19$) or PY 101 ($M = 22.160$, $SD = .13$). Finally, students in the experiential course showed greater increases in empathy, Wilks' $\lambda = .856$, $F(2, 345) = 29.058$, $p = .000$ ($M = 47.52$, $SD = .75$) relative to students in psychology of aging ($M = 44.10$, $SD = .34$) or PY 101 ($M = 41.52$, $SD = .22$). Intergenerational service learning courses may offer a sustainable avenue for delivery of interventions to PWD in the community and facilitate entry of students into professions in geriatrics and gerontology.

WE WILL NOT BE MOVED: ELDERLY PERSONS' RESILIENCE IN FRONTIER LOCATIONS IN OPERATION PROTECTIVE EDGE

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The unique ways of coping of elderly people during times of threat are examined here. The population were elderly Israelis who chose to remain in their frontier-location homes during Operation Protective Edge in the summer of 2014. Three semi-structured focus groups were held in three different locations, in September and October, 2014. Each three-hour group discussion included introductions and a conversation about the war and coping with it. An open question invited participants to tell their personal story of the operation. Content-categorical analysis of the transcripts yielded four main themes: (1) Together – ethical theme: individual vs. collective, worry about oneself vs. worrying about others; (2) I'm not afraid – emotional theme: expressing emotions that vacillated between lack of fear to fear, loneliness, failure, desertion vs. courage, uncertainly, anger and disappointment with the state and the army, pain, and bad conscious; (3) Glad the kids left – intergenerational theme: different generational perspectives of the operation and means of coping, and issues of continuity and faith in the ways of the kibbutz/community vs. the possibility of leaving; (4) We will not be moved – personal and communal resilience theme, personal vs. communal responsibility. The many elderly residents who remained at home during the operation raised personal, familial, ethical, and communal issues and dilemmas, which can be explained by (1) the developmental stage of the elderly people, (2) processes of change in the kibbutz/community, and (3) different coping patterns resulting from generational differences.

THE ACTUAL AND EXPECTED AVAILABILITY OF INFORMAL CARE: CHILDLESS ELDERLY PEOPLE AND PARENTS

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As people get older, they face the question of who will provide them with care if they ever need it. Current estimates indicate that approximately 87% of Americans who receive long-term care receive it from informal caregivers. However, the supply of family caregivers is unlikely to keep pace with future demand, and increasing childlessness rates represent an additional challenge. Using data from the HRS, the present study analyzes how childlessness affects the probability that disabled individuals receive informal care, and nondisabled individuals anticipate future informal care. In contrast to most previous research, the childless are not treated as an homogeneous group; different types of and pathways to childlessness are distinguished. In general, the results do not hold up the claim that in the US non-parents face significant support deficits in old age. The probability of receiving support is substantially lower only for those who survived their children, whereas the weak negative effect observed for those who never had natural nor step-children is not statistically significant. Compared to natural parents, step-parents receive more support from their partners but get less help from their children. The analysis of support expectations

reveals that parents as well as childless people tend to overestimate the availability of informal care in case of need.

INTERGENERATIONAL KNOWLEDGE TRANSFER: ANTECEDENTS OF A DYADIC PROCESS

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The aging of skilled workforces is a major challenge for organizations. In light of the massive wave of retirements of members of the baby boomer generation, the retention of valuable organizational knowledge from older and retiring workers has been identified as an urgent need. In this study, we integrate socio-emotional selectivity theory and the theory of psychosocial development to explain how individual characteristics of older and younger employees influence the intergenerational knowledge transfer process. We propose a moderated mediation model: First, we hypothesize that older employees' focus on generativity and younger employees' focus on extrinsic growth values predict their knowledge sharing and receiving behavior. Second, we propose that the effects of work values on knowledge sharing and receiving behavior are mediated by employees' willingness to engage in intergenerational knowledge transfer. Third, we argue that the indirect effects of work values on knowledge sharing and receiving behavior are moderated by age-diversity climate, such that if age-diversity climate is more pronounced, the proposed relationships are stronger. We collected multi-source, time-lagged data from 80 intergenerational knowledge transfer dyads (i.e., older and younger employees), who were based in four German companies that operate in the financial services industry. We found support for most of our propositions. The study contributes to research on aging workforces and intergenerational interactions at the workplace by showing that the individual characteristics of both older and younger employees influence knowledge retention. Further, the study shows that contextual variables can influence intergenerational knowledge transfer processes.

DOES CHINA'S NEW RURAL PENSION SCHEME CROWD OUT PRIVATE TRANSFERS? EVIDENCE FROM CHARLS

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Objectives. China has recently started a major effort to bring old-age pension coverage to rural China. If private transfers are crowded out by public transfers, expansions in public social security will be less effective in terms of improving older people's economic well-being. This study investigated the relationship between pension and intergenerational monetary transfers older parents received in rural China.

Methods. Data for this investigation derived from the China Health and Retirement Longitudinal Study (CHARLS) national followup conducted in 2013. The total sample size was 17,705 individuals in 10,257 households. To see if nonlinear effects occur, a semiparametric method was applied to identify the nonparametric responsiveness of intergenerational transfers to recipients' pension income while still taking account of the (linear) covariates affects such responsiveness.

Results. Crowding-out was not an important feature of transfer behavior in rural China, but crowding-in was. We

found there was initially a negligible negative relationship between transfer received and pension for elderly at low pension income level. The correlation became significantly positive for older parents at median and high pension income level.

Discussion. The results suggest that expansions in public transfers appear not to shrink private transfers, and, in rural China, may actually strengthen intergenerational transfers for older adults. This finding is consistent with an exchange-based motive for transfers. At the same time, it does not necessarily deny altruism among children and may imply a complementary effect upon children's transfers.

THE ROLE OF SOCIAL SUPPORT IN CUSTODIAL GRANDPARENTS' DEPRESSION

Y. Lee, *SUNY-Binghamton University, Binghamton, New York*

Grandparents raising grandchildren struggle with high caregiving stress that negatively influences the older adults' well-being. Surveys with 70 custodial grandparents were conducted in 2015–16 focusing on understanding needs of grandparent-headed families and factors related to grandparents' mental health status. Majority of the sample (73%) was non-Hispanic white and the mean age was 63 years old (range: 45–79). Sixty seven percent of the grandparents reported a household income below \$40,000 and 38% of them were raising more than one grandchild. The mean length of the caregiving was 6.7 years. Almost half of the grandparents rated their health as poor or fair, and one third of the grandparents reported a risk of clinical depression. Half of the grandparents reported five or more concerns in raising the child (i.e., finance and legal issues, health of a grandparent and a grandchild, and a grandchild(ren)'s education, etc.). Half of the grandparents disclosed some challenges in working with their grandchild(ren)'s school. Multiple regression analysis was ran to examine the contributions of age, ethnicity, income, number of grandchildren, duration of care, needs related to caregiving and grandchild's school, and social support in accounting for grandparents' depression. With all predictors in the equation, the model accounted for 28.8% of the variance in the grandparents' depression ($R^2=.288$; adjusted $R^2=.182$). Among the predictors, social support was the only significant predictor of the grandparents' depression ($\beta=-.354$, $p=.008$). The result suggests the importance of development of programs strengthening grandparents' social support systems to promote the caregivers' well-being.

SESSION 3660 (POSTER)

INTERVENTIONS, POLICY, FINANCING AND POLITICAL ISSUES

BUILDING CONNECTIONS BETWEEN ELDER LAW AND GERONTOLOGY

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Over the past several decades, elder law has emerged as an important legal specialty. Lawyers, clients, and, law schools are increasingly recognizing the value of the field and its practical and intellectual rigor. Despite this development,

however, elder law remains at the periphery of the study of aging and has yet to be meaningfully integrated into the larger field of gerontology.

This lack of integration is unfortunate for two primary reasons. First, elder law practice would benefit from being informed by the larger study of aging. Second, an understanding of elder law is integral to understanding of the experience of growing older.

To investigate the current relationship between elder law and gerontology and opportunities for (and barriers to) connecting the fields, we conducted structured interviews with 27 leading professors of gerontology and elder law in the United States, Canada, and the United Kingdom. Interviews were designed to: 1) identify existing attitudes toward elder law among those working in the field of gerontology, and existing attitudes toward gerontology among those working in the field of elder law; 2) identify opportunities for, and barriers to, connecting teaching and scholarship in the two fields.

In this session, we will present our findings related to existing and potential connections between the fields of gerontology and elder law in scholarship and participant suggestions for improving the connection between the fields. Based on these findings, we will then help participants identify steps they might take to connect and integrate the two fields in their scholarship and teaching.

HUMAN RIGHTS AND DEMENTIA: ARE FAMILY CAREGIVERS LIABLE FOR DAMAGES?

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This report analyzes a 2016 Japanese Supreme Court case involving family caregivers' liability for damages caused by a dementia sufferer who found his way into a railway and died. This analysis is important because it considers the right of persons with disabilities to live in the community, as stated in Article 19 of the Convention on the Rights of Persons with Disabilities. The Court absolved the wife and son of the deceased, who needed long-term care, of liability, and defined four criteria for finding someone liable for damages: (a) caregivers' living, mental, and physical conditions; (b) the actual condition of caregivers' involvement with persons with mental disabilities; (c) the nature and incidence of the problematic behaviors of persons with mental disabilities; and (d) the actual situation of supervision and care. Criterion (b) can cause families to give up home care, leading to early institutionalization and often making care facilities liable for damages. Consequently, care facilities might limit such patients' freedom of movement and supervise them strictly. Furthermore, there have been many mentions of judges having little awareness of the human rights of persons with dementia and how they are actually cared for. Although the judgment focused only on caregivers' liability, it should have also pursued the railway company's failure to ensure public safety. The Court did, however, present its views on social health care and took the family into account: if these criteria are applied appropriately, the human rights of both dementia sufferers and their families will be protected.

ELDERLY WELL CARE PROJECT: AN INTEGRATIVE CARE MODEL AND POLICY IN BRAZIL

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Living longer is a reality in Brazil - and will be even more in the coming years. The increase in life expectancy must go hand-in-hand with autonomy and good health. This is a burning issue: today, older people represents 11% of Brazilians and it is expected to reach 30% by 2050. The country needs to come to the fore on providing a higher quality medical care and a safer health care environment for the elderly. Brazilian Federal Regulatory Agency for Health Insurance (ANS) initiated the Project Elderly Well Care, which proposes redesign healthcare delivery, with new arrangements in financing and alternative reimbursement models. The model is patient-centered and the two pillars are: (a) improving the quality and coordination of care along all the healthcare chain, and b) avoiding redundancy tests and prescriptions, as well interruptions in the patient path. In this model, the hospital and the emergency take on new places in the health network, being reserved for times of acuteness of chronic diseases or playing a role of care organizers. The integration of care is enhanced through the figure of the "navigator". With regard to healthcare payments models, the Project encourages alternative models based mostly on fixed payments and financial incentive according to providers performance, inspired by the American model of Accountable Care Organizations. The Project has now 75 participants in the implementation phase, hospitals, clinics, emergencies and other providers that are trying to change how they deliver healthcare for older people in private health insurance marketplace in Brazil.

WHAT IS AN ERROR IN NURSING CARE? NEGATIVE KNOWLEDGE IN NURSES' PERCEPTIONS

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Globally, the prevention of errors constitutes a framework of growing importance for analyzing and optimizing the work of health professionals. Nurses working close to persons dependent on care and therapy hold major potentials to discover errors in treatment and care, to prevent harm, but also to cause errors. Medication errors have dominated the research. In addition, reporting systems and the observation of underreporting have also been the subject of research. Very little research has been done to explore definitions and concepts of nursing errors in nurses' perceptions. Such "negative knowledge" represents the flip side of professional knowledge. The analysis of definitions and concepts of nursing errors (1) promotes a better understanding of professional attitudes, beliefs and knowledge of nurses. It (2) supports the compilation of nurse-sensitive questionnaires and (3) should be taken into consideration when introducing reporting systems and other organizational innovations in order to prevent errors.

Against this background, examples of errors and classifications of errors will be presented in this contribution on the basis of in-depth, ethnographic interviews with nurses (n=8) working in nursing homes. The results will be contrasted with narratives of nurses working in hospitals and their evaluation of errors (n=10) in order to explore field-specific concepts. The interviews were audiotaped and analyzed with Atlas.ti by a research team. Eight code families had been obtained representing error classifications.

The results indicate that it might be beneficial to put more emphasis on nurses' perceptions when it comes to organizational innovations aiming for residents' safety.

THE STRUCTURE OF THE TRANSDISCIPLINARY APPROACHES BY CARE MANAGERS IN JAPAN

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In Japan's Long-term Care Insurance System, importance is given to medical and care team approaches as part of care management.

This study aimed to clarify the structure of Transdisciplinary approaches (TA) coordinated by care managers (CM), and performed through collaboration among team members, including home care service coordinators (HC) belonging to home-visit care aging and home-visiting nursing (HN) in long-term care insurance system in Japan.

Using the database Wamnet, 800 CM registered with this system and located in randomly selected prefectures were targeted as potential study facilities. A mail questionnaire survey was conducted, involving an CM of each potential study facility within the period between March 20 and April 20, 2015. Excluding missing values, responses from 202 (valid response rate: 25.2%) were analyzed. For 45 TA-related items, The research design factor analysis was the exploratory and confirmatory factor analysis about TA. The reliability of each item was examined using Cronbach's alpha.

Through the exploratory analysis, the following 3 factors were extracted: 1: approaches that support and strengthen of role ($\alpha=0.950$), 2: approaches for role relief within a team ($\alpha=0.875$), 3: that contribute to expansion of role ($\alpha=0.933$). Result of the exploratory and confirmatory factor analysis, It showed a fit index of GFI=0.836, AGFI=0.802, CFI=0.933, RMSEA=0.071, suggesting the model is within the accepted range.

CM was practicing 3 keywords ("support and role strengthen", "role expansion", "role relief") of TA.

THE IMPACT OF NURSE PRACTITIONERS AND PHYSICIAN ASSISTANTS ON NURSING HOME QUALITY

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With an aging population and rise in alternatives, nursing home (NH) population is frailer and medically complex. Prior research suggests that physicians play an important role in improving NH quality but there is an acute shortage of experienced physicians willing to work in NHs. Nurse Practitioners/Physician assistants (NPs/PAs) are specially trained in primary care and other basic medical services

present an attractive alternative. Using the Donabedian Structure-Process-Outcome (SPO) model, this study examines the impact of NPs/PAs on physician sensitive measures of NH quality. The study sample includes all Medicare certified NHs for the study period 2000–2013 with a total sample size of approximately 200000 observations. We use panel data regression with year and facility level fixed effects. The variable of interest is the presence of NPs/PAs (0 for No and 1 for yes) and we use the following quality variables derived from both Long-term care Focus as well as the Minimum Data Set (MDS): restraints, pain, pressure sore prevention (a facility composite score (0–4) of pressure sore prevention processes derived from four MDS dichotomous items), restorative ambulation (A facility level continuous variable that measures the facility's average number of days in a week that residents are walked using restorative nursing aides), 30 day SNF rehospitalizations, hospitalizations per resident year, ADL decline and pressure ulcer. Results present a mixed picture with NHs with NPs/PAs reporting significantly lower restraint use and ADL decline but with no impact on rehospitalizations or hospitalizations. Policy and managerial implications are discussed.

THE CONCEPT OF INTERCULTURAL OPENING OF CARE ORGANIZATIONS IN GERMANY: ASSESSING IMPLEMENTATION

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After decades of disputing that it is a country of immigration, Germany has developed new policy approaches towards immigration in this century, acknowledging the fact that one fifth of the population has a migrant background. On average, the immigrant population and their descendants are younger than the German population. However, immigrants over 65 years of age constitute a quickly growing population group in Germany which will nearly double in number by 2030 (from 1.5 million to 2.8 million) as estimated by the Germany Federal Statistics Office. This creates a challenge for long-term care organizations. Access to services has to be facilitated and socioculturally adapted care established. The concept of "intercultural opening" is one approach for responding to these challenges. It involves change processes in long-term care organization affecting structures, processes and outcomes. No data exists on the current state of the concept's implementation in long-term care organizations since appropriate assessment tools have not yet been defined.

Against this background, this contribution will present (1) an outline of the concept of "intercultural opening" and (2) three current approaches to developing assessment tools. The findings are based on an extensive literature research and publications of municipal model projects (Munich, Frankfurt, Bremen).

SURVIVAL OF NON-PROFIT AND FOR-PROFIT LONG-TERM CARE INSTITUTIONS IN TAIPEI AND NEW TAIPEI CITIES

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It is well established that various factors influence the survival of care facilities. Due to Taiwan allowing for-profit care facilities in 1997, it is important to investigate how both non- and for-profit institutions survive. This study uses data on 199 care institutions in Taipei and New Taipei cities, examining how facility size, evaluation score, whether non- or for-profit, location, and institution type affect survival. The results show that institutions in a large metropolis have a lower survival rate (75.7%) than those in suburban areas (90.0%), and that ecological dynamics and institutional changes have a stronger influence on small and for-profit care institutions than on nonprofit care institutions. Effective policies for encouraging the establishment and survival of urban care facilities should therefore be a major focus for long-term care policymakers.

THE POLITICS OF AGING IN A DIVERSE SOCIETY

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This paper will present a case study of the politics of aging in a diverse society. With much of the world facing aging and growing numbers of older persons, they can expect that the elderly will engage in the political and governmental processes of their country. In addition, however, nations are beginning to also face issues of foreign workers, immigration and migrants and a more diverse society. What happens when aging and diversity come together? What are the policy and political implications of a politics of aging coupled with the pressures of immigration and diversity? This presentation uses the United States of America as a case study of a society becoming older while it becomes majority-minority and faces ongoing immigration pressures. The USA by 2030 will have a doubling of its 65 years and over population but by 2050 will find that Asians, Hispanics, Blacks and Immigrants will constitute a majority of its population; and this while facing the ongoing controversies of immigration and refugee politics. This presentation will present a historical and policy analysis of the nexus of aging, diversity and immigration and provide implications and lessons for others—e.g. Korea, Japan, European Union, Israel, Australia—facing similar pressures. After attending this presentation, participants will have an analytical understanding of demographic forces reshaping society and will be able to apply this case study to their host countries.

MEDICARE ADVANTAGE MARKET DYNAMICS AND QUALITY: HISTORICAL CONTEXT AND CURRENT IMPLICATIONS

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In this presentation, we assess variation in Medicare's star quality ratings of Medicare Advantage (MA) plans that are available across geographic areas. Evidence from the recent Centers for Medicare & Medicaid Services (CMS) quality demonstration suggests that market dynamics, i.e., firms entering and exiting the MA marketplace, play a role in quality improvement. Therefore, we also discuss how market dynamics may impact the smaller and less wealthy populations that are characteristic of rural places, raising concerns about equity and access to quality plans.

Highly rated MA plans are more likely to be health maintenance organizations (HMOs) and local preferred provider organizations (PPOs), as opposed to regional PPOs. HMOs and local PPOs may be better able to improve their quality scores strategically in response to the bonus payment incentive. MA plans have lower quality ratings in rural areas on average. However, the rural enrollment rate is higher in plans with lower quality scores than in plans with high quality scores. This differential is likely due, in part, to lack of availability of highly rated plans in rural areas: 17.8 percent of rural counties lacked access to a plan with four or more (out of five) stars, while just 3.7 percent of urban counties lacked such access. MA plans with high quality scores have been operating longer, on average, and have a lower percentage of rural counties within their contract service areas than plans with lower quality scores. In 2015, 59.3 percent of rural MA beneficiaries were enrolled in a plan with at least four stars, compared to 71.1 percent of urban enrollees.

This analysis is completed using a unique data set containing all MA plans across the U.S. For each MA plan, the quality scores are explored to explore the geographic variation of plans that offered.

ADDRESSING FOOD DISPARITIES FOR OLDER ADULTS IN WATTS: A CASE STUDY

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Research has shown that access to healthy foods as a means to mediate the impact of chronic diseases amongst low-income, minority older adults is critical. There have been a myriad of government-funded programs that promote healthy behaviors for Americans in the United States like the *Healthy People Initiative* proposal of 2010; but very little has been done to provide accessibility to healthy foods for some of the most vulnerable including low-income, older minorities. While the *Healthy People Initiative* is revised every ten years, there remains a constant challenge of addressing the disparities in access to preventive care and access to healthy food for minorities. In an effort to gain more understanding of the availability and accessibility to healthy foods in a densely populated community in South Los Angeles, the author found that in Watts, a 2.12 square mile city, where residents are predominantly Latino and African-American, there was one grocery store with limited access to fresh food. What there was access to were six liquor stores and ten fast food restaurants. The implications of having more liquor stores in poor neighborhoods suggests that many of its residents have more access to alcohol and fast food than fresh, healthy food. This suggests that making choices about proper nutrition, especially, in areas where the residents are living on a fixed income and may lack access to transportation, is extremely challenging. Based on these findings, it is imperative to provide equitable accessibility to healthy foods in low-income communities. It has been reported that many grocery store owners are hesitant to bring business to neighborhoods like Watts because of the high crime rates and insurance premiums (within a six-month period, there were 565 property crimes). However, making the decision to prioritize policies that incentivize far outweigh the costs to treat chronic illness amongst low-income communities.

HEALTH AND HEALTH CARE AS HUMAN RIGHTS

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The rights to health and health care in the event of illness, disability, or old age are detailed in Article 25 of the Universal Declaration of Human Rights. These rights are fundamental to the well-being of older adults as demands for health care are closely related to the increase in chronic conditions that commonly occur with aging. Without adequate and accessible health care, rights are seriously impeded and the quality of life diminished. This paper discusses the two major health care policies in the USA, Medicare and Medicaid, affecting older adults and the ways in which the programs relate to human rights. Medicare, a federal health insurance program focusing on older adults was created in the 1960s and is composed of several parts. Part A covers in-hospital care while Part B, which is paid for through monthly premiums covers out-patient care. Prescription drugs are covered through a separate plan. Medicaid, also developed in the 1960's provides health care is a means-tested, needs based program with eligibility dependent on income and assets. It is also the largest payor of long term nursing home care in the country. This paper focuses on the ways in which these two health programs relate and respond to human rights of older adults. Particular attention is given to the accessibility of services areas that are fundamental to the realization of human rights and well-being. Recommendations for making programs rights rather than needs based are given with examples of rights based health policies in other countries.

HIP FRACTURES AND DECLINING DXA TESTING: AT A BREAKING POINT?

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Background. Hip fracture incidence rates have generally decreased over the last 15 years in the U.S. and other developed countries. The dramatic decline has been ascribed to improvements in osteoporosis evaluation and fracture prediction via DXA and the advent of generally safe and effective drugs, starting with oral bisphosphonates in 1995. We sought to examine the latest national trends in hip fracture rates.

SOCIAL NETWORK, INFORMATION SEEKING AND OLDER ASIAN IMMIGRANTS' FINANCIAL CAPABILITY

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Introduction: Understanding the financial capability (i.e., knowledge and access to financial services) of older Asian immigrants in the U.S. is low. This study aims to identify facilitators and barriers of financial capability in older Asian immigrants over their lifetimes, an understudied area of research.

Method: We conducted semi-structured in-depth interviews in Cantonese, English, Korean, or Mandarin in 2016 with 13 low-income older Asian immigrants in an

employment program in Los Angeles. Qualitative data were analyzed to identify emerging themes and patterns.

Results: Analyses indicate that social network (kinship network and friendship) and information seeking are strongly associated with financial success. Social networks have both positive and negative aspects (“My husband co-signed his brother’s loan and we lost everything I had because he was bankrupt;” “[My house] is still underwater. It is under my name but my wife and everybody else is putting money in because I cannot pay.”). Banks rarely provide information unless interviewees ask specific questions; however, only a few do because they report they do not know what questions to ask. The few who ask questions are able to acquire helpful financial knowledge. (“I learned about a down payment assistance program on newspaper.... At the beginning, I could not understand the program at all... I went to the person in charge several times and asked questions over and over.”).

Conclusions: Results suggest financial institutions’ and community organizations’ active interventions to enhance older Asian immigrants’ financial capability.

SESSION 3665 (POSTER)**LIFE COURSE AND DEVELOPMENTAL CHANGE****CAN EDUCATION OVERCOME LIFE COURSE EFFECTS OF CHILDHOOD ADVERSITY IN THE UNITED STATES?**

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Childhood experiences can affect health throughout life. More education may moderate the effects of adverse circumstances during childhood on health during adulthood. We examined associations of childhood adversity with life expectancy and the percentage of life with disability. We studied an index representing four indicators of childhood adversity for African American and white women and men: fair/poor childhood health, having a single parent, having a father with low education ($\leq$ grade 8), or growing up in poverty, using data from the Panel Study of Income Dynamics (12 waves 1992–2013; ages 40+; $n=7,977$; 47,674 functional status and death transitions; 1,008 deaths). Multinomial logistic Markov models estimated monthly probabilities of disability in activities of daily living, and death, adjusted for age, sex, and race/ethnicity. Microsimulation used the probabilities to create large populations to identify outcomes, with bootstrap confidence intervals. We examined results separately for individuals with high (college graduate) and low ($\leq$ grade 8) education. African American men from age 40 illustrate results (all $p<0.05$): with low education, those with no childhood risk factors lived 5.8 more years than those with all four. The percentage of remaining life with disability was 12.4% for those with no risks, 34.1% with all four risks. Parallel results for African American men with high education were 8.1 more years, 9.6% and 29.0%. Results were similar for women and white men. Childhood adversity may increase disability in later life and reduce life expectancy. Education may moderate the negative association of childhood adversity with disability and mortality.

THE PERSISTENT LEGACY OF CHILDHOOD ADVERSITY: EARLIER AND MORE DISABILITY, IMPAIRED ABILITY TO WORK

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Adverse circumstances during childhood ("childhood adversity") have been associated with poor adult health. We studied associations of an index representing nine types of childhood adversity with life course reports of difficulty working due to physical or nervous health conditions ("work disability") using data from the Panel Study of Income Dynamics (PSID) and the 2014 PSID Childhood Retrospective Circumstances Study (1992–2013; $n=6,289$; 85,208 transitions). Reporting four or more adversities defined a high level. Multinomial logistic Markov models estimated annual probabilities of transitioning among levels of work disability (none, moderate, severe), adjusted for age, sex, race/ethnicity, and education. Using the probabilities we created large populations with microsimulation, measuring annual disability status for each individual, age 20 through death, with bootstrap standard errors. High adversity was associated with more disability at all ages (all results $p<0.05$), illustrated by African American women: at age 50 with high school education and no reported adversities, population rates of moderate and severe work disability were 4.5% and 5.5%, respectively, compared with 10.4% and 11.3% with high adversity. Childhood adversity was associated with first becoming work disabled at younger ages: 39.5 compared with 47.4 for moderate disability, 45.0 compared with 53.6 for severe. The disadvantage continued throughout life; at age 70, 19.3% of those with no reported adversity had severe work disability, compared with 30.6% with high adversity. Results for white women, and African American and white men, showed similar patterns. Childhood adversity may increase disability throughout adult life and substantially impair the ability to work.

PARENTAL EDUCATION, RESPONDENTS' EDUCATION, AND SELF-RATED HEALTH IN THE U.S. AND KOREA

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Parental education is an important early-life socioeconomic indicator and may have an influence on health in later life. However, due to distinct cultural and social contexts, this association may be different for midlife and older adults in Western (U.S.) and Eastern (Korea) countries. The purpose of this cross-national study is to investigate the association between parental education and self-rated health (SRH) among American and Korean adults over 50. In addition, the respondent's own education is examined as a mediating factor in the association between both paternal and maternal education and respondent's SRH. The study sample is drawn from nationally representative data: the 2012 Health and Retirement Study (HRS) and the 2012 Korean Longitudinal Study of Ageing (KLoSA). The final sample consists of 14,435 HRS and 7,009 KLoSA respondents age 51 or older. Separate multivariate logistic regression models are used to examine the association between paternal and maternal education

and SRH. Regression results show that low paternal education is significantly associated with poor SRH, and this association is fully mediated by respondent's education in both countries. However, low maternal education is associated with poor SRH only among U.S. adults, and this association is partially mediated by respondent's education. The disparity found in maternal education may be due to the cultural differences in the patriarchy and the rate of change in gender expectations and economic development. The findings suggest existing similarities and differences in the relationship between parental education and SRH for midlife and older adults in the U.S. and Korea.

GENDER DIFFERENCES IN THE EFFECTS OF SOCIOECONOMIC STATUS AND LIFE TRANSITIONS ON DEPRESSION

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From a life-course perspective, changes in labor market participation and/or social networks in old age constitute critical transitions which may shape and be shaped by gender other socio-cultural forces. Research on socioeconomic disparity in depression in old age is well-established. However, much less is known about how major transitions and turning points affect SES disparity in depression, and whether the association may vary by gender. This study aims to examine the effects of socioeconomic status on different life course stages and changes in employment status and social relations on depression among older adults over time and differential association varies by gender.

Data came from ten waves of the Korean Welfare Panel Study (2006–2015). The sample was restricted to older individuals aged 51–55 years at baseline ($N=993$). Multi-group analysis using latent growth curve modeling was used.

Among older men, transitions in labor market status were significantly associated with depression, but SES in middle age has no effect. Among older women, changes in social relationships in middle age were significantly associated with later year depression over time, but transitions in labor market participation had no effects.

This study demonstrated (1) the life course pathways linking childhood SES, middle age, and old age affect later year depression overtime and vary by gender, (2) changes in employment status and social relations differentially affect older men and women's mental health. These findings provide important empirical information to develop gender-based clinical programs and policy development to decrease later year depression.

THE ROLE OF RECOLLECTED PAST LIFE SATISFACTION ON PSYCHOLOGICAL WELL-BEING: AGE DIFFERENCES IN JAPAN

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The current study examined how the association between under or overestimation of past life satisfaction relates to well-being, and how this association varies by age. Participants from Survey of Midlife Development in Japan (MIDJA; $N=1027$) who ranged in age from 30 to 79 years-old completed two questionnaires, five years apart. They

rated their current life satisfaction at time 1. At time 2, they were asked to remember their level of life satisfaction five years ago. Psychological well-being was measured with composite measures of eudaimonic well-being. Across the sample, accurately remembering past life satisfaction was related to higher levels of well-being. Overestimating past life satisfaction (perceiving past life satisfaction as better than it actually was) was related to lower levels of well-being for younger adults compared to their more accurate responders, but unrelated to differences in psychological well-being among older adults. Conversely, underestimating past life satisfaction was related to lower levels of well-being for older adults, but to higher levels of well-being for younger adults. Findings are discussed in relation to the importance of past and future time perspectives on the well-being of different age groups.

FEELING BETTER . . . AT THIS AGE? INVESTIGATING EXPLANATIONS FOR HEALTH IMPROVEMENTS AMONG THE OLDEST-OLD

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Individuals in their 80s or 90s are generally not thought of as experiencing improving health, but a significant portion of this age group either (a) subjectively assess their health as having recently improved; or (b) demonstrate recent health improvements; when comparing consecutive health surveys. Although there have been a number of studies examining possible causes of health decline at older ages; the determinants of health improvements are much less understood. Using 21,155 observations from eight waves of the Asset and Health Dynamics survey (the oldest-old portion of the Health and Retirement Study), I test three hypotheses that may explain why oldest-old individuals report or demonstrate health improvements: (1) normalizing long-term health conditions, (2) recovery from recent negative health events, and (3) making positive lifestyle changes. I find that health improvements computed by comparing consecutive surveys were largely attributable to recovery from recent negative health diagnoses; while retrospectively reported health improvements were primarily associated with normalizing morbidity. I also find that taking up exercise was positively associated with health improvements, but stopping negative health behaviors (i.e., drinking and smoking) were not. These findings suggest some ways in which the interpretation and implications of health “improvements” may be unique for oldest-old adults, when compared to other age groups.

INDIVIDUAL AND SOCIAL RESOURCES TO COPE WITH HEALTH EVENTS IN MIDDLE AGE AND OLD AGE

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Previous research showed that psychological strengths and social support are effective resources for coping with stressful life events in the aging. At the same time, a wide range of studies highlighted the increased frequency during ageing of health events. However, little is known about the adaptation process to such events. This paper aims to

examine the individual and social factors associated with self-rated health trajectories among middle-aged and older people victims of at least one health event.

Data came from the first four waves of the Survey of Health, Ageing and Retirement in Europe (SHARE). The sample included 2 371 people aged 50 to 95 and victims of at least health event (falls/fractures, cardiac events, hospitalizations or surgical interventions) at wave 2. Growth curve analyses were performed for examining the sociodemographic, behavioral (physical activity), psychosocial (mastery and optimism) and social (social participation, social support) predictors of self-rated health among victims.

The decline of self-rated health during the 8-years follow-up occurred more likely after a cardiac event or a hospitalization. Men more than women were more vulnerable. Optimism significantly improved self-rated health after a surgical intervention. Whatever the kind of health event, physical activity has a positive and independent effect on self-rated health.

These results highlighted the specificity of adaptation to health events in the middle age and old age. In the long-term, this gendered process seems more sensitive to behavioral strategies than to social resources.

WHAT EQUALITY? LIFE COURSE DIVERSITY AND INEQUALITY IN LATER LIFE IN CHANGING SWEDEN

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This paper discusses shifts in inequality over time in Sweden, which serves as a case example of a quickly changing welfare society. Its 60+ population of today faced the golden age of capitalism, prosperity and welfare but also crises, new uncertainties, erosions and shifts in social norms and organization of labour. These changes add to life course inhomogeneity, generate asynchronies, and create winners and losers regarding life chances and inclusion. Transformations in life courses and social institutions exacerbate the cumulation of (dis)advantage and have crucial impacts on employment, retirement transitions and later life. Aspects like gender, cohort, education, ethnicity and others moderate these dynamics. Increasing disparities between societies give rise to migration and contribute in turn to differences within countries.

This study deals with changing population compositions, patterns and later-life consequences of life courses in Sweden focusing on inter- and intra-cohort disparities. By taking an international comparative perspective, Swedish trends are contrasted with those in other European societies. Based on extensive Swedish registry information and European survey data from EU-SILC, this study assesses changes in trajectories and distributions in a cohort-sequential perspective.

Results of this ongoing study find significant shifts in life course patterns that are fortified by variations in population compositions, with disadvantaged groups as forerunners in overall relative declines in later-life economic positions, and increasing intra-cohort inequalities corresponding with unexpected drawbacks for many as well as new possibilities for others.

SIX FACTORS TO TRIGGER COGNITIVE DEVELOPMENT ACROSS THE LIFESPAN: A NEW THEORETICAL FRAMEWORK

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We present a novel theoretical life course framework (CALLA – Cognitive Agility across the Lifespan via Learning and Attention) that uses research from cognitive development (with infants and children) to inform cognitive aging. This framework posits that an increase in cognitive abilities (e.g., memory, attention, inhibition) during infancy and childhood is partially an outcome of a specific type of learning approach, which may be triggered by 6 critical factors (e.g., open-minded learning, scaffolding, growth mindset). Our framework suggests that one cause of healthy age-related cognitive decline (besides known causes, such as neurodegeneration) may be a decrease in these 6 factors. We hypothesize that these factors remain important throughout adulthood and can mitigate age-related cognitive decline in healthy adults. Our framework differs from current dominant frameworks that argue that cognitive abilities are separate “modules” that can be isolated and trained. Infant and child development research suggests that an outcome of acquiring new skills and knowledge is the development of cognitive abilities. Future studies will determine whether this is also the case in aging adulthood. This framework pushes the limits of current estimates of neuroplasticity and cognitive functioning in aging adults. By providing learners with maximally supportive environments we can expand cognitive performance beyond currently known limits.

AGE DIFFERENCES IN AFFECTIVE AND BIOLOGICAL CORRELATES OF MOMENTARY SOLITUDE

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Spending time alone constitutes a ubiquitous part of our everyday lives. As we get older, alone time increases. However, not much is known about age differences in the experience of spending time alone (momentary solitude). We examined relationships between momentary solitude, affect quality, and two hypothalamic-pituitary-adrenal axis activity markers (salivary cortisol; dehydroepiandrosterone sulfate [DHEAs]) to better understand the affective and biological correlates of momentary solitude across the adult lifespan. For this purpose, 185 adults aged 20 to 81 years (M age = 49 years, 51% female, 74% Caucasian) completed questionnaires on momentary solitude (alone vs. not alone) and current affect on a handheld device and provided concurrent saliva samples up to seven times a day for 10 consecutive days. Multilevel model results showed that, compared to being with others, momentary solitude was concurrently associated with reduced high arousal positive affect, increased low arousal positive affect, and increased low arousal negative affect. Age by solitude interactions indicate that greater age was associated with increased high arousal positive affect and reduced low arousal negative affect during

momentary solitude. Furthermore, momentary solitude was associated with increased cortisol and DHEAs. With greater age, the association between momentary solitude and cortisol weakened and was not significant in adults aged 52 years and older. Findings suggest that momentary solitude can be a double-edged sword as evidenced by both positive and negative well-being implications. Importantly, greater age is linked to more favorable affective and biological correlates of momentary solitude.

SOCIOECONOMIC STATUS AND LONGITUDINAL AGING PATTERNS ACROSS DOMAINS

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Socioeconomic status (SES) is associated with individual differences in physical, emotional, and cognitive functioning across the lifespan. Additionally, self-reported financial strain is associated with these outcomes above and beyond commonly used SES indicators based on education and occupation. To further understand the association of SES with individual aging patterns across multiple domains, the current study considered longitudinal change for physical, emotional, and cognitive functioning. The sample included 857 individuals between 50 and 87 years of age at baseline assessment from a Swedish aging cohort. Individual growth curve estimates with up to 27 years follow-up were used as indicators in a latent class analysis. Meaningful classes distinguished individuals based on level of functioning and change across age among physical, emotional, and cognitive traits. Notable aging classes included one with high functioning coupled with low depressive symptom patterns and a class characterized by low functioning coupled with high depressive symptom patterns. Compared to the high functioning class, the low functioning class had accelerated declines on verbal ability before age 75 and slower declines on spatial reasoning and grip strength after age 75. The effect of level of education, socioeconomic index (SEI; based on highest household occupation), and a measure of financial strain on individuals' aging class membership was tested. Results indicate that a higher SEI and lower financial strain are associated with healthier, high functioning aging patterns across domains controlling for the effects of education. Socioeconomic factors may be acting as buffers against aging patterns characterized by low functioning in multiple domains.

EXPLORATORY SEARCH FOR HETEROGENIETY IN CHANGE ACROSS OLD AGE USING STRUCTURAL EQUATION MODEL TREES

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As previously examined using dynamic longitudinal models (Jacobucci, Grimm, & Zelinski, in preparation) to study the trajectory of both cognition and health in the Health and Retirement Study, change often takes on a nonlinear form. Studying change using structural equation models allows for individual differences in both intercepts and slopes, however, the assumption is made that the trajectory form is the same for everyone in the sample. Including demographic

variables as covariates only allows for the identification of mean differences, not allowing for the identification in different degrees of non-linearity of this change. To overcome this limitation, we used structural equation model trees (SEM Trees; Brandmaier et al., 2012) to identify heterogeneous subgroups that demonstrate discrepant trajectories of change in both health and cognition in older age.

We fit latent growth curve models to the mental status, total recall, and a composite health scale that was comprised of self-reported health and other indicator items of various health conditions. We searched for subgroups with SEM Trees using the covariates of years of education, race, Hispanic, and gender. Results for each of the scales included identifying different subgroups, with consistent groups comprised of splits on education (between 11 and 12 years of education), and between black and white race identification. Results include identification of subgroups, based on covariate main effects and interactions, that show delayed declines in cognition and health as well as subgroups that demonstrate highly non-linear changes in comparison to groups that are nearly linear in their decline.

SESSION 3670 (POSTER)

LONG-TERM CARE AND ASSISTED LIVING II

THE MEANING OF A VISUAL ARTS PROGRAM FOR OLDER ADULTS IN LONG-TERM CARE

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This research explores the experiences of older adults participating in an innovative visual arts program at a long-term care facility in Victoria, British Columbia, Canada. The program offers participants an opportunity to explore their creativity and identity as artists. Conceptually, the study draws from Tornstam's gerotranscendence framework (Tornstam, 2005) and the theory of meaning (Frankl, 1963). A narrative inquiry approach was used with data collected through face-to-face interviews and observations of 10 residents and three staff involved in the visual arts program. Findings indicate that the program fostered a sense of community among participants and enhanced their quality of life. The public exhibition of their art work at a community-based art exhibit, validated the merit of their work and gave meaning and purpose to their participation in the program. Findings contribute to a greater understanding of the importance of arts programs that foster creativity in later life and resonate with Tornstam's (2005) argument that older people living in institutions can experience multiple dimensions of the self through individualized forms of expression. This study concludes by highlighting the need to increase access to arts programs for older people living in residential care.

COMPARISON OF PUREED AND REGULAR MENUS IN CANADIAN LONG-TERM CARE HOMES

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Long term care (LTC) pureed menus are hypothesized to contain less nutritional quality as compared to regular texture menus due to processes required to modify textures. Making the Most of Mealtimes (M3) is a cross-sectional multi-site study that collected data in 32 LTC homes in four Canadian provinces (AB, MB, NB, ON). This secondary data analysis examined if the planned pureed menus were significantly different in energy, macronutrients, micronutrients, and fibre as compared to the regular texture menus. A nutrient analysis for the first week of the menu cycle was completed using ESHA Food Processor software, based on home recipes and portion sizes. Analysis of variance compared menus across and within provinces using the Dietary Reference Intake (DRI) standard for those 70+ years. Using the average across provinces, pureed menus offered a nonsignificant lower amount for the majority of nutrients as compared to the regular menu. However, there were significant province and diet texture interactions for energy, protein, carbohydrates, fibre, and 11 of 22 micronutrients analyzed ($p < 0.01$), with NB and AB having lower nutrient content for both menus. Fibre and nine micronutrients were below DRI recommendations for both menus across the provinces. Within each province, similar trends were observed; some homes had significantly lower nutrient content for pureed diets, while others did not. This study demonstrates the variability in menu planning in Canadian LTC and the need for improved menu planning protocols to ensure planned diets meet nutrient requirements regardless of texture. (Supported by Canadian Institutes of Health Research).

QUALITY ASSURANCE PERFORMANCE IMPROVEMENT COLLABORATIVES: A NOVEL APPROACH TO NURSING HOME QUALITY

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The Centers for Medicare and Medicaid introduced the Quality Assurance Performance Improvement (QAPI) program to improve quality of care and resident outcomes in nursing facilities, but is not currently used broadly or consistently. QAPI integrates tenets of the Quality Assurance, Performance Improvement, and Lean Six Sigma approaches to quality to create a data-based process for systems change. Under the direction of the Indiana State Department of Health, seven regional collaboratives were formed across Indiana as a pilot to implement the QAPI approach in their regions. Collaboratives included a leadership team and membership of at least 20 skilled nursing facilities and community and regional partners. The University of Indianapolis Center for Aging & Community provided training, technical assistance, guidance, and overall program management. Goals included building the collaborative, educating members on the QAPI process, and completing two Process Improvement Projects (PIPs) in each region. Project topics included reducing rates of UTIs, hospitalizations, pneumonia, falls, staffing retention, and inappropriate antipsychotic use. Improving staff retention, particularly for certified nursing assistants was also targeted. Collaborative leadership and members

were surveyed about their experiences and attitudes about the collaborative process.

Initial results show overall positive impact of the pilot program. Project one outcomes included reductions by 16% for pneumonia incidence, 29% for falls, 38% for hospitalizations, 40% (average) for UTIs. Savings of more than \$289,343 were identified in six months. Collaborative members reported improved utilization of the QAPI model and positive attitudes toward the collaborative approach. Discussion will include additional outcomes and implications for expansion of the pilot.

INFLUENCE OF ORGANIZATIONAL CONTEXT ON NURSING HOME RESIDENTS' SOCIAL ENGAGEMENT

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Unregulated care providers (health care aides) provide the majority of hands-on care to nursing home residents. The work environment (organizational context) of these direct care providers is increasingly recognized as having an effect on resident outcomes (e.g., pressure ulcers, pain, social engagement). Social engagement is a crucial component of resident health as lower levels are associated with increased risk of depression and mortality. The purpose of this presentation is to examine how individual resident factors and modifiable elements of the organizational context (e.g. leadership, culture) influence the social engagement of residents. We used data collected in 91 Western Canadian nursing homes in the Translating Research in Elder Care (TREC) program of research: 4,056 health care aide surveys and 87,423 Resident Assessment Instrument-Minimum Data Set (RAI-MDS 2.0) records. Health care aide surveys provide information on staff demographics and organizational context. RAI data is routinely collected in the nursing homes and collects information such as resident characteristics, health conditions, and medications, to assist in care planning and monitoring quality of care. Using mixed-models we assessed the effect of resident, staff, and facility factors on residents' social engagement. We found that residents' cognitive impairment and sensory impairment were associated with reduced social engagement. Quality of organizational context and quality of staff work life were positively related to resident social engagement. Organizational context in nursing homes is modifiable. Understanding the effect of organizational context on resident social engagement helps to identify tangible features of nursing homes to improve resident health and quality of life.

UNDERSTANDING GLOBAL INFLUENCERS OF GENERIC DRUG USE AMONG OLDER ADULTS

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With an increase in prescription drug spending and rising drug costs there is a need to encourage the use of generic prescription drugs. Generic drugs were responsible saving \$1.2 trillion in the United States over the past decade; Medicare realized over \$75 billion in savings in 2014. Generic drug use

accounts for >80% of the prescriptions filled in the United States, yet only 30% to 60% of prescriptions filled globally. To better understand economic, patient, practice and policy factors that influence generic drug use among older adults across the globe, a systematic review was conducted. Using key words to search across six databases, 141 articles were identified for review. Articles were included for review if they met the inclusion criteria; publication date after 2005, published as an empirical study, and relevance. Findings from the review show that several factors influence generic drug utilization among older adults in the US and internationally. Examples include federal and healthcare policies, promotional activities, such as by drug companies on the prescribing habits of hospital-based physicians, and physicians' and patients' perceptions. This presentation will expand on these and other findings related to factors that influence generic drug utilization among older adults. This presentation also will describe differences in approaches to encourage generic drug use among older adults in the US and internationally and how results from the systematic review may be utilized in the promotion of policies and practices targeting generic drug use among older adults to ultimately improve generic drug promotion among this population.

FACILITATING CONSUMER-DIRECTED DECISION MAKING IN LONG-TERM CARE: RESULTS FROM A CITIZENS' JURY

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People with dementia are increasingly vocal about their right to make decisions regarding their own care. Enabling informed choice is a challenge in long term care where many residents are in the later stages of dementia. Care facilities are bound by both financial and legal responsibilities and task-centred care can be rooted in staff culture. A Citizen's Jury is an emerging method of community engagement that solicits the judgement of lay-people on complex policy issues. The aim of this Citizen's Jury was to guide implementation of consumer directed care into long term care practice.

A group of 14 'jurors', unrelated members of the public, were upskilled in the concepts of residential care, cognitive impairment and informed decision making by a panel of experts. They were charged with making a judgement about (1) what day-to-day matters should be left to consumer choice; (2) who should be responsible for eliciting preferences, and; (3) what regulations should be in place to ensure choice is honoured.

Jurors were in favour of informed decision making in aged care but could acknowledge the barriers inherent to the current system. Jurors identified many aspects of day-to-day life that could and should be amended to consider resident preferences. They agreed that systems are needed to provide transparency and monitoring of consumer-directed care, and that existing bodies were well placed to provide these. Overall jurors believed that the onus of facilitating resident decision making rested with care facilities and that amendments to improve care flexibility were overdue.

MAKING THE TRANSITION FROM RESIDENTIAL LONG-TERM CARE (RLTC) BACK TO THE COMMUNITY

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The objective of this research is to examine clinical (e.g., older adult's physical wellbeing) and system-level (e.g., use of community-based services) outcomes related to older adults' transition from RLTC back to the community. This study is a longitudinal design and uses data from the RAI MDS 2.0 from a cohort of older adults residing in RLTC in one health region in British Columbia, Canada.

The purpose of this presentation is to report findings on the application of an algorithm designed to identify older RLTC residents who might be candidates for a transition back to the community. The algorithm was evaluated on a cohort of older adults who had been discharged from RLTC (N=3,859) between the years 2010 and 2014. A small percentage of these residents (n = 102) had been transitioned back to the community, whereas non-transitioning residents (n = 3,757) either moved to another RLTC or died. Statistically significant differences were observed across several variables; compared to non-transitioners, transitioners were younger, had been in RLTC for shorter durations, and were more likely to express a preference to return to the community and to have a support person who was positive about the transition. An ROC analysis of the algorithm disclosed a significant area under the curve ($c = .767, p < .001$).

These findings suggest that a small portion of older adults could transition back to the community. This has important implications for the development of policies that ensure appropriate and accessible health services in the community.

SUPPORT RESIDENTS' WALKING IN SENIOR-LIVING FACILITIES THROUGH ENVIRONMENTAL DESIGN

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Background: Healthy living in senior-living facilities is an important focus for the residents, their families, and senior-living service providers. Appropriate physical activities such as walking benefit seniors' health and the built environment in facilities is one obvious mechanism for promoting physical activities. But we lack research on environmental factors significant to physical activities in senior-living facilities. Previous studies focused on the larger facility-level conditions, overlooking the detailed room-level characteristics, which may have a more direct impact on residents' physical activities.

Aim: Focusing on walking, this research investigates both facility-level and room-level correlates of residents' physical activities in senior-living facilities.

Methods: Data of independent and/or assisted-living facilities are collected in California and Missouri through GIS, surveys, and on-site observations. Survey questions and observation tools are adopted from previously validated research. Focusing on residents' daily walking, survey responses are collected from the residents and their care givers. Key attributes of environmental design are summarized and measured at the site, building, and room levels. Bivariate

tests and multivariate analyses are conducted to identify environmental factors significant to the frequency of walking and the duration per occurrence.

Findings: Confirming findings from previous research, expected environmental correlates of residents' walking in senior-living facilities include indoor sunshine, window view, indoor-outdoor connections, transitional areas, green areas, walking-route choices, and destinations for walking on the property. Findings are discussed through the eyes of designers and academic researchers working together to examine what it means to design for residents' walking in senior-living facilities.

INCREASING PREVALENCE OF ASSISTED LIVING AS A SUBSTITUTE FOR PRIVATE-PAY LONG-TERM NURSING CARE

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Over the past two decades, assisted living (AL) has rapidly emerged as a viable housing and long-term care (LTC) option for older Americans and in many cases, an alternative to nursing home (NH) care. Drawing on the standard economic model of long-term care decision-making, we theorize that with the introduction of AL in a market, individuals who can no longer live at home and otherwise would have entered a NH—particularly those less disabled and wealthier individuals—are more likely to enter AL. As such, we hypothesize that an increase in the local supply of AL will be associated with fewer private-pay resident days in NHs. Data come from a national list of U.S. AL communities in 2007 and 2014, NH survey data, and the Residential History File of NH residents. We estimated the relationship between county level capacity of AL beds and the number of private pay NH resident days using ordinary least squares with state and year fixed effects. Our results suggest that within each county, one additional ALF bed was associated with a reduction of 2.71 private pay NH days ($p < 0.001$). Our sensitivity analysis examining Florida counties, which identify private pay AL beds, showed that an increase in one private pay AL bed resulted in a reduction of 11.47 private pay NH days ($p < 0.001$). Our results indicate a significant relationship between private pay NH residence and increases in ALF capacity.

SPATIAL DISPARITY: THE STRATIFICATION OF FLORIDA'S ASSISTED LIVING FACILITY MARKET

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As states work toward rebalancing their long-term care (LTC) systems to provide services in non-institutional settings, it is important to understand the market for Assisted Living Facility (ALF) services. We obtained records of all licensed Florida ALFs for 2003–2014. We also obtained the socioeconomic and demographic information for each county from the U.S. Census Bureau and the median household income for each county from the Bureau of Labor Statistics. In our study we describe changes in Florida's ALF market during the observation period. We estimated changes in the prevalence of ALFs at the county-level and over time, by facility size, and compared this with changes in the demographic and

socioeconomic makeup of those counties. We also examined the relationship between facility-size and licensure types. Small, 6–12 bed ALFs were the most prevalent and exhibited greatest growth during 2003–2014. Smaller facilities operated in lower income, densely populated areas with a higher proportion of African American and Hispanic individuals. These facilities were more likely to be licensed to provide limited mental health (LMH) services, and had a significantly higher proportion of beds licensed for Optional State Supplementation (OSS) payment. Larger facilities (101+) tended to operate in higher income areas with the highest proportion of individuals over 65 and 85 years of age, and a smaller proportion of racial/ethnic minority populations. Our findings offer insight into the increasing segregation of care found within the ALF market in Florida.

A STUDY OF CHRONIC DISEASES' INFLUENCE ON ADL CAPABILITIES IN CHINESE OLDER ADULTS

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This study examines the associations between chronic diseases and ADL capabilities with Chinese older adults. Data set was derived from a national sample of China Longitudinal Aging Social Survey 2014. Logistic regression was applied to analyze the relationships between the total score of ADL and chronic diseases condition (0=healthy, 1= have at least one chronic disease) while controlling for sociodemographic characteristics. Then, six logistic models were applied to examine the associations between five specific diseases and each daily life ability, respectively.

The study found that chronic disease condition in general is negatively associated with older people's ADL ability. Furthermore, different chronic diseases' impacts are differing with regard to clothe wearing, bathing, eating, toileting, bed transferring and indoor mobility. Among the five diseases, cerebrovascular disease and dementia have the greatest impacts on all abilities. These findings have important implications for practitioners and policy makers in terms of long-term care services.

THE DIFFERENCE BETWEEN IDEAL AND REALITY OF WORK PERCEIVED BY SOCIAL WORKERS AT NURSING HOMES

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The aim of this study is to clarify the ideal scope of work and the reality perceived by residential social workers working at nursing homes, and to identify the differences between the ideal and the reality by the social workers' attributes. A questionnaire survey was sent to 400 residential social workers by post on March 2014 and 107 valid responses were obtained. A factor analysis yielded eight factors for the ideal scope of work: 'operation management', 'rights advocate', 'admission support', 'care plan making', 'welfare education center related', 'everyday life support', 'assessment' and 'coordination with external organizations' tasks. For each factor, the difference between the reality and the ideal was t-tested by the attributes of the respondents. Significant differences were found by 'age', 'years of experience as a social worker' and 'educational qualifications' in the 'operation management' task, by 'educational qualification' in the

'rights advocate' task, by 'years of experience at current workplace' and 'years of experience as a social worker' in the 'admission support' task, and by 'doubling as the care manager' and 'years of experience as a social worker' in the 'care plan making' and 'assessment' tasks. The study revealed that the more years of experience the social worker had and the older they were, the closer they were to the ideal situation. It also clarifies that doubling as care manager facilitates the work in the residential social work area of tasks, since the assessments and making of care plans for residences are cited as their ideal tasks.

FACTORS ASSOCIATED WITH TURNOVER OF PERSONAL CARE AIDES IN RESIDENTIAL CARE FACILITIES IN THE U.S.

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Turnover of personal care aides (PCAs) represents a major challenge to the provision of quality care in residential care facilities (RCFs). The purpose of this study was to explore the role of organizational and job characteristics in relation to turnover of PCAs. Using data derived from the 2010 National Survey of Residential Care Facilities (n = 2,170), weighted logistic regression analysis was used to examine organizational and job characteristics associated with facilities that reported turnover of PCAs. Results indicate that 64% of RCFs nationwide experienced PCA turnover. Among the organizational characteristics, smaller facility size, lower occupancy rate, and lower staffing levels of RNs and PCAs reduced the odds of turnover whereas for-profit ownership and shorter tenure of the administrator increased the odds of PCA turnover. Job characteristics including less than 75 hours of formal training and the availability of health insurance also increased the odds of facilities experiencing PCA turnover. These findings suggest that larger RCFs with higher nurse staffing levels, possibly reflecting a greater acuity of residents, are more likely to have turnover of PCAs. Results also highlight the importance of increased training and longer tenure of administrators as important factors related to PCA turnover. Given these differential findings compared to other long-term care settings, study implications include the need to tailor policy and practice interventions to recruit and retain PCAs in residential care.

ATTITUDES TOWARD OLDER ADULTS AND LONG-TERM CARE: INSURANCE AGENTS AND THE INSURED IN TAIWAN

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Background: Taiwan is becoming the fastest aging countries in the world and both public and private long-term care insurance are being discussed.

Purpose: The paper was to examine how private long-term care insurance agents and the insured view their long-term care needs and attitudes toward older adults.

Methodology: A survey was conducted in 2015 from 415 people participated in the survey consisted of questions on demographic characteristics, long-term care needs and views, and attitude toward older adults.

Results: The participants were mostly female (79.8%), middle-age of 45 to 64 years old (63.6%), married (70.5%), and with at least high school education (86.9%). While most participants had no caregiving experiences (60.5%), they were starting to prepare about long-term care by gathering information (80.6%). A correlation analysis revealed that long-term care preparation was positively related with education, monthly living expenses and with caregiving experiences.

Discussion and Conclusion: Those who started to prepare for long-term care were more educated, with higher living expenses and had prior caregiving experiences. Most participants thought older adults had excessive demands for love, had shabby home, and unable to change. Positive attitudes were the older adults were different from one another, preferred to work as long as they can, and neighborhoods were nice when integrated with the older adults. This paper suggests that people view attitudes toward older adults and preparation for long-term care may come with stereotypes or prior experiences.

A STUDY ON HUMAN RIGHTS BEHAVIOR OF KOREAN CARE WORKERS IN LONG-TERM CARE FACILITIES

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As the provision of long-term care policy takes root and with a gradual increase in elderly population, the use of elderly care service has become a growing norm. More than ever, there exists an urgent need for a paradigm shift in the building of an institutional basis for the improvement of care service, from the prevalent practice of 'need based service' toward the concept of 'human rights based service'. A great focus is being shed on care-workers, at the 'front line' of advocating human rights, as their human rights advocacy behaviour is seen as a key variable in providing high quality care service for elders. This study aims to examine how care-workers' individual human rights awareness levels, and the influence of their respective organizations, as an environmental factor, affect their human rights advocacy behaviour. The study includes a comprehensive analysis of the interactions between the regulatory effect of environmental factors (service orientation?) on an organizational level, human rights awareness (individual level) and the service environment (organizational). The analysis sample consisted of 782 registered non-profit corporation of long-term care facilities all over the country in 2014. The findings of the thesis suggest that human rights awareness at individual levels has a significant influence on human rights advocacy behavior. The interaction of human resources management in service orientations was also found to influence human rights advocacy on a significant level. Both human rights awareness at individual level and service orientations at organizational level were thus determined as key variables for improving the human rights awareness of care worker in long-term care facilities in Korea.

SESSION 3675 (POSTER)

LONG-TERM CARE: INSTITUTIONS AND IN-HOME SERVICES I

SUCCESSFUL IMPLEMENTATION OF CONSISTENT STAFF ASSIGNMENT IN LONG-TERM CARE SETTINGS

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Consistent staff assignment is a cornerstone of culture transformation in long-term care settings. By minimizing the number of different staff who provide care during a resident's stay, consistent staff assignment promotes more resident-centered care and is thought to result in improved resident functioning and quality of life. This study assessed the extent and stability of consistent staff assignment in 199 of the 335 organizational units that comprise the Veterans Health Administration national network of nursing homes (called Community Living Centers or CLCs). A survey completed by staff schedulers in each of these CLC units retrospectively assessed levels of consistent staff assignment over a one-year period and unit characteristics that have been hypothesized to facilitate successful implementation of consistent staff assignment in long-term care settings. Over a one-year period, 38% of CLC units had stable high, 29% had stable low, and 33% had variable levels of consistent staff assignment. Characteristics that distinguished the units with stable high consistent staff assignment were use of fixed care teams and greater staff input for care assignments. Schedulers in these units reported more positive experiences linked with consistent staff assignment and better unit functioning in terms of staff absences, workload complaints, and scheduling problem resolution. Contrary to expectation, implementation of consistent staff assignment was not related to unit size, staffing level, or unit care specialization (e.g., dementia, geropsychiatric care). Findings from this study may be helpful to long-term care providers planning, or having difficulty sustaining, successful implementation of consistent staff assignment in their care settings.

VARIATIONS IN SERVICE USE PATTERNS BY JAPANESE IN HAWAII: RESULTS AND GLOBAL IMPLICATIONS

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It is easy to assume that most frail elders would have similar service utilization patterns based on disability levels regardless of ethnicity. Previous studies in Western Countries however have identified relations between ethnicity and certain types of eldercare service. This study attempts to duplicate this association and discuss its implications. This research question was tested in Hawaii which is a fast-aging, multi-ethnic state in the U.S. This study sought to substantiate variations in service utilization by investigating the use of a Personal Emergency Response System (PERS) service among elderly ethnic Japanese in Hawaii.

Questionnaires were mailed to 585 elderly subscribers of a company providing personal emergency response system services in Hawaii in 2014. Compared with non-Japanese elders, ethnic Japanese elders had a significantly higher propensity to use the personal emergency response system services, were older, used fewer prescribed medications, and were more likely to have these services paid for by family members or to pay themselves.

Japanese culture in Hawaii beyond the immigrant population has had an effect on increasing the use of PERS services. This result suggests that other ethnic groups may also have unique service utilization patterns for long-term care services. While it is not possible to fully predict what the ethnic preference for aging services will always be, it behooves professional healthcare workers and care managers to remain culturally sensitive and not just assume that what is needed is based on disability levels of their clients.

ALL TOGETHER NOW: MULTIPLE STAKEHOLDER INSIGHTS ON INTEGRATING QUALITY IMPROVEMENT IN A LARGE SYSTEM

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Change presents challenges and opportunities. How change happens determines success. Using evidence-based approaches can make quality improvement (QI) changes easier and more likely to achieve their full potential. How theoretically-grounded QI can be integrated into day-to-day CLC activities depends on the improvement project, the environment into which it is to be integrated, the mechanisms by which it is introduced, and how its implementation is facilitated. The Veterans Health Administration (VHA) is one of the largest healthcare providers in the U.S., with 135 nursing homes (called Community Living Centers—CLCs). Recent VHA QI initiatives in CLCs have been grounded in the “COM-B” model of behavior change. The COM-B model describes a cyclical process in which human behavior (B) is generated by three components—capability, motivation, and opportunity (COM)—which in turn affect behavior (B) in a cycle. We describe three specific QI projects grounded in COM-B: (a) VHA's Central office leadership implementing a national CLC rollout of a quality dashboard, (b) health services researchers implementing a CLC QI project to improve CLC resident and staff interactions as part of a larger research study, and (c) CLC management and staff implementing unit-based QI programs focused on increasing CLC resident engagement in life. Each of these stakeholders will discuss the unique perspectives, challenges, and opportunities of their implementation experience, aligning them through the lens of the COM-B model and sharing successful, practical lessons applicable to nursing home frontline staff, mid-level management, and systems-level leadership.

ASSOCIATION BETWEEN HEALTH STATUS AND LONG-TERM CARE NEEDS: A COHORT STUDY OF JAPANESE ELDERLY

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Introduction: WHO defines health as a complete state of mental, physical and social wellbeing. However, there have been limited detailed evidences that objectively and systematically assessed the chronological relationships between these three health aspects and long-term care (LTC) needs. This study was conducted to explore such issue.

Method: Among the urban dwelling elderly aged 65 years and over, data were collected through self-reported questionnaire in 2001 and 2004 in Tokyo. Ultimately, 8,126 (3,851 men, 4,311 women) respondents were included in the analysis. Three health-related latent factors were identified by determinant factor analysis. A structural equation model (SEM) method was used to analyse the causal effect relationship between mental, physical, social health and LTC needs.

Results: By using determinant factor analysis, 3 factors, named ‘mental health’, ‘physical health’, ‘social health’, were defined as latent variables, respectively. The SEM analysis indicated significant direct but negative correlations between ‘physical health 2001’ and ‘LTC needs 2004’, which meant the three-year earlier physical health significantly affected on the current LTC needs (standardized direct coefficient=-0.73). In contrast, ‘mental health 2001’ and ‘social health 2001’ had little direct effects on ‘LTC needs 2004’ (0.04 and 0.05 respectively). Meanwhile, we also observed an indirect effects of ‘mental health 2001’ on ‘LTC needs 2004’ through ‘physical health 2001’ (standardized indirect coefficient=-0.35).

Conclusions: This study illustrates that the LTC needs is mainly confirmed by physical health, followed by mental and social health.

PERSON-CENTERED CARE (PCC) PRACTICES AND EATING ASSISTANCE IN CANADIAN LONG-TERM CARE FACILITIES

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Introduction: PCC can improve the mealtime experience for residents, yet practices specific to mealtimes are poorly understood. The Relational/Person-Centered Care in Dining checklist (RPCC) is a face valid and reliable instrument for assessing these interactions.

Objectives: It was hypothesized that residents who require eating assistance would receive fewer positive mealtime interactions and care practices than those who do not require assistance.

Methods: M3 is a cross-sectional study based in 32 long-term care homes across four Canadian provinces. Mealtime practices were observed by one of eight trained assessors for 637 randomly selected residents at three meals on non-consecutive days. Observation ratings were averaged across the three meals. An Edinburgh Feeding Evaluation in Dementia Questionnaire item determined if assistance was required (‘never/rarely’, ‘sometimes’, ‘often’). A summary score from RPCC was calculated based on the ratio of positive to negative mealtime specific interactions, with higher scores indicating more positive interactions. ANOVA determined if frequency of physical eating assistance a resident received was associated with the ratio of positive-to-negative RPCC interactions.

Results: Almost one-quarter (23%) of residents required some level of assistance (11% sometimes; 12% often). Frequency of eating assistance was negatively associated with the ratio of positive to negative mealtime interactions [$F(2, 632)=34.72, p< 0.001$; never/rarely=2.3, sometimes=1.6, often=1.5].

Conclusions: Residents requiring more physical eating assistance received fewer positive interactions with staff compared to those requiring no assistance. Further work will examine the independence of this association and if it influences food intake. (Funding from Canadian Institutes of Health Research)

INDIVIDUALIZED MUSIC FOR NURSING HOME RESIDENTS WITH DEMENTIA: A RESEARCH-CLINICAL COLLABORATION

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This poster will describe a collaboration between nursing facility staff and university researchers to establish individualized music interventions to improve targeted behavioral outcomes for nursing home residents with dementia. We used single-case design to assess intervention effectiveness for each resident. We will present data from 4–5 patients to illustrate how this type of design can be used to inform intervention targeting. We used independent sample t-tests to compare mean percentages of observed affect and behaviors from the Philadelphia Geriatric Center Affect Rating Scale and a modified Passivity in Dementia Scale before and during the music intervention and with a control period of attention only. Preliminary analyses show that for one resident, the music intervention did not produce significant differences in affect or behavior, but for a second resident positive affect ($t(21) = -3.784, p = .001$) was significantly higher during the intervention, and negative affect ($t(19.674) = 2.595, p = .017$) and negative behaviors ($t(15.453) = 3.242, p = .005$) were significantly lower during the intervention. We illustrate how reports from these simple analyses can be used to inform nursing home staff about how to use individualized music with residents who will most benefit from the intervention.

HOW DO FAMILY MEMBERS DEAL WITH CONFLICT IN LONG-TERM CARE? APPLICATION OF CONFLICT THEORY

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Conflict between families and staff in long term care (LTC) is a daily reality that has adverse outcomes for residents, staff and families. However, to date it has not been empirically evaluated. Multiple barriers exist in examining conflict, including its sensitive nature, which may have precluded such study, as well as lack of theoretical integration. In order to examine family-staff conflict and its management in LTC, this study has merged two independent bodies of literature, that of family caregiving in LTC and organizational behaviour literature on conflict. This study presents the argument that two prominent theories from the conflict literature, namely the *theory of cooperation and competition* (Deutsch, 1973) and the *dual concern theory* (Pruitt & Rubin, 1986) can be applied in LTC. This mixed-methods study examined family-staff conflict and conflict

management in a sample of 107 family caregivers, with data showing preliminary support for the model. Results indicate that family caregivers engage in a variety of conflict resolution strategies to manage family-staff conflicts and indicate a significant role for trust, power and communication between family and staff on the frequency of conflict as well as use of cooperative and competitive conflict management. The implications of the conflict resolution strategies endorsed by family caregivers on key caregiver outcomes (i.e., family satisfaction with care and caregiver burden), theoretical fit, and evidence-based strategies for effective intervention in family-staff conflicts will be discussed.

THE FINAL WORD: CT MFP PARTICIPANTS' QUALITATIVE FEEDBACK ON PROGRAM EXPERIENCES

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The Money Follows the Person Rebalancing Demonstration (MFP) is a federal initiative to help states transition people needing long-term services and supports from institutional settings to the community in an effort to enhance individual preferences and rebalance Medicaid expenditures. This qualitative study explored Connecticut (CT) MFP consumers' post-transition experiences. Participants provided feedback about perceived effectiveness of the program and identified barriers to successful program implementation. Data were collected from 1,197 consumers who answered an open-ended question in the Quality of Life Survey conducted from 2008–2015 at baseline, 6, 12 and 24 months after transition. ATLAS.ti software was used to identify and organize themes. Findings show that while consumers appreciated the program and offered positive feedback, many also reported barriers and challenges. Of the 1,902 comments, the most frequently reported theme was lack of support for physiological needs, such as additional personal assistance and assistive technology (40%, $n=764$). The second most common theme was shortages in supplemental supports, such as housing, transportation and finances (25%, $n=484$). A third theme referred to social needs including choice and control, and social supports (18%, $n=311$). While MFP consumers generally report high quality of life, both in the CT program and nationally, this study suggests that some participants would benefit from more community services and supports to fully meet their needs. Findings have the potential to deepen stakeholders' understanding of consumer needs and facilitate planning to improve services and supports for older adults and people with disabilities living in the community.

NON-PHARMACOLOGICAL MANAGEMENT OF DISTRESS AMONG COMMUNITY LIVING CENTER RESIDENTS USING TECHNOLOGY

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While non-pharmacological management of distress in long-term care facilities is of critical importance, traditional psychotherapy interventions pose challenges of scale. To bolster non-pharmacological management of acute distress among a geropsychiatric cohort of community living center residents, assistive technology services were added.

Traditional psychotherapy interventions including reminiscence, behavioral activation, and relaxation exercises were modified such that they could be delivered on a digital platform. A paired-samples t-test was conducted to compare resident's subjective distress ratings immediately before assistive technology intervention and subjective distress ratings immediately after assistive technology intervention. There was a significant difference in the mean scores for pre-assistive technology intervention ($M=4.09$, $SD=2.50$) and post assistive technology intervention ($M=2.29$, $SD=1.98$) conditions; $t(13)=5.29$, $p=0.000$. These results suggest that our assistive technology interventions have helped to provide residents with a corrective emotional experience and justify future programmatic development of such non-pharmacological interventions.

REGULATORY RELATIONSHIPS IN NURSING HOMES—US AND THEM, ME AND YOU, WE

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Effective collaboration between regulatory staff and those they inspect has been recognised as a key component in furthering the improvement agenda within nursing homes. This presentation will discuss a study which is using appreciative inquiry to bring together all those who participate in nursing home inspection (inspectors, inspection volunteers, care home managers and staff, residents and relatives), where the focus is on the shared capacity of all involved to enhance the experience of inspection. Drawing on relationship-centred care and complex responsive processes theoretical frameworks this study explores the relational processes at play in inspection with particular attention to those which help to build collaboration. Knowledge of these positive relational practices is used by the research participants to inform experimentation with new initiatives to develop these relationships further.

Principle methods used in this study are group discussions, interviews and observation of inspection visits. Representatives from each of the inspection stakeholder groups are involved in these data collection methods. A key principle within appreciative inquiry is that of 'inquiry as intervention', and so the coming together of the various stakeholders for group discussions has in itself an influence on relationships among the stakeholders.

Broad themes for enhancing relationships in the nursing home inspection setting include: Shared ownership of inspection process and outcomes and Shared humanness- deepening our understanding of each other's perspectives. The ways in which these themes can be brought to life in nursing homes will be outlined in this presentation.

RESIDENT CHOICE: NURSING HOME STAFF PERSPECTIVES ON CHALLENGES AND RESOLUTIONS

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Culture change implementation in nursing homes has made notable strides over the past two decades but faces remaining obstacles. Obstacles to a central component of culture change, resident choice in daily life, have been researched little internationally and even less in the U.S. This study explored U.S. nursing home staff members' perceptions of challenges to realizing resident choice in daily life and of possible resolutions to overcome these challenges. Semi-structured interviews were conducted at two purposively sampled Veterans Health Administration (VHA) Community Living Centers (i.e., nursing homes). Participants constituted twenty-six staff members, with positions varying in discipline and in hierarchical level. A modified grounded theory approach guided data analysis. Data analysis surfaced key challenges at the following three levels: intra-personal (e.g., resident personal characteristics, staff work demands), inter-personal (e.g., staff-resident power dynamics), and organizational (e.g., organizational policies). The most salient results were found at the staff intra-personal level; staff mental models of care often lacked clarity on how to promote resident choice when faced with challenges such as balancing the competing goals of resident choice and resident medical and safety needs. Findings also included staff-employed resolutions to resident choice-related challenges, i.e., preventive practices, staff and resident education, staff reinforcement, staff deliberation, stakeholder collaboration, and supportive leadership. This study pinpoints a comprehensive set of challenges and resolutions to challenges particular to nursing home staff promotion of resident choice. It offers specific and concrete insights on how this central component of culture change, and thus resident quality of life, can be advanced.

HOPE IN THE NURSING HOME: RELATION WITH QUALITY OF LIFE, FUNCTION, PAIN, SOCIAL SUPPORT, RELIGIOSITY

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Hope is an important factor influencing the quality and quantity of life in patients with chronic diseases. We aimed to assess the association between hope and quality of life, physical function, pain, social support, and religiosity among nursing home residents. Residents in four homes for the aged in Jerusalem were included in the study. IRB approval and informed consent were obtained. Level of hope was assessed by the Herth Hope Index (score range 12–48); quality of life by the WHO Quality of Life-BREF instrument (physical health, psychological, social relationships, and environment domains); physical function by the Barthel Index; pain by the Short Form McGill Pain Questionnaire; and social support by the Social Support Questionnaire for Transactions (SSQT) and Social Support Questionnaire for Satisfaction (SSQS). Residents defined their religiosity as secular, traditional, or religious. There were 100 participants (63 females, 37 males; mean age 80.9 years); 25 secular, 37 traditional, and 38 religious. The mean Herth Hope Index score was 33 ± 4 . Level of hope was correlated with the physical ($r=0.479$, $p<0.001$), psychological ($r=0.759$, $p<0.001$), social ($r=0.567$, $p<0.001$), and environment ($r=0.532$, $p<0.001$) domains of quality of life. Hope correlated positively with level of physical

function ($r=0.205$, $p=0.04$), inversely with pain intensity ($r=-0.215$, $p=0.032$), positively with social support ($p<0.001$) and positively with level of religiosity ($r=0.266$, $p=0.008$). In this population, higher quality of life and physical function, lower pain intensity, better social support, and greater religiosity were associated with higher levels of hope, emphasizing the importance of interventions to foster hope.

PREDICTORS OF FAMILY MEMBER INVOLVEMENT IN NURSING HOMES

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Families often remain involved in the care of loved ones after nursing home (NH) placement. This study examines the predictors of three family involvement outcomes: visiting, providing direct care, and communicating with staff. The primary family contact of a census-proportionate, random sample of NH residents was surveyed in a 2012 biennial, state-mandated survey of family satisfaction with care. Multilevel models examined resident, family member, and facility predictors for each family involvement outcome ($N = 14,979$ individuals; 839 facilities).

Findings suggest that the perceptions family members have of the NH staff and living environment influence their involvement. Families visited less frequently and provided lower levels of personal care when they liked the facility overall, felt that residents looked well-groomed and cared for, received adequate medical information from staff, and viewed staff as friendly. On the other hand, increased frequency of visiting was associated with receiving adequate information at admission and the perceived availability of administration to talk, factors that also contributed to more communication with staff. In addition, family members communicated more with staff when they perceived the staff as friendly and residents appeared well-groomed and cared for. Other predictors of increased family involvement included family relationship (e.g., spouses), lower physical functioning of residents, expected short-term stay, and urban location. All findings were significant at $p<0.05$. Prior research has linked family involvement to resident quality of life and family satisfaction with care. These findings can inform interventions to promote increased meaningful family involvement in NHs.

EXPLORING STAFF PERCEPTIONS OF PEOPLE WITH DEMENTIA AT ADULT DAY SERVICES (ADS) IN TAIWAN

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One important aspect of quality of care at long-term care services is staff-client relationships. Staff's perception of clients has huge impact on building relationships with their clients. Studies have shown that staff in nursing homes perceive dementia residents more negatively than positively, and that negative attitudes were associated with less strain and less satisfaction with the caregiving work (Brodsky, Draper, & Low, 2003; Norbergh, Helin, Dahl, Hellzen, & Asplund, 2006). Although there is a wide range of studies about attitudes towards people with dementia, few have been done

in ADS settings. This study aims to explore staff perception of their clients with dementia in five ADS centers in Taiwan through interviews and field observations. Fifty-four individual interviews were conducted at centers in 2011 and 2014 with nurse's aides, nurses, social workers, housekeepers, volunteers, bus drivers and centers' directors. The field observations consisted of 120 hours at each center for a total of 600 hours. The findings revealed two themes reflecting ADS staff's attitudes towards clients: (1) labeling the clients as "old" or "sick" to distance themselves from the clients and (2) viewing the clients as their aging relatives and over-helping them. Both attitudes not only affected staff-client relationships but also influenced how clients viewed themselves by inducing self-labeling of incompetent and dependent. More education training is needed for staff at ADS centers in Taiwan to change their attitudes and behavior toward clients with dementia. With a more positive attitude of people with dementia, the prerequisites for person-centered care will improve.

LOW-INCOME OLDER POPULATIONS OF CALIFORNIA AND TEXAS: GROWING CHALLENGES FOR STATE HEALTH POLICIES

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States face serious challenges in financing long-term services and supports (LTSS) for growing populations of Medicaid-eligible older citizens. As in other areas of health and social support, a shift from fee-for-service to managed care financing holds great potential for controlling costs while providing program participants high quality care. In this study, we compare managed care community-based LTSS capitation models for dual-eligible older individuals in California and Texas. We compare the ways in which the two states employ two major federal Medicaid waivers, in addition to the Program of All Inclusive-Care of the Elderly (PACE), a federally mandated option within Medicare. While Texas has focused on the consolidation of most of its waiver programs into a single statewide capitated managed care program, California continues to experiment with a more diverse set of local programs. Results suggest that PACE may be the more cost-effective option in both states. However, our analysis suggests that low capitation rates may be stifling expansion of PACE in Texas. As with Texas, detailed analysis of capitation rates in California suggests that PACE may be less expensive option than institutional care for the frailest dual-eligible residents. A major question that arises relates to the extent to which local waiver experiments can be brought up to scale statewide, and whether California and other states will make the expansion of managed LTSS a priority in response to rapidly growing Medicaid expenditures.

PSYCHOSOCIAL PREDICTORS OF SURVIVAL IN TWO OLD AGE COHORTS

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Increased life expectancy seems to result in disability postponement and increase in care services needs at older age. Existing models of the psychosocial factors' associations

with health and survival in older adults show inconsistencies regarding the significance of these associations. Few of these models regarded the cohort effects, which may be important in the planning of care for old persons.

The aims of this research were to check the differences in survival and in psychosocial characteristics between two cohorts of older adults and to compare psychosocial predictors of survival in two different cohorts of retirement homes' residents.

Participants were two cohorts of old persons, older than 60 years, from Croatia. The cohort interviewed in 1994 consisted of 186 participants (144 women). The cohort interviewed in 2008 consisted of 277 participants (182 women). Both cohorts lived in retirement homes. The inclusion criterion for this research was reliable information on the participants being deceased in the meanwhile, by 2015.

Variables measured: Sociodemographic, self-rated health, functional ability, social support, depression.

Data were collected by specifically constructed questionnaire, administered individually in the form of structured interview, by the trained interviewer. Participants' survival was followed by 2015.

Significant gender differences in survival were found, with continuing trend of women surviving longer in both cohorts. Better self-rated health and functional ability were found in younger cohort. Combinations of multivariate analyses confirmed significant contribution of psychosocial variables to survival prediction.

Implications are in the planning and adjustment of psychosocial care for future cohorts of retirement homes' residents.

IT HAS GIVEN ME A NEW LIFE: PEER MENTORING IN RESIDENTIAL CARE

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Most residents within residential care lack a sense of purpose. This has been associated with loneliness and depression, which are wide-spread across long-term care, assisted and retirement living. There is evidence that individuals engaged in peer support groups experience significant benefits, but this type of program is rare within these settings. To address this gap we developed an innovative peer support program called the Java Mentorship Program, in which volunteers, family and residents (mentors) form a supportive team, receive education and provide mentorship and visitation in pairs to residents (visitees) that are lonely or socially isolated. We conducted a mixed-methods pre-post study to explore the outcomes of and participants' experiences with the introduction of this program in 10 residential care settings. Over a six-month period, qualitative data were collected using a combination of observations, individual interviews and staff focus groups and quantitative data were collected using standardized measures of sense of purpose, loneliness and depression. A total of 105 mentors, 86

visitees and 24 staff enrolled in this study. Qualitative analysis identified three themes: 1) "Mutually Beneficial" described how both mentors and visitees benefited; 2) "Recruitment and Pairing Challenges" identified issues encountered by some staff; and, 3) "Transformative Team Meetings and Education" described the program's positive impact on staff, mentors, and visitees. Preliminary results are promising. The quantitative data analysis underway will also be presented. Positive results will support further experimental research to determine if this intervention is efficacious at decreasing depression and loneliness and enhancing purpose within residential care.

SESSION 3680 (POSTER)

LONGEVITY AND HEALTHSPAN

EFFECTS OF PHARMACOLOGICAL INHIBITION OF AGING-ASSOCIATED PATHWAYS OF DROSOPHILA LIFESPAN

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Mutations of the PI3K, TOR, iNOS, and NF-κB genes increase lifespan of model organisms and reduce the risk of some aging-associated diseases. We studied the effects of inhibitors of PI3K (wortmannin), TOR (rapamycin), iNOS (1400W), NF-κB (pyrrolidin dithiocarbamate and QNZ), and the combined effects of inhibitors: PI3K (wortmannin) and TOR (rapamycin), NF-κB (pyrrolidin dithiocarbamates) and PI3K (wortmannin), NF-κB (pyrrolidine dithiocarbamates) and TOR (rapamycin) on *Drosophila melanogaster* lifespan and quality of life (locomotor activity and fertility). Our data demonstrate that pharmacological inhibition of PI3K, TOR, NF-κB, and iNOS increases lifespan of *Drosophila* without decreasing quality of life. The greatest lifespan expanding effect was achieved by a combination of rapamycin (5 μM) and wortmannin (5 μM) (by 23.4%). The treatment of *Drosophila melanogaster* with 10 non-steroidal anti-inflammatory drugs (NSAIDs: CAY10404, aspirin, APhS, SC-560, NS-398, SC-58125, valeroyl salicylate, trans-resveratrol, valdecoxib, licofelone) leads to extension of lifespan, delays age-dependent decline of locomotor activity and increases stress resistance. The lifespan extending effects of APhS, SC-58125, valeroyl salicylate, trans-resveratrol, valdecoxib, and licofelone were more pronounced in males, valdecoxib and aspirin - in females. We demonstrated that lifespan extension effect of NSAIDs was abolished in flies with defective genes involved in Pkh2-ykp1-lem3-tat2 pathway.

DECREASED CONSUMPTION OF SPECIFIC MACRONUTRIENTS PROMOTES METABOLIC HEALTH AND LONGEVITY

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Low protein, high carbohydrate diets can increase lifespan and improve metabolic health in both rodents and humans, but the specific aspects of a low protein diet that promote health and longevity have not been identified. Here, we demonstrate that a specific reduction in dietary branched chain amino acids (BCAAs) is sufficient to improve metabolic health, improving glucose tolerance and decreasing adiposity in both young and middle-aged mice, and promoting leanness and insulin sensitivity in mouse models of diet-induced obesity. Further, we find that diets with decreased protein or BCAA content can promote the longevity of progeroid mice. Reduced consumption of BCAAs does not induce the production of FGF21, a reputed endocrine signal of protein restriction and fasting, but does result in specific inhibition of the mechanistic Target Of Rapamycin Complex 1 (mTORC1). Our results suggest that a reduction in dietary branched chain amino acids promotes metabolic health and longevity, and may represent a highly translatable option for the treatment of diabetes and other age-related diseases.

METHIONINE RESTRICTION ALTERS HEPATIC MIRNAS INVOLVED IN METABOLISM IN YOUNG, OBESE, AND AGED MICE

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Age-associated disorders, such as Type II diabetes and nonalcoholic fatty liver disease, can be regulated by micro-RNAs. Dietary methionine restriction (MR) in young mice reduces adiposity and increases glucose sensitivity. The aim of this study was to determine whether previously identified miRNAs altered by MR in livers of young mice were similarly regulated in diet-induced obese (DIO) mice and aged mice. Young and aged male (8-week-old and 18-month-old, respectively) C57BL/6J mice were fed either a control (0.86% methionine; CF) or MR (0.12% methionine) diet; DIO mice (12-weeks-old; 40 grams) were fed a high-fat (60%) CF or MR diet for 12 weeks. MR repressed hepatic expression of several miRNAs (miR-455-5p, miR-33-5p, miR-99a-5p, and let-7g-5p) and increased the expression of mRNAs (Scarb1, Abcb11, Irs2, Insr, mTor, and Hadhb) that regulate the synthesis and transport of cholesterol, bile acids, fatty acids, and insulin in both young and DIO mice. However, in aged mice, miR-33-5p and miR-99a-5p, which regulate bile acid transport and mTOR signaling, respectively, were not affected by MR, while let-7g-5p, which regulates insulin signaling, was increased. MiR-455-5p, which can target Scarb1 and regulate cholesterol synthesis, remained repressed by MR. These findings suggest that the benefits of MR on liver function in young and DIO mice appear to be achieved through multiple mechanisms to attenuate a fatty liver condition, and that only some of these mechanisms are still effective in old mice.

3-HYDROXYANTHRANILIC ACID—A NOVEL MOLECULAR TARGET FOR LIFESPAN EXTENSION IN THE KYNURENINE PATHWAY

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Identifying novel genetic factors that can be targeted to beneficially influence longevity, healthspan, and age-associated disease is an ongoing area of focus in aging science.

In a recent study, we selected 82 *Caenorhabditis elegans* genes based on orthology to 125 human genes differentially expressed with age and conducted an RNAi lifespan screen. The clear outlier was *kynu-1*, encoding the kynurenine pathway enzyme kynureninase. RNAi knockdown of *kynu-1* extended lifespan by >20%. Kynurenine pathway gene expression and metabolite abundance is perturbed in individuals with a number of age-associated diseases, including neurodegenerative disease. Many intermediate kynurenine pathway metabolites have neuroactive or antioxidant properties, and pharmacological interventions targeting kynurenine pathway enzymes are being pursued for Huntington's disease in particular. In an expanded survey of the kynurenine pathway, we identified two additional genes for which knockdown results in a similar degree of lifespan extension to *kynu-1*(RNAi)—*haao-1* and *tdo-2*. Knockdown of *kynu-1*, *haao-1*, or *tdo-2* extended healthspan and delayed pathology in *C. elegans* models of Alzheimer's and Huntington's disease. Knockdown of *haao-1* alone achieved these benefits without impairing reproduction or development. HAAO-1 encodes the enzyme 3-hydroxyanthranilate 3,4-dioxygenase, which converts the metabolite 3-Hydroxyanthranilic Acid (3HAA) into 2-amino-3-carboxymuconate semialdehyde. Worms lacking *haao-1* have highly elevated 3HAA, which is thought to have both direct and indirect antioxidant properties. In ongoing work, we find that treatment of worms with 3HAA phenocopies reduced *haao-1* in the context of aging and neurodegenerative pathology in *C. elegans*, suggesting that it may represent a potent metabolic target for treating age-associated cognitive disease.

STRESS AND LONGEVITY PATHWAYS CONVERGE ON FMO-2

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Research in model organisms including *Caenorhabditis elegans* has led to the discovery of a number of genetic longevity pathways that are conserved in multiple organisms. Unfortunately, many or all of these pathways have pleiotropic effects including decreased fertility, developmental defects and other side effects undesirable for human translation. Our research focuses on identifying genes downstream of the transcriptional pathways that play important roles in the promotion of longevity with a goal of increasing lifespan with minimal side effects. Our recent data focusing on the effectors downstream of the hypoxic response led to a discovery that a single enzyme is both necessary and sufficient to improve stress resistance and longevity downstream of multiple stress response pathways. This protein, flavin-containing monooxygenase-2 (FMO-2), improves multiple measures of health in addition to longevity and is part of a well-conserved family of proteins. Our current studies focus on the molecular mechanisms, signaling pathways, and stress response programs that utilize FMO proteins in *C. elegans*, while testing similar hypotheses in mammalian systems. We also focus on developing small molecules (drugs) that may be useful in modifying the expression or activity of these proteins in humans. Our results suggest that FMOs are conserved modulators of metabolism, stress response and perhaps longevity in multiple organisms. We conclude that flavin-containing monooxygenases have evolved as

regulators of metabolism and stress response and that better understanding their molecular mechanisms will suggest ways in which they may be modulated to benefit health and longevity.

SERUM BIOMARKERS PREDICTING INSULIN RESISTANCE IN COMMUNITY-DWELLING OLDER ADULTS OF THE NUAGE STUDY

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We aimed to identify predictors of insulin resistance in community-dwelling participants of the Quebec Longitudinal Study on Nutrition and Successful Aging (NuAge). A total of 288 subjects (75.3 ± 4 years) with complete datasets were identified as insulin-resistant (n=96) and insulin-sensitive (n=192) over a 3-year period by trajectory analyses of the HOMA-IR score. Biomarkers included adiponectin, leptin, C-reactive protein (CRP), tumor necrosis factor- α (TNF- α), interleukin-6 (IL-6), IL-10, triglycerides, HDL and LDL-cholesterol, total insulin-like growth factor-1 (IGF-1) and its binding protein-3 (IGFBP-3). Muscle mass index (MMI; kg/height in m²) and % body fat were derived from DXA or bioimpedance. Physical activity was assessed by the PASE questionnaire. Factors found to correlate with HOMA-IR score by simple regression were included in a logistic regression analysis to determine baseline variables that affected insulin status of participants over time. All analyses were stratified for age and sex and adjusted for number of chronic conditions, cigarette smoking and physical activity. Significant differences were observed between groups with regard to body composition, physical activity, leptin, CRP, triglycerides, HDL and LDL-cholesterol as well as TNF- α and IL-6. TNF- α [OR (95% CI): 1.12 (1.00–1.23)]; leptin [2.92 (1.29–6.64)] and adiponectin [OR (95% CI): 0.58 (0.35–0.95)] were significant independent predictors of insulin resistance. Conclusion: higher levels of TNF- α and leptin contribute to higher odds of insulin resistance with aging in both men and women. A negative association with adiponectin and insulin resistance was observed. These findings could serve to define interventions targeting these biomarkers to minimize the risk of developing insulin resistance.

INDY REDUCTION PRESERVES FLY HEALTH AND HOMEOSTASIS

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Indy (*I'm not dead yet*) encodes the fly homolog of a mammalian *mIndy* (SLC13A5) plasma membrane citrate transporter. Reduction of *Indy* gene activity in flies, or its homolog in worm extends longevity. Decreased expression of INDY in flies, worms, rats, and mice has beneficial effects on energy balance because the levels of cytoplasmic citrate play a central role in metabolism. INDY is predominantly expressed in the midgut, fat body and oenocytes, all tissues

with a key role in metabolism. Our first goal was to determine which tissue is the most important for INDY-mediated benefits. We used *Indy* RNAi-mediated silencing and tissue-specific Gene-switch drivers. We found that reduction of *Indy* mRNA levels in female fly gut and fat body increases stress resistance and longevity but not to extend found in original *Indy* flies suggesting synergistic contribution of each of the tissues. Down-regulation of the *Indy* gene in flies preserves intestinal stem cell homeostasis (ISC) and midgut integrity. ISC homeostasis is crucial for midgut homeostasis and contributes to health and longevity in a variety of species. The Insulin/Insulin-like signaling (IIS) is a key nutrient sensing pathway, which regulates growth, metabolism and longevity. *Indy* reduction is associated with decreased IIS activity as illustrated by decreased *dilps* levels in heads and thoraces of *Indy* flies. Our second goal was to examine the role of IIS in *Indy* mediated changes in ISC homeostasis and health. We found that at least some of INDY's beneficial effects on fly health are mediated by the IIS.

MITOCHONDRIAL DNA HETEROPLASMY LEADS TO AGE-RELATED FUNCTIONAL DECLINE AND INCREASED MORTALITY RISK

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Mitochondrial DNA (mtDNA) heteroplasmy is a measure of relative levels of mutated and normal mtDNA molecules in a cell. High levels of heteroplasmy at specific mtDNA sites causes inherited mitochondrial diseases with neurological, sensory, metabolic, cardiovascular, and movement impairments. Here we test the hypothesis that elevated heteroplasmy levels at known disease causing sites are associated with impaired function resembling mild forms of mitochondrial disease.

We sequenced the entire mtDNA from blood and examined heteroplasmy at twenty disease-causing sites to identify associations with physical, cognitive, neurosensory, cardiovascular, and metabolic function, and 12 year mortality among 789 elderly participants from the community-based Health, Aging, and Body Composition Study.

Elevated mtDNA heteroplasmy at four mtDNA sites was associated with reduced cognition, vision, hearing, and mobility: m.10158T>C with MMSE score (p=0.009); m.11778G>A with contrast sensitivity (p=0.02); m.7445A>G with high frequency hearing (p=0.047); m.5703G>A with 400m walking speed (p=0.007). Elevated mtDNA m.3243A>G heteroplasmy exhibited pleiotropic effects and was associated with impaired strength, cognition, metabolic, and cardiovascular function: grip strength (p=0.027); DSST score (p=0.009); fasting insulin (p=0.006); pulse wave velocity (p=0.032). Increased total mortality risk (HR=1.25, 95%CI=1.01–1.56, p=0.046), including dementia-related (HR=1.96, 95%CI=1.11–3.44, p=0.02) and stroke-related (HR=2.43, 95%CI=1.00–5.97, p=0.05) mortality were observed for those in the highest tertile of m.3243A>G heteroplasmy (6–19%) when compared with the lowest tertile (0–4%).

These results indicate that increased mtDNA heteroplasmy is associated with impaired functioning and increased risk of mortality. We propose the novel use of mtDNA heteroplasmy

as a simple, non-invasive predictor of age-related physiological impairment and mortality.

CENTENARIANS TRANSCRIPTOME IS UNIQUE AND REVEALS A ROLE OF BCL-XL IN SUCCESSFUL AGING

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Centenarians not only enjoy an extraordinary aging, but also show a compression of morbidity. We identified 1721 mRNAs differentially expressed by PMBCs from centenarians when compared with septuagenarians and young people. Sub-network analysis led us to identify Bcl-xL as an important gene up-regulated in centenarians. We found that centenarians display lower plasma cytochrome C levels, higher mitochondrial membrane potential and also less cellular damage accumulation. Immune function is significantly impaired in septuagenarians compared with young people whereas centenarians maintain it. To further ascertain the functional role of Bcl-xL in cellular aging, we found in transduced lymphocytes from septuagenarians with Bcl-xL a reduction in senescent-related markers. Finally, *C. elegans* bearing a gain of function mutation in the Bcl-xL ortholog *ced-9* showed a significant increase in mean and maximal life span. These results show that mRNA expression in centenarians is unique and reveals that Bcl-xL plays an important role in successful aging.

FEMALE SEX HORMONES ALTER THE METABOLIC IMPACT OF HEPATIC RICTOR DELETION

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Rapamycin is an immunosuppressant and anticancer drug that extends lifespan in model organisms including mice, but side effects including metabolic disruption may limit its wide-scale use for diseases of aging. We have previously found that many side effects of rapamycin may be mediated by “off-target” disruption of the mechanistic target of rapamycin complex 2 (mTORC2), and that deletion of *Rictor*, an essential protein component of mTORC2, specifically in the liver results in hepatic insulin resistance, disrupted glucose homeostasis and decreased male, but not female, lifespan. Here, we investigated the interaction of sex hormones and hepatic mTORC2 with respect to metabolic health and lifespan. We gonadectomized pre-pubertal male and female mice in which *Rictor* is specifically deleted in the liver and their wild-type littermates. Ovariectomy impaired glucose and pyruvate tolerance, while castration had no effect on glucose homeostasis. Deletion of *Rictor* strongly impaired glucose and pyruvate tolerance in male mice, regardless of surgery treatment. Intriguingly, *Rictor* deletion impaired glucose and pyruvate tolerance in female mice undergoing sham surgery, but had no further effect on ovariectomized mice. These results suggest that female, but not male, sex hormones are required for mTORC2 modulation of hepatic insulin signaling and glucose homeostasis. We will also present the results of our ongoing lifespan study investigating the interaction of sex hormones and hepatic *Rictor* expression on longevity.

MATERNAL OBESITY PROGRAMS EARLY AGING OF MALE RAT OFFSPRING (F1) LIVER METABOLISM AND TRANSCRIPTOME

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Maternal obesity (MO) predisposes F1 offspring to chronic disorders including non-alcoholic fatty liver disease (NAFLD). With aging, the liver undergoes structural and functional changes associated with metabolic impairment. Mechanism(s) whereby MO and/or aging cause NAFLD are unknown. F0 female rats ate control (C) or obesogenic diet (MO) from weaning through lactation. After weaning F1 males ate C diet. At postnatal day (PND) 110 and 650 F1 serum and liver OS measures, liver histology, immunohistochemistry (IHC), and transcriptomics (RNA-seq) were evaluated. Data M ± SE. 110d MO F1 show impaired hepatic lipid function, increased NAFLD and OS markers; liver fat (C110, 2.7 ± 0.8; MO110 11.0 ± 0.7; C650 6.0 ± 0.9; MO650 29.0 ± 2.0 % area stained), lipoperoxidation (C110, 24.4 ± 3.4; MO110 36.1 ± 3.0; C650 35.9 ± 1.6; MO650 50.6 ± 2.2 nMol/mg protein). MO antioxidant enzymes decreased earlier than C F1, exacerbated in MO650 vs. C650. RNA-seq demonstrated differentially expressed genes (DEG) down regulated by age (C 110 vs C 650, 97%) and diet (C110 vs MO110, 95%). All five oxidative phosphorylation complexes showed decrease gene expression in MO F1 110d, e.g. mRNA *Nduf10* (C110, 6.2 ± 0.09; MO110 5.6 ± 0.12; C650 5.4 ± 0.30; MO650 5.52 ± 0.18 A.U.), also *SIRT-2* mRNA and protein (C110, 15.3 ± 1; MO110 9.8 ± 0.5; C650 12.1 ± 0.5; MO650 9.9 ± 0.5 % of area) were decreased to C650 levels indicating premature aging. We conclude MO programs metabolic dysfunction and down regulation of oxidative phosphorylation genes, especially complex 1 the major site of ROS production, leading to NAFLD accelerating metabolic dysfunction, predisposing F1 to premature aging.

MATERNAL PROTEIN RESTRICTION IN PREGNANCY ACCELERATES SPERM AGING IN RAT OFFSPRING (F1)

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Maternal protein restriction (MPR) during pregnancy leads to premature male reproductive aging. Poor nutrition during development increases oxidative stress (OS), a mechanism implicated in male infertility and aging. We hypothesized MPR in pregnancy accelerates sperm aging and involves OS. Mothers ate control (C) (20% casein) or a restricted (R) (10% casein) isocaloric diet during pregnancy. After birth all rats ate C. At postnatal day (PND) 110, 450, and 850 male F1 were euthanized and epididymal tail and

vas deferens sperm obtained to measure: 1) reactive oxygen species ROS, 2) sperm concentration, viability and motility. Data $M \pm SEM$; two-way ANOVA analysis; $n=6$, $p<0.05$. At all ages ROS was higher in R vs C (110 PND C: 3 ± 0.2 , R: 9 ± 1 ; 450 PND C: 3 ± 0.1 , R: 7 ± 1 ; 850 PND C: 3 ± 0.1 , R: 7 ± 0.4 ; $p<0.05$) and sperm quality was reduced. In both groups, ROS did not change with age. Sperm concentration decreased at PND 450 with no further changes (110 PND C: 319 ± 9 , R: 271 ± 7 ; 450 PND C: 252 ± 16 , R: 216 ± 14 ; 850 PND C: 227 ± 13 , R: 190 ± 11 ; $p<0.05$). For both groups sperm viability decreased at PND 450, but in R sperm viability declined further by PND 850 (110 PND C: 87 ± 1 , R: 79 ± 2 ; 450 PND C: 77 ± 1 , R: 68 ± 1 ; 850 PND C: 78 ± 2 , R: 56 ± 4 ; $p<0.05$). MPR increases sperm ROS potentially playing an important role in sperm aging trajectory. The increase of sperm ROS of young adults may lead to the programming in F2 via the male germ line.

INTRAUTERINE GROWTH RESTRICTION (IUGR) ACCELERATES PRIMATE CARDIAC AGING: A FUNCTIONAL MRI STUDY

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Epidemiological studies show IUGR predisposes offspring to adult cardiovascular diseases. However, it is not known whether cardiac function is affected in young adulthood. Using cardiac MRI, we compare left ventricular systolic function among young adult baboons (YNG), age matched IUGR baboons (IUGR), and more elderly baboons (OLD).

From 0.16 gestation to end of lactation pregnant baboons were fed *ad lib* vs 70% *ad lib* diets that result in IUGR. Baboons studied were IUGR (N=16, 8M, 5.7yr), young controls (YNG, N=16, 8M, 5.6yr), and elderly baboons (OLD, N=12, 6M, 16yr). Cardiac MRI was performed to evaluate systolic function and cardiac motion to include steady-state free precession and tissue tagging sequences. Data analysis was performed with CMR42 Circle and Harmonic Phase Flow. Statistical analysis was done by ANOVA and non-linear curve fitting, significant deemed at $p < 0.05$.

Reduced left ventricular systolic ejection fraction was present in IUGR and OLD groups of both sexes (YNG $58 \pm 3\%$, IUGR $45 \pm 2\%$, OLD $50 \pm 3\%$, $p<0.05$). Altered midventricular and basal rotation was observed in male IUGR and OLD groups during the latter half of systole ($p < 0.05$). A similar trend of rotational alteration was seen in the apical segment in the male IUGR and OLD groups, NS. No significant difference in rotation is noted in the females.

Left ventricular function decline is seen in the IUGR group, similar to OLD, raising concern for accelerated aging phenotype with IUGR. Lack of significant rotational changes in the IUGR and OLD females suggests sex-divergent response to antenatal stress and aging.

PLEIOTROPIC EFFECTS OF GENETIC VARIANTS ON MAJOR HUMAN AGE-RELATED DISEASE TRAITS AND LIFESPAN

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Biomedical research is traditionally focused on individual health conditions in order to postpone, ameliorate, or prevent the accumulation of morbidities in late life. An attractive idea in geroscience is to find factors, which could reduce burden of a major subset of diseases to efficiently extend health span. Genome-wide association studies raised enthusiasm for discovering genes influencing age-related disease traits and lifespan. The problem, however, is not straightforward due to the elusive role of evolution in these age-related phenotypes which implies a special type of genetic heterogeneity reflecting sensitivity of genetic associations to the life course of individuals in different environments. This elusive role can complicate discovering genetic predisposition to specific age-related phenotypes but can also facilitate discovering genes influencing seemingly unrelated ones. We examined pleiotropic genetic predisposition to major human age-related disease traits and lifespan in five large-scale studies (the Atherosclerosis Risk in Communities Study, the Framingham Heart Study, the Multi-Ethnic Study of Atherosclerosis, the Cardiovascular Health Study, and the Health and Retirement Study). These traits included biomarkers (lipids, blood pressure, blood glucose, body mass index, creatinine, lung function, hematocrit, C-reactive protein, heart rate), diseases (diseases of heart, Alzheimer disease, stroke, diabetes, cancer), and death. Our preliminary analyses highlighted 24 novel independent loci showing pleiotropic associations at genome-wide level. The analysis shows that the same loci were associated not only with causally-related age-related phenotypes but also with those which were seemingly unrelated. These findings suggest promising loci for disease-specific and systemic, age-related mechanisms of a major subset of age-related phenotypes.

INTERPLAY BETWEEN CIRCULATING NITRIC OXIDE (NOX) AND INTERLEUKIN-17 IN ELDERLY OUTPATIENTS

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Objective

This study investigated the possible association of clinical, biochemical and inflammatory variables of elderly patients with circulating levels of nitric oxide (NOx) as well as with genotypes of endothelial nitric oxide synthase (eNOS).

Method

Clinical (demographics, anthropometry, current and previous diseases, and lifestyle) and biochemical characteristics (lipemic, glycemic and hormonal profiles) were assessed from 168 geriatrics outpatients eligible for primary care for age-related disorders. Furthermore, total serum levels nitric oxide (NOx) and genotypes produced by the eNOS G894T polymorphism were determined. Circulating levels of 10 inflammatory mediators were measured. The Student's t test analyzed continuous variables across genotypes while the Spearman or the Pearson correlation tests analyzed categorical or continuous traits (respectively) according to serum NOx. $P < 0.005$ was the significance threshold following Bonferroni's convention.

Results

No association was found between the allelic variants of eNOS with any of the clinical or laboratory profiles, nor

did NOx associated with clinical or biochemical data. There was a negative correlation between plasma concentrations of NOx and levels of the immune mediator IL17.

Conclusion

Evidence for a positive correlation between circulating NOx and IL17 is already present in the literature. But the negative correlation observed herein diverges from investigations described so far, mostly conducted under inflammatory conditions. Our assumption is that, in non-inflammatory conditions, basal IL17 may not display positive modulatory properties on NOx, due to either a biphasic effect or no effect at all of IL17. Our results do not support functional properties of the classic genotypes studied herein.

SESSION 3685 (POSTER)

MENTAL HEALTH AND SUBJECTIVE WELL-BEING

THE ROLE OF RELIGIOSITY AS A PROTECTIVE FACTOR OF SUICIDE ATTEMPTS IN ELDERLY BRAZILIANS

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Religion appears to bolster the subject in your search for meaning, assuming the function of giving meaning to human life, through the spread of convictions that are on the path toward meeting this sense to exist. This study aims to understand how religion can contribute to curb suicide attempts in elderly people. This work explores a multicentric research part entitled study on suicide attempts in the elderly from the perspective of public health, held from 2012 to 2015 with the support of the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq). This study was approved by the Research Ethics Committee of the National School of public health (ENSP) of Fundação Oswaldo Cruz (FIOCRUZ). 57 interviews were analyzed with seniors who tried suicide in the five Brazilian regions. The instruments are: personal and social identification form of the elderly; semi-structured interview. For analysis, we use the method-hermeneutical dialectic. The results showed that religion exerts an integrative function, promoting the construction of a path enabler for that subject encounter a significant universe and feel part of society. Such protective function didn't report pegged only to the fact of being associated with any institution of religious slant, but the role that religion has played, and to directions that assigned to the life of the respondents. It was noted that religious practices linked to careful with the inner life and the meeting with directions for maintenance of life can collaborate on the prevention of suicide.

CAREGIVER STRESSORS AND DEPRESSIVE SYMPTOMS AMONG OLDER HUSBANDS AND WIVES IN THE UNITED STATES

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Framed by Pearlin's Stress Process Model, this study prospectively examined the effects of three primary stress factors reflecting the duration, amount, and type of care (ADL, IADL, both) on the depressive symptoms of spousal caregivers over a two-year period. This study also measured whether the effects of these stressors differ between husbands and wives. We analyzed data from the 2004 and 2006 waves of the Health and Retirement Study, a nationally-representative sample of adults ages 50 and over in the U.S. The analytic sample included 774 community-dwelling respondents who were married/partnered and providing help to their spouses for Activities of Daily Living (ADLs) and/or Instrumental Activities of Daily Living (IADLs). We used multivariate regression models to examine the direct effects of primary stressors on depressive symptoms among the total sample and for husbands and wives. We found that none of the primary stressors were associated with depressive symptoms within the total sample. However, when examining these issues for husbands and wives, wives providing only personal care (ADLs) had significantly more depressive symptoms than wives providing only instrumental care, while husbands providing different types of care showed no significant differences in depressive symptoms. We conclude that wife caregivers' increased vulnerability to depressive symptoms when providing personal care may reflect different gender roles in caregiving. Future studies that directly address couples' relational dynamics and gendered experiences in personal care, including emotion work, may further illuminate strategies for reducing depressive symptoms experienced by wife caregivers engaged in personal care assistance.

THE EFFECTS OF PHYSICAL LIMIT AND NEIGHBORHOOD COMPOSITION ON DEPRESSIVE SYMPTOMS IN LATER LIFE

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As people age, they are more likely to have physical and functional limitations, so that the influence of the living area become greater in later life. Therefore, the present study examined the interaction effects between activities of daily living (ADL) and the rate of a low income household on depressive symptoms. Data from the Korean Longitudinal Study of Aging in 2012 and Household Data from the Department of Statistics in Korea in 2012 were used. The sample was 2,386 individuals over 65-years-old. Data was analyzed by using hierarchical linear multivariate (multilevel) analysis. Results showed that ICC was 2.75. This means that the variance of the neighborhood accounted for the 2.75% of total variance of depressive symptoms. The interaction effect between ADL and the rate of a low income household was significant. The influence of ADL was smaller in regions where the rate of low income households was higher than in regions where the rate was lower. In addition, the main effect of ADL on depressive symptoms was significant but the main effect of the rate of a low income household was not. These results highlight that the effects of ADL on depressive symptoms may differ depending on neighborhood composition. They imply there are contextual aspects embedded in depressive symptoms beyond individual characteristics. Implications and directions for future research are discussed.

STRESSFUL LIFE-EVENTS AND COPING STRATEGIES IN OLD AGE: A COMPARISON BETWEEN SPAIN AND PUERTO RICO

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The aim of this study was to analyze life-events that elderly Spanish and Porto Rican adults consider stressful and the coping strategies they use to face them. The Spanish sample comprised 243 people, 33.3% men and 66.7% women. The Porto Rican sample comprised 195 people, 32.3% men and 67.7% women. The CSI Coping Strategies Inventory was used and MANOVAS analyses were carried out to test the interaction between cultural context, gender and stressful situation. It was found that 44.9 % of the Spanish sample and 43.1% of the Porto Rican sample mentioned health problems or the death of loved ones as their most stressful event. Meanwhile, for 35.8% of the Spanish participants and for 25.1% of the Porto Rican participants family conflicts constituted their main stressful circumstance. For 19.3% of the Spanish sample and for 31.7% of the Porto Rican sample other problems were cited as the most stressful event. The most frequently used coping strategy among Porto Rican older adults was problem solving, while Spanish older adults used wishful thinking most frequently. The MANOVA analysis showed a main effect of gender, stressful life-events and cultural context on the type of coping strategy used by participants. Similarly, an interaction effect was found between stressful life-events and cultural context. No interaction of gender and cultural setting was found. Therefore, the way in which different stressful life-events are coped with might be influenced by cultural aspects, meanwhile women and men from different cultural settings use similar strategies to face stressful situations.

ASSOCIATION BETWEEN MENTAL HEALTH AND PHYSICAL, COGNITIVE, SOCIAL FACTORS IN ELDERLY

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Purpose: In Japan, which will become to super-aged society in nearly future, it is very important to maintain or improve mental health in elderly. We examined the association between subjective mental health and physical, cognitive, social and economic factors of community-dwelling elderly, using large mail-survey data in Tokyo urban area.

Methods: We mailed a self-administered questionnaire to 132,005 subjects aged 65 years or older living in urban area of Tokyo in a community-based, cross-sectional study, and collected 78,917 responses (59.8%). Mental health was assessed using the Simplified WHO-5 Japanese version (S-WHO-5-J). It is consisted of 5 items with four-level Likert scale, and score-range is 0–15. Furthermore, we measured demographics (sex, age, person living together, education), physical factors (self-rated health, motor function, diseases (cerebral stroke, cardiac disease, diabetes, cancer)), cognitive factors (subjective memory complaints, self-administered

dementia checklist), basic ADL and I-ADL, social factors (social support, direct interaction to others, social activities, frequency of going-out), and self-rated economic conditions in now and their childhood.

Results: Correlations (Pearson) between S-WHO-5-J and other all variables were significant ($p < 0.001$). Multiple regression analysis showed S-WHO-5-J significantly associated with all variables except a cancer; especially, standard partial regression coefficients of self-rated health ($\beta = -0.211$), self-administered dementia checklist (-0.167), and social support (-0.131) were greater than other variables relatively.

Conclusion: Among the relevant factors of mental health, physical health, cognitive function, and social support were associated with mental health strongly. This result is similar to the previous studies conducted in other regions, were considered to be highly reproducible results.

THE ROLE OF EDUCATION AND RESILIENCE IN MENTAL HEALTH TRAJECTORIES OF AGING VETERANS

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Military veterans face negative and positive exposures uniquely related to service, including trauma from combat, increased educational opportunities and resilience from service experience. The literature provides mixed findings on whether veterans have better or worse mental well-being in later life compared to civilians, partially because these exposures are often unmeasured. Increased education and resilience among veterans are theorized to be unique pathways through which military service benefits long term well-being, but little empirical work addresses these mechanisms. We examine the roles education and resilience play in mental health among aging U.S. veterans, controlling for early life and service related exposures while accounting for selection into service. Using the Health and Retirement Survey (HRS) 2013 Veterans Mail Survey and a matched civilian comparison sample, we examine depressive symptom trajectories of older veterans and civilians. First, we find significantly higher levels of education, resilience, and well-being among older veterans compared to civilians, net of early life and service related exposures. We find that education and resilience independently mediate a substantial portion of increased well-being among veterans. The relevance of these findings for veterans and nonveterans in both early and late older adulthood will be discussed, along with implications for more recent cohorts.

SOCIOECONOMIC AND SOCIOBEHAVIOURAL INFLUENCES ON RESILIENCE AND VULNERABILITY

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When presented with challenges that accompany ageing, such as reduced physical capability, some individuals respond more positively than others, maintaining higher levels of wellbeing than expected, i.e. they are resilient. Although socioeconomic advantage is positively associated with individual (internal) and external resources that promote resilience in some contexts, the relationship between

socioeconomic position (SEP) and resilience as defined above is not known. We sought to examine the relationships of SEP, assessed by participants' occupational class, and sociobehavioral factors with mental wellbeing for a given physical capability. Participant data at age 60–64 came from the MRC National Survey of Health and Development, a nationally representative British birth cohort study ($n=1756$). Resilience was operationalised as having a greater than expected level of wellbeing, captured by the Warwick-Edinburgh Mental Well-being Scale (WEMWBS), for a given level of performance-based physical capability, assessed using grip strength, chair rise, standing balance, and timed-up-and-go tests. The degree of resilience or vulnerability was quantified as the difference between observed and expected WEMWBS scores, i.e. residual values, for physical capability using linear regression; positive residual scores indicated resilience and negative residual scores indicated vulnerability. The relationship between SEP, physical activity and social support, and the resilience-vulnerability score was examined in sex-adjusted linear regression models. Individuals with higher occupational class, physical activity and social support had higher scores on the resilience-vulnerability scale. These relationships need to be considered when identifying targets for interventions promoting wellbeing in populations experiencing age-related functional decline.

PSYCHO-SOCIAL MODERATORS OF THE COUPLING OF STRESS AND NEGATIVE AFFECT: A MICRO-LONGITUDINAL STUDY

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Socio-emotional theories suggest that with age, hedonic goals are increasingly prioritised, with changes in social motivation and emotion regulation (ER) strategies proposed as mechanisms facilitating pursuit of such goals. Supportive relationships and ER strategies such as reappraisal are thought to buffer against the negative affective consequences of stress. Personality traits such as neuroticism and extraversion also affect stress and negative affect. Few studies have used intensive longitudinal data to examine the role of psycho-social variables as moderators of associations of stress and negative affect and how these relationships differ with age. To bridge this gap in existing research, a micro-longitudinal design was employed in which 38 younger (aged 17–28) and 44 older (aged 62 and over) adults completed measures of personality, positive and negative social exchanges, and habitual ER (i.e., reappraisal and suppression) at baseline assessment, and measures concerned with daily experiences of stress and negative affect over 20 consecutive days. Analysis of between-person associations indicated that those with higher levels of reappraisal and positive social exchanges showed a weaker association between levels of stress exposure and negative affect. Higher extraversion buffered the association of stress and negative affect, while higher levels of neuroticism and more frequent negative social exchanges amplified between-person stress-negative affect associations among older adults. Higher reappraisal and lower neuroticism were each associated with reduced reactivity to stress at the within-person level for older adults. The results highlight age differences in the significance of psycho-social resources for protecting against deleterious effects of daily stress exposure.

EXPERIENCED SUBJECTIVE WELL-BEING DURING LEISURE-TIME ACTIVITIES AMONG OLDER ADULTS

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Understanding how older adults instantly evaluate their leisure time activities is critical to enhance quality of life. However, such experienced subjective well-being (SWB) during specific leisure time activities in later life is certainly understudied. The purpose of this study was to examine older adults' SWB during active (e.g., physical activities) and inactive (e.g., watching TV, doing nothing) leisure time activities. Data were obtained from the 2012 and 2013 American Time Use Survey Well-being Module (ATUS-WB). ATUS-WB assessed experienced SWB (i.e., happiness and meaningfulness) during specific activities over a 24-hour period among a nationally representative sample of American adults. SWB indicators were recorded using a 7-point Likert scale with the higher value indicating more positive SWB. Propensity score matching, which adjusted for demographic, socioeconomic, and health characteristics, was used to create matched samples of adults aged 60 years and older by active and inactive leisure time activities. The matched samples ($n = 282$ in each group) were equivalent in all characteristics. Subsequently, a series of independent t-tests were used to examine group differences in SWB. Results showed that older adults who engaged in active leisure time activities experienced significantly greater happiness (mean = 5.93; $t = 4.53$, $p < 0.001$) and meaningfulness (mean = 6.24; $t = 8.80$; $p < 0.001$) than those who engaged in inactive leisure time activities (means = 5.31, and 5.00, respectively). Given the identified positive association between active leisure time activities and SWB, suggestions for leisure time use in later life and policy implications were evaluated.

URBAN-RURAL DIFFERENCES IN SOCIAL CAPITAL IN RELATION TO SUBJECTIVE WELL-BEING IN OLDER RESIDENTS

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The aim of the study was to assess the differences between rural and urban areas as regards the role of social capital and its effect on self-rated health and subjective well-being among older people in Poland.

The cross-sectional study the *COURAGE in Europe* conducted in 2009–2012. The sample was selected on the basis of multi-stage clustered design from the non-institutionalized adult population. The analysis was based on 1299 of older people aged 65 and over from general Polish population.

As an indicator of social capital the *COURAGE* Social Network Index, the OSLO-3 Social Support Scale, the three item UCLA Loneliness scale were used as well as social participation and trust was assessed. Self-rated health (SRH) was measured by WHO-Europe recommended version (ranging from “very good” to “very bad”). Well-being was assessed by the Day Reconstruction Method.

The results showed that in urban areas, social network and social participation supported positive self-rated health; in rural older residents number of years of education and social support play the same role, while self-rated health decreased with increasing level of loneliness. Self-rated

health decreased in both groups of older people with growing number of diseases.

Multivariate linear regression model of predictors of well-being in older age also confirmed differences between urban and rural older residents. In rural residents subjective well-being significantly increased with positive effect of social network. Whereas, both in urban and rural areas poor assessment of subjective well-being increased with higher level of loneliness and growing number of chronic diseases.

THE LONGITUDINAL RELATIONSHIP BETWEEN WILL TO LIVE AND DEPRESSION IN LATE LIFE

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Depression is widely prevalent in late life. Will-to-live (WTL) declines with age and is a significant predictor of survival. WTL and depression are both important indicators of subjective well-being and are interrelated. The motivation to continue living embedded in the WTL lead us to examine the direction of long-term influence of Depression and WTL on one another. At baseline, 1,216 randomly selected elderly persons (75+) were interviewed at home (T1), and 892 of them were interviewed again two years later (T2). Cross-Lagged SEM analysis (using AMOS 18) was performed to assess direction of influence from Depression (15-item GDS scale Zalsman et al., 1998 - higher scores reflect lower Depression levels) to WTL (5-item Carmel's scale, 2015 - higher scores reflect stronger WTL) and vice versa. The research model yielded good fit indices with Chi-square/DF=3.17, CFI=.969, NFI=.955, TLI=.956, RMSEA=.049 (CI=.043-.056) and SRMR=.038. The correlation between WTL-T1 and Depression-T1 was $r=.44$ ($p<.001$), and $r=.40$ ($p<.001$) between WTL-T2 and Depression-T2. Analysis reveals significant positive effects of Depression-T1 on WTL-T2 (Beta=.098, $p=.006$), and of WTL-T1 on Depression-T2 (Beta=.171, $p<.001$). However, the long-term influence of WTL on Depression is significantly stronger than the influence of Depression on WTL (Chi-square=22.21, $df=1$, $p<.001$). Our results indicate the existence of a longitudinal reciprocal relationship between WTL and Depression with a stronger influence of WTL on Depression than the influence of Depression on WTL. Interventions for older persons to maintain and promote WTL for as long as possible have the potential to prolong life and maintain quality of life

THE MEANING OF AGING FOR PEOPLE WITH MENTAL ILLNESS: IMPLICATIONS FOR PROMOTING HEALTHY AGING

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Growing research evidence describes disparities and barriers associated with mental illness, which makes it difficult for individuals with mental illness to maintain physical, mental and social health during the aging process. This study examines the meaning of aging from the perspective of older individuals with mental illness, exploring their motivations and challenges to adopting healthy aging lifestyles and practices.

Narrative interviews were conducted with 61 adults with mental illness aged 50 and older in community and institutional settings in Hong Kong. Thematic analysis of interview data indicated that: 1) Participants expressed uncertain and worry about their daily life and health condition when aging, 2) Participants wanted to adopt healthy lifestyles and behaviors, but their mental illness symptoms and medication side effects made it difficult to learn and adopt new skills and knowledge, 3) Participants preferred to receive help and support from family members or friends, and indicated that needed and necessary community supports and care was not available to them, and 4) Participants wanted more understanding and acceptance of their mental health and life conditions from other individuals and wider society. These findings suggest that social and health services should be better tailored to support individuals with mental illness and their families during the aging process, responding to their perceived needs. Educational initiatives on mental illness and healthy aging should be provided to both individuals with mental illness and the general public.

RELIGION AND HOPELESSNESS AMONG KOREAN OLDER ADULTS

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Few studies have examined how both religion and importance of religion are associated with hopelessness in older adults. Using the 2011 survey of living conditions and welfare needs of Korean older adults (N=10,890), we studied whether the interaction of religious groups and the importance of religion influence hopelessness in Korea, where a substantial number of people believe in Buddhism, Protestantism, and Catholicism, and half of population is religious "nones". Based on the question about religious group identification and the question about the importance of religion in their lives, we have created seven religious group categories: strong Buddhists, weak Buddhists, strong Protestants, weak Protestants, strong Catholics, weak Catholics, and religious "nones". Our results showed that about 36% of Korean older adults said they feel hopeless. Controlling socio-demographic factors and health status, we found that regardless of religious group, those who said religion is important in their lives are less likely to be hopeless, but those who said religion is not important do not feel significantly more or less hopeless than religious "nones". Our findings suggest that the importance of religion in their lives plays a major role in hopelessness in older adults, and that both religious group and religiosity should be considered at the same time to understand elderly hopelessness.

HOME-BASED EXERCISE FOR DEPRESSIVE SYMPTOMS AMONG CARERS OF PERSONS WITH DEMENTIA: INTERIM FINDINGS

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We report the interim findings of a randomised controlled trial that assessed the efficacy of a home-based exercise programme in alleviating depression among caregivers of persons with dementia. In this single-blind trial, participants were randomly assigned to receive eight sessions of home-based 12-step sitting Tai Chi or a standard non-exercise social contact control, which spanned over 12 weeks. Clinical response was evaluated with Hamilton Rating Scale for Depression (HAM-D-17), Zarit Carer Burden Interview (ZBI), and cognitive assessment. A total of 138 primary caregivers of persons with dementia have been recruited. Sixty-nine caregivers were randomised to the Tai Chi group whereas 69 to the control group. To date, 86 caregivers have completed the study. Using linear mixed models, HAM-D-17 scores were found to decline significantly among Tai Chi participants at both week 6 and 12 ($p < 0.05$). In addition, delayed recall also improved in the intervention group at week 12 ($p < 0.05$). ZBI and other cognitive test scores did not change significantly. Our interim results suggested that Tai Chi was well tolerated and associated with reductions in the severity of depressive symptoms in caregivers.

SESSION 3690 (POSTER)

NEURODEGENERATIVE CONDITIONS: APPROACHES TO IDENTIFICATION

IDENTIFYING SPECIFIC SYMPTOMS OF LATE ONSET FRONTOTEMPORAL DEMENTIA FROM A FTD COLOMBIAN COHORT

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Recent studies have reported cases of late-onset frontotemporal dementia (LO-FTD), a relatively rare disease since clinical symptoms of FTD have mainly an Early Onset (EO). The aim of this study is to illustrate the complexity of the diagnostic process investigating LO-FTD as well as the main considerations of aging effects of different variants: 2 cases with behavioral FTD (bvFTD) and two additional ones with non-fluent aphasia (PNFA) from a Colombian cohort of 100 FTD patients, will be presented. It seems that, for instance, LO-FTD was more common than previously thought and age onset of these 4 cases ranges from 80 to 92 years old. All 4 patients did not have Alzheimer's disease neither vascular factors that followed an atypical course according to a clinical consensus diagnostic experts or MRI study, among others. Conclusion: Our study suggested that FTD is heterogeneous with respect the age of symptom onset. After controlling for the effects of chronological aging, EO-FTD a qualitative analysis suggests a great risk of misdiagnosis since even though they are similar to an atypical Alzheimer profiles (frontal variant of Alzheimer disease) clinical features are clearly different from other type of dementia.

HIPPOCAMPAL SUBFIELDS ATROPHY IN ALZHEIMER'S DISEASE AND SEMANTIC DEMENTIA: A CROSS-SECTIONAL STUDY

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Hippocampal atrophy is one of the anatomical hallmarks in Alzheimer's disease (AD) patients and the substrate of their episodic memory deficits. However, its specificity has been questioned since semantic dementia (SD) patients also display an atrophy of the hippocampus, but the cognitive symptoms do not include episodic memory impairments, and these patients rather manifest semantic memory deficits due to a deterioration of the anterior temporal lobes. Based on our previous finding (Chapleau et al., 2016), our hypothesis is that the posterior portion of the hippocampus is atrophied in AD patients only, and therefore explains the absence of episodic memory deficits in SD subjects. We conducted a cross-sectional study to quantify sub-hippocampal volumes in 9 SD patients, 11 AD patients and 12 controls, using the recent version of the automated segmentation software Free Surfer 6.0. The results showed that SD and AD subjects presented significant and bilateral volume differences, when compared to CTRLs, regarding whole hippocampi volumes and most sub-regions. In terms of the antero-posterior axis, the posterior regions were more atrophied in AD vs SD subjects. The hippocampal tails were bilaterally atrophied in AD compared to CTRLs, but only the left in SD, and the right fimbria was significantly smaller in AD vs CTRLs, but no difference was found in SD. While the sub-cortical results seem to confirm the pattern that has been observed in previous structural imaging studies, the results from an antero-posterior perspective seem to provide important new information.

ADVERSE EVENT REPORTS IN PD PATIENTS RECEIVING EXTENDED-RELEASE CARBIDOPA-LEVODOPA: EFFECTS OF AGE

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Introduction: Carbidopa-levodopa extended-release capsules (ER CD-LD, IPX066) significantly improve motor symptoms and activities of daily living in early and advanced Parkinson's disease (PD). ER CD-LD produces an initial peak in plasma levodopa concentrations at about one hour, which are maintained for about 4–5 hours before declining.

Methods: ER CD-LD was studied in three Phase 3 controlled trials, one in early PD vs. placebo and two in advanced PD: one vs. immediate-release (IR) CD-LD and one vs. IR CD-LD+entacapone (CLE). For each study, adverse events (AEs) were collected at each visit and comparative summaries were examined in patients categorized by age groups of <65, 65–74, and ≥75 years old.

Results: Of the 849 patients treated with ER CD-LD in controlled trials, 431 (50.8%) were of age <65, 310 (36.5%) were 65–74, and 108 (12.7%) were ≥75 years old. The percent of patients reporting ≥1 AE in each age group (<65, 65–74, ≥75 years) were 54.1%, 60.0%, and 64.8%, respectively. AEs reported by ≥5% in any age group (<65, 65–74, ≥75 years) were nausea (9.7%, 11.0%, 11.1%), headache (7.9%, 7.1%, 3.7%), dizziness (6.0%, 9.4%, 8.3%),

dyskinesia (5.8%, 4.8%, 5.6%), insomnia (5.3%, 3.5%, 3.7%), and constipation (2.3%, 1.6%, 7.4%).

Conclusions: In this population of PD patients treated with ER CD-LD in the Phase 3 clinical studies, the number of patients reporting ≥ 1 AE increased with increasing age. Of the most frequent AEs, headache decreased with increasing age, but no clear pattern of AE frequency emerged for nausea, dizziness, dyskinesia, insomnia or constipation.

DISORDERS OF VISUAL PERCEPTION FOR THE ELDERLY WITH BEGINNING COGNITIVE IMPAIRMENTS: REEVALUATION

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CONTEXT: Visuo perceptual deficits (VPD) not widely studied on the elderly, are common in dementia with Lewy bodies (DLB). The NEVIP test (Newcastle visuo-perception battery) is a simple, rapid and standardized computerized test, designed to explore different angles of visual perception. The aim of this study is to identify the progression of the NEVIP score after 1 year on the elderly with mild cognitive impairment (MCI) and beginning dementias, and also to assess the predictability of developing a DLB by the MCI population with a pathological NEVIP test. **MATERIEL ET METHOD:** Preliminary prospective cohort study conducted from November 2014 to February 2015 (by geriatrics, Pitié-Salpêtrière Hospital, Paris). Inclusion criteria were: 70 years and older patients with memory complaints, MMS > 18/30, recent cerebral imaging. **RESULTS:** Among the 30 patients included, only 16 were seen again after 1 year. At the initial analysis 57% had a pathological NEVIP, and after one year just 44%. After 1 year, the NEVIP test is pathological for 100% of the patients with a possible DLB. 3 patients had a deficit score at T0, which became normal after 1 year: 2 of these patients developed an Alzheimer disease, one a mixed dementia. One patient with a normal NEVIP which became pathological developed a DLB. **CONCLUSION:** This preliminary study opens perspectives for the analysis of VPD on the elderly. Identifying this deficit simply and early could help diagnose atypical presentations.

ASSOCIATION OF CIRCADIAN REST AND ACTIVITY RHYTHMS WITH BRAIN VOLUMES IN COGNITIVELY NORMAL OLDER ADULTS

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Disturbed circadian rest/activity rhythms have been linked to cognitive decline, but little is known about their association with neuroimaging-derived brain volumes. We studied 176 cognitively normal participants in the Baltimore Longitudinal Study of Aging aged 74.8 ± 8.9 years (58%

women, 29% non-White), who were instructed to wear wrist actigraphs for seven consecutive 24-hour periods and underwent 3T magnetic resonance imaging scans, with total gray and white matter, ventricular volume, and hippocampal volume quantified using a multi-atlas segmentation approach (MUSE software). We used function-on-scalar regression models, a data-driven approach, to quantify links between timing of actigraphic activity counts and brain volumes, adjusting for age, sex, education, CES-D score, MMSE score, and intracranial volume. Gray matter, white matter, ventricular, and hippocampal volumes were considered in separate models and time intervals rounded to the nearest 30 minutes. On average, lower gray matter volume was associated with higher activity levels between 2:30 AM and 12:30 PM and between 4:30 PM and 11:30 PM, lower white matter volume was associated with greater activity between 12:00 AM and 11:00 AM, and larger ventricles were associated with lower activity between 3:00 AM and 6:00 AM and higher activity between 6:30 PM and 12:00 AM (all $p < .05$). Lower hippocampal volume was associated with lower activity between 9:30 AM and 4:30 PM ($p < .05$). Results suggest that rest/activity patterns may be differentially associated with brain gray and white matter, and hippocampal volume. Longitudinal studies are needed to evaluate whether particular rhythms precede and perhaps promote neuronal loss, and vice versa.

DEMENTIA IN THE ICU: THE VALIDITY OF THE AD8 IN CRITICALLY ILL ADULTS

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Dementia is under-recognized in the intensive care unit (ICU). There is a paucity of data on brief, informant-based questionnaires, such as the AD8, to detect dementia in critically ill adults. The AD8, which has been validated in non-ICU settings, could be very helpful for busy ICU clinical teams who commonly care for patients with dementia. This investigation was planned *a priori* as a substudy within the BRAIN-ICU prospective cohort study (NEJM 2013), which enrolled patients with respiratory failure or shock. Qualifying surrogates of the ICU patients (N=75) were administered both AD8 (2–3 minute tool) and Clinical Dementia Rating scale (CDR, 30–45 minute tool). Using CDR cutoffs of ≥ 1 for mild dementia and > 0.5 for very mild dementia, we used a standard AD8 cutoff of ≥ 2 to calculate sensitivity, specificity, positive and negative predictive values (PPV and NPV), and AUC. By CDR, 4 patients had no dementia, 34 very mild dementia, and 37 at least mild dementia. For diagnosing mild dementia, the AD8 had sensitivity of 97% (95% CI 86%–100%), specificity 16% (6–31), PPV 53% (40–65), NPV 86% (42–100), and AUC 0.738 (0.626–0.850). For diagnosing very mild dementia, the AD8 had sensitivity of 92% (83–97), specificity 25% (1–81), PPV 96% (88–99), NPV 14% (0.5–58), and AUC 0.734 (0.538–0.930). **Conclusion:** Considering that it can be completed in several minutes, the AD8 at its standard cutoff of ≥ 2 is highly sensitive (97%) for detecting mild dementia in general medical and surgical ICU patients.

LINKS OF 24-HOUR REST AND ACTIVITY RHYTHMS TO DEPRESSIVE SYMPTOMS AND COGNITION IN THE MEMORY IMPAIRED

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Altered rest/activity rhythms are common in individuals with memory disorders, and are often conceptualized as a neuropsychiatric symptom. However, altered circadian rhythms may also drive other neuropsychiatric symptoms (NPS), such as depressive symptomatology, and disrupt cognitive function. Thus, we examined the association of 24-hour rest/activity rhythms with both depressive symptoms and cognitive performance in 54 adults with memory impairment (mean age = 77.8 ± 8.1 ; 43% women). Participants wore wrist actigraphs for approximately one week and completed the Mini-Mental State Examination (MMSE) in the baseline phase of a randomized trial. Beck Depression Inventory-II (BDI-II) scores were obtained for memory-impaired participants based primarily on caregiver input. We fit a function-on-scalar regression (FOSR) model to characterize links of clinical variables with rest/activity patterns. BDI-II and MMSE scores were the primary predictors; age, gender, and education were covariates. The 24-hour actigraphy profiles were the outcomes. BDI-II and MMSE scores both had statistically significant effects in the FOSR model. Greater depressive symptomatology was associated with significantly higher levels of activity, primarily between approximately 12AM and 12PM ($p < 0.05$). Better performance on the MMSE was associated with significantly higher levels of activity between approximately 10AM and 1PM and approximately 4PM and 7PM ($p < 0.05$). These results suggest that 24-hour rest/activity disturbances are linked to both neuropsychiatric (i.e., depressive) symptoms and cognitive performance, and that circadian disruption may therefore affect these clinically important outcomes. Further research is needed to investigate whether treatment of circadian disruption reduces neuropsychiatric symptoms and improves cognition in the memory impaired.

COGNITIVE RESERVE INFLUENCES LONGITUDINAL DECLINE IN YOUNG-ONSET DEMENTIA

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Objective: To examine the effect of cognitive reserve (CR) on longitudinal cognitive decline and gray matter (GM) atrophy in young-onset dementia.

Methods: Forty-seven patients with behavioral variant Frontotemporal Degeneration (bvFTD) were studied longitudinally on neuropsychological measures of executive function (verbal fluency) and language (confrontation

naming). Neuroimaging data were available for a subset of these subjects. Each patient's primary occupation was classified as professional or non-professional. Level of education was recorded in years and dichotomized into high and low groups. Linear mixed-effects models evaluated the interaction of neuropsychological performance change with professional and educational status. Regression analyses were used to relate longitudinal change in performance on neuropsychological measures to GM.

Results: There were significant occupation by time interactions for declining performance on measures of executive function, including letter-guided (FAS) and category-naming (animals) fluency in professionals (FAS: $t = -2.51$; $p = 0.01$; animals: $t = 3.05$; $p = 0.003$). Professional status did not affect the rate of decline on language measures. We found similar interaction effects for executive measures for education (FAS: $t = 2.01$; $p = 0.04$; animals: $t = 3.09$; $p = 0.002$). Furthermore, longitudinal decline in executive performance was associated with baseline GM volume in the dorsolateral prefrontal cortex.

Conclusions: bvFTD individuals with higher CR demonstrate more rapid decline on measures of executive function. This may be related to early disease in the frontal lobe which limits professionals' ability to utilize executive resources to "compensate" for declining cognition. The identification of individual factors associated with rate of clinical progression is important for estimates of prognosis and the design of treatment trial studies.

EFFICACY OF EXTENDED-RELEASE CARBIDOPA-LEVODOPA WITH OR WITHOUT THE USE OF OTHER PD MEDICATIONS

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Introduction: Carbidopa-levodopa extended-release capsules (ER CD-LD, IPX066) significantly improves motor symptoms and activities of daily living in early and advanced Parkinson's disease (PD). ER CD-LD produces an initial peak in plasma levodopa concentrations at about one hour, which are maintained for about 4–5 hours before declining.

Methods: The safety and efficacy of ER CD-LD vs. immediate-release (IR) CD-LD was examined in a randomized, double-blind, active-controlled, Phase 3 study. Efficacy measures (PD diary and Unified PD Rating Scale [UPDRS] Parts II [activities of daily living] + III [motor score]) were analyzed to evaluate the effect of concomitant use or non-use of dopamine agonists (DA), monoamine oxidase-B (MAO-B) inhibitors, or amantadine on the response to ER CD-LD.

Results: In the overall study ($N = 393$), ER CD-LD improved "off" time ($P < .0001$), "on" time without troublesome dyskinesia ($P = .0002$), and UPDRS Parts II+III scores ($P < .0001$) vs. IR CD-LD. Numerical improvements from baseline in PD diary measures and UPDRS Parts II+III were seen with ER CD-LD vs. IR CD-LD in each subgroup. Improvements in "off" time and "on" time without troublesome dyskinesia were significant ($P < .05$) for ER CD-LD vs. IR in each subgroup, except for the group using concomitant amantadine ($P > .50$). ER CD-LD did not significantly worsen "on" time with troublesome dyskinesia vs. IR in any subgroup ($P > .11$). The most frequent adverse events were similarly reported across subgroups.

Conclusions: The concomitant use or non-use of adjunctive PD medications did not affect the efficacy or degree of troublesome dyskinesias when ER CD-LD was compared to IR CD-LD.

DEFAULT MODE NETWORK CONNECTIVITY, EPISODIC MEMORY AND HEARING AND VISION LOSS IN OLDER ADULTS

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Introduction: Functional MRI (fMRI) studies are useful in revealing patterns of neuronal network activity in brains in older adults. The default mode network (DMN) is a well-described functional brain network likely related to introspection and is most active when the brain is not engaged in a specific cognitive task. Our objective was to describe how DMN connectivity relates to memory and sensory status in a sample of older adults with well-characterized vision and hearing and mild or no changes in cognition.

Methods: We collected resting state fMRI of the brain, vision and audiometry results from 41 older adults with age-related macular degeneration (AMD) and 37 age matched controls with healthy eyes. fMRI data were used to quantify the strength of intrinsic functional connectivity between regions of the brain that comprise the DMN. Memory was assessed by a standardized word recall test. Participants with moderate to severe dementia were excluded.

Results: Controlling for age, the preliminary results demonstrate significant positive correlation between DMN connectivity and episodic memory ($r=0.24$, $p=0.04$). Vision and hearing impairment were not related to overall DMN connectivity, nor was there any interaction between sensory impairment and memory with respect to connectivity. Further analysis will explore whether connectivity between specific hubs within the DMN relates to vision/hearing impairment.

Conclusion: The study demonstrated that DMN connectivity is positively correlated with episodic memory. In this population DMN connectivity did not differ depending on sensory input. DMN connectivity may serve as a useful and specific marker of memory loss that may signify early dementia.

SESSION 3695 (POSTER)

PAIN MANAGEMENT

THE ROLE OF PAIN MANAGEMENT AMONG HOSPITALIZED OLDER ADULTS WITH DELIRIUM

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Inadequate treatment of pain is a known risk factor for delirium among older adults. However, little is known about pain management among hospitalized older adults with delirium. We sought to investigate the role of pain and pain management in the development of delirium among older adults with moderate to severe pain admitted to the medicine service. Medical record review was conducted on adults ≥ 65 years admitted to the medicine service at an urban hospital between November 2014 and May 2015 with moderate to severe pain defined by the Numerical Pain Rating Scale score: 4 – 10. Of 254 patients with moderate to severe pain on admission, 41 (16%) were diagnosed with delirium during their hospitalization. Compared to patients without delirium, those with delirium were more likely to be age ≥ 75 years (59% vs. 42%, $p=0.05$), have a history of dementia (29% vs. 7%, $p<0.0001$), experience longer length of hospitalization (8 days vs. 5 days, $p=0.03$), and receive a palliative care consult (32% vs. 10%, $p=0.0002$). During hospitalization, patients received opioids (76%), acetaminophen (68%), adjuvant analgesics (34%), and nonsteroidal anti-inflammatory drugs (5%). There was no difference in pain severity or frequency of analgesic administration in patients with and without delirium. However, prior to admission, patients with delirium were more likely to be prescribed adjuvant analgesics (39% vs. 22%, $p=0.02$). In conclusion, pain management among hospitalized older adults was similar for those with and without delirium. Further research is needed to understand the role of adjuvant analgesics in older adults with delirium.

REVIEW OF PAIN ASSESSMENT INSTRUMENTS AVAILABLE FOR OLDER ADULTS

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Pain is common among older adults, and is often under-reported because it is considered as part of the normal physiological changes that come with aging. Since self-report of pain is the gold standard in research and practice, it is important to use the appropriate pain assessment tools to facilitate self-report. Little is known which self-report pain assessment tools are most appropriate to use in cognitively intact older adults. Thus, the purpose of this review is to identify which tools have been recognized as appropriate tools for this population. A systematic search was conducted through indexed databases from January 1990 to December 2015. Two raters independently evaluated 35% of abstracts based on inclusion/exclusion criteria. A final set of 43 full articles was reviewed. There were 23 self-reported pain assessment tools including non-dimensional, unidimensional, and multidimensional tools. In this review, the Iowa Pain Thermometer, the 6-point Verbal Descriptor Scale, and the 11-point Verbal Numeric Rating Scale, the short form Brief Pain Inventory and the Geriatric Pain Measure were recognized as more suitable tools than any other tools in cognitively intact older adults across different settings. Only the Geriatric Painful Event Inventory and the Geriatric Pain Measure were developed specifically for older adults. Since 80% of older adults have at least one chronic disease, multidimensional tools such as the Geriatric Pain Measure may be more appropriate. More studies are needed to evaluate the psychometric tests of the Geriatric Pain Measure in different settings, racially diverse populations and diseases or clinical conditions.

SEX DIFFERENCES IN ASSOCIATIONS OF COGNITIVE FUNCTION WITH PERCEPTIONS OF PAIN IN OLDER ADULTS

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Sex-differences in pain have been shown to exist in older adults with normal cognition. It is not known if sex-differences extend throughout a range of cognitive impairment in Alzheimer's disease. We conducted a secondary analysis on data from a cross-sectional parent study of sex differences in the associations of cognitive function (MMSE) with sensory perception. Median age of males (N=38) and females (N=38) was 73 (IQR: 68–80) with similar distributions of MMSE scores (medians 27,28, ranges 11–30). Specific perceptual responses were to heat thresholds of warmth, mild pain, and moderate pain and self-reported unpleasantness of each respective percept. Similar patterns of associations of MMSE scores with perceptions of heat thresholds (temperatures) were observed for both groups. We found inverse statistically significant associations at the threshold of warmth (females: $rs=-0.39, p=0.015$; males: $rs=-0.47, p=0.003$) with weakening and not statistically significant associations for mild and moderate pain thresholds. Conversely, increasingly divergent patterns of MMSE with unpleasantness ratings were observed. Females demonstrated none/positive associations (weak pain: $rs=0.09, p=0.597$; moderate pain: $rs=0.26, p=0.109$) while males demonstrate increasing inverse associations (weak pain: $rs=-0.29, p=0.075$; moderate pain: males: $rs=-0.22, p=0.190$). The difference between males and females at the moderate pain threshold was statistically significant ($z=2.05, p=0.040$). Between group findings suggest that with worsening cognition, patterns of responses to thermal stimulus intensity may differ between males and females. These findings may help to explain the decreased frequency of pain reports in people with AD and consequently a lower administration of analgesics.

A RETROSPECTIVE AUDIT OF PAIN MANAGEMENT IN PATIENTS PRESENTING WITH HIP FRACTURE

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The Agency of Clinical Innovation (ACI) developed seven minimum standards for the management of Hip Fracture across all public NSW hospital departments. Standard two relates to Pain management. The standards were implemented in the Northern Sydney Health District Service [NSLHD] with a population of 887,000 and five public hospitals in 2014. This retrospective case control study reviewed the medical notes of 34 patients with hip fracture admitted to MonaVale Hospital, a metropolitan hospital in Sydney, to identify gaps in Standard Two implementation. ACI data will inform the new Australian and New Zealand Hip Fracture Registry.

This 2015 audit assessed pain management in the Emergency department, Peri-operative setting and Rehabilitation. The audit confirmed the elderly population (mean age 86), appropriate assessment of pain scores (hourly upon presentation in 82% of patients). Analgesia prescribing

varied across the cohort. Local nerve blocks were used in 35% of patients in Emergency department. Post op analgesia was determined to be reasonable with only 18% of patients reporting severe pain, which may reflect under utilisation of neuropathic analgesia (14%). Inappropriate use of NSAIDs were found in 10% of patients. In response to the audit findings the team are developing a standardised pain pathway during the hospital journey for the patient.

AN ALGORITHM TO OPTIMIZE PAIN DETECTION AND MANAGEMENT IN OLDER PATIENTS UNABLE TO COMMUNICATE PROPERLY

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Although there are lot of scales existing to assess pain in older patients, pain remains under diagnosed in those with inability to communicate verbally (ICV), i.e patients with dementia, aphasia, delirium and/or not understanding the local language (1).

This is even more challenging when those patients suffer from acute pain and/or when visiting emergency department (ED).

We developed an algorithm aiming at helping medical and nurses staffs from different kind of settings to optimize pain detection and management in those patients.

Briefly, first use the verbal self-rating scale (1). If the scoring is uninformative according to the nurse, then consider the Algoplus behavioral scale assessment as a second step. The Algoplus scale has been specifically developed for acute pain assessment in ICV old patients (2) and validated in patients with and/or without Depression and/or dementia (3).

It has been successfully tested in different care settings. It is an easy and quick to use scale (less than 1minute for scoring) and has been implemented in lots of the acute care settings in France. A cut off score of 2 allowed pain management. If the algoplus scores 3 or higher, then opioid treatment can be consider as a pain treatment option, even in older patients in ED (4).

Herr et al. *Pain Manage Nurs* 2011, 12: 230–1

Rat et al. *Eur J Pain*, 2011; 15:198–204

Bonin-guillaume et al, *Eur J Pain*, 2016; 20:1185–93

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ACTIVITY-RELATED PAIN AND METABOLIC COST DURING DAILY TASKS IN YOUNGER, MIDDLE, AND OLDER ADULTS

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Background: Aging is associated with an increased risk for chronic pain and pain related disability. Minimal research exists on how activity-related pain is associated with the metabolic cost of movement and how this association varies in younger and older adults. The purpose of this study was to examine the relationship between pain and the metabolic cost of common daily activities in younger, middle, and older aged adults.

Methods: 70 individuals (16 younger-aged, 31.3 ± 9.2 yrs; 29 middle-aged, 55.7 ± 5.2 yrs; 25 older-aged, 72.0 ± 5.7

ys) performed 28 self-paced daily activities (leisure walking, washing dishes, ascending stairs, etc.). Oxygen consumption (VO₂) was measured for approximately 8 minutes during each task using a portable metabolic system (Cosmed K4b2). Values were expressed as metabolic equivalents (METs; O₂ uptake relative to 3.5 ml/kg/min). A 10-point Likert scale was used to assess ratings of perceived pain. Activity-related pain was calculated by subtracting pain scores rated immediately prior to task start from pain scores rated upon task completion.

Results: There was a significant interaction between METs and pain by age category ($p < 0.001$, $R^2 = 0.040$). Both younger and middle-aged adults showed a significant association between METs and activity-related pain ($\beta = 0.106$, $p < 0.001$; $\beta = 0.083$, $p = 0.001$; respectively). However, there was no relationship observed among older adults ($\beta = 0.029$, $p = 0.467$).

Conclusion: Higher activity-related pain is associated with a higher metabolic cost of performing daily activities. This effect appears stronger in younger and middle-aged adults than older adults.

OXIDATIVE STRESS MARKERS IN ELDERLY PATIENTS TREATED WITH ACUPUNCTURE

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Acupuncture is an interesting strategy to control symptoms in elderly patients. A group of 24 aged patients, who attend to the Geriatrics Ambulatory of Hospital das Clínicas of São Paulo Medical School was studied. They had pain complaints and were referred to treatment with acupuncture. Their levels of TBARS (a marker of oxidative stress) and GSH (an anti-oxidant enzyme) were determined before treatment, and after 10 and 20 weekly acupuncture sessions. Results were classified in high, normal or low and compared by ANOVA and Chi squared test. Four patients did not undergo the second evaluation and nine the third one. The mean GSH level was 1,67 before, 1,83 after 10 weeks and 2,04 after 20 weeks of treatment (ANOVA $p=0,211$, t paired test $p=0,077$). The mean TBARS level was 1,24 before, 0,55 after 10 weeks and 1,03 after 20 weeks of treatment (ANOVA $p=0,327$, t paired test $p=0,629$). No other comparison was statistically significant. The power of the sample for ANOVA was 0,219. The authors conclude that elderly patients treated by acupuncture possibly had their capacity of protection against oxidative stress by GSH enhanced during treatment, but not their oxidant activity marked by TBARS. Due to the small power of the sample, a definite statement needs a larger number of patients.

PAIN ASSESSMENT IN PEOPLE WITH SEVERE COGNITIVE IMPAIRMENTS—DO NURSES USE OBSERVATIONAL INSTRUMENTS?

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Many nursing home residents with cognitive impairments (CI) suffer from chronic pain, which is also discussed as a reason for challenging behavior. Because of their impaired communication abilities it is recommended to use an observational pain-instrument for the assessment. It is not known, if in German nursing homes the pain assessment for residents with severe CI is performed with the help of observational instruments or if also self-rating instruments are used. We assumed that in Dementia Care Units (DCU) observational pain instruments should be used more often than in Traditional Care Units (TCU). To find this out, we analyzed cross-sectional data from $n=1397$ residents living in $n=75$ care units ($n=30$ DCUs and $n=45$ TCUs). Descriptive statistics showed that in DCUs 82% of their residents with severe CI were assessed with an observational instrument; in TCUs this applied to only 42%. The differences were statistically significant ($p<.001$); a mixed model that adjusts for the nested data structure confirmed this result. We conclude that the use of observational instruments to assess pain in residents with severe cognitive impairments is not the standard in TCUs in German nursing homes. There is an urgent need to improve the knowledge about pain assessment in residents with severe cognitive impairments in TCUs to enhance the choice of the most suitable instrument.

PATTERNS OF PAIN MANAGEMENT AMONG ETHNICALLY DIVERSE OLDER ADULTS

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Aging is strongly associated with pain due to increased prevalence of frailty, chronic conditions and end-of-life issues. Multiple co-morbidities in older adults often complicate pain management efforts and increase the possibility of polypharmacy. Ethnically diverse older adult populations are at a higher risk of experiencing severe pain and adverse reactions from pharmacological agents due to cultural factors and access to medications and services to manage pain. The purpose of this study is to explore pharmacological pain management associated with polypharmacy among four ethnically diverse older adult populations. The study consisted of 40 purposive samples age 60 and older from community settings in south Florida representing four cultural groups (African American, Afro-Caribbean, European American and Hispanic American). Q-methodology was used to identify the older adults' common attitudes, perceptions and practices regarding pharmacological pain management with the intent to develop typologies that predict polypharmacy. Subjects' average age was 76.69 ranging from 60 to 97 with 87% females. Average chronic illness was 4.38, average medication used was 10.55 with average pain medication used 2.05. The Q-sort of 34 statements, using PQ method factor analysis, resulted in the emergence of six viewpoints as typologies, including: Bearing with pain; using alternatives, self-management with external resources; self-medicated; compliance and fear of addiction. Each typology was named based on its distinguishing statements indicating how older adults manage chronic pain. Knowledge of these typologies can alert practicing healthcare professionals to medication patterns that distinguish older adults but also uniquely predispose them to polypharmacy.

SESSION 3700 (POSTER)

PAIN MANAGEMENT AND REHABILITATIVE CARE

GENDER DIFFERENCES IN ASSOCIATION OF PAIN AND PHYSICAL PERFORMANCE WITH FEAR OF FALLING

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Fear of falling (FOF) can contribute to avoidance of physical activity and subsequent adverse health effects, reducing quality of life in older adults. An understanding of potential gender differences in factors such as pain and physical performance as contributors to FOF may lead to better fall prevention in women and men. We studied 765 adults aged 70 and older living in Boston area communities, participants in the population-based MOBILIZE Boston study. Pain severity was assessed using the Brief Pain Inventory pain severity subscale and musculoskeletal pain was classified as multisite, single site, or no pain. Fear of falling was measured using the Falls Efficacy Scale (FES). Physical performance was assessed using the Short Physical Performance Battery (SPPB). We used multivariable linear regression to examine the relation between pain and SPPB with FES score, separately in women and men. Slight differences between women and men in FES scores were not statistically significant (women mean= 95.19 ± 9.58; men mean= 96.33 ± 8.60, p -value=0.10). In separate multivariable models (adjusted for age, education, low vision, frailty, sppb, arthritis, and depression), pain severity and multisite pain were associated with lower FES scores in women (p -values=0.02 and 0.03, respectively), but not in men (p -values=0.21 and 0.57, respectively). In both women and men, low SPPB scores were strongly associated with FOF (p -value<0.001 for both). Further adjustment for history of falls had little impact on the findings. Future research is needed to determine the possible effects of the observed gender differences in FOF on fall risk and other adverse health outcomes.

VALIDATION OF PAIN CATASTROPHIZING SCALE THAI VERSION IN OLDER ADULTS WITH KNEE OSTEOARTHRITIS

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Pain catastrophizing is defined as individuals' exaggeration of pain perceptions that results in negatively evaluating their ability to deal with pain. The pain catastrophizing scale (PCS) has been developed in English for use to measure how catastrophizing impact on pain experience. Older adults with knee osteoarthritis suffer from pain and joint stiffness, which could limit their functional ability. Assessing patients' pain catastrophizing will be helpful to understand their perceptions on catastrophizing and how its influence pain and

disability. The purpose of this study was to translate the PCS into Thai and assess its psychometric properties with Thai older adults with knee osteoarthritis. The PCS was translated from English to Thai using committee approach. Five Thai experts were asked to assess content validity of PCS Thai version (PCS-Thai). Cognitive interviews were conducted with 10 older adults with knee osteoarthritis to confirm their accuracy. Thirty older adults with knee osteoarthritis with a mean age of 69.07 ± 6.62 years were recruited into a study investigating reliability. The I-CVI for each item and the S-CVI of the PCS-Thai were 1, which confirmed its content validity. The PCS-Thai indicated a good internal consistency reliability. Cronbach's alpha coefficients for the total PCS and for rumination, magnification, and helplessness subscales were 0.93, 0.84, 0.74, and 0.85, respectively. The PCS-Thai will be validated with larger sample size to confirm reliability and validity. This research can contribute to develop valid and reliable measure for future research of factors influencing of pain and disability in older adults with knee osteoarthritis.

PAIN CHARACTERISTICS AND PAIN CATASTROPHIZING IN COMMUNITY-LIVING OLDER ADULTS

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Chronic pain often leads to psychological symptoms and physical disability, affecting the lives of many older adults. Pain catastrophizing, potentially treatable, may have an important role on the pathway from chronic pain to its disabling consequences. This secondary analysis examines cross-sectional associations between pain characteristics and pain catastrophizing in older adults. The MOBILIZE Boston Study II included 354 adults aged 71 to 101 years (mean=84.5y; 65.8% female), living in the Boston area, enrolled from the original population-based cohort of the MOBILIZE Boston Study. Pain characteristics included the Brief Pain Inventory severity and interference subscales (scored 0–10, grouped into quartiles). Joint pain distribution was classified as none, single site, multisite, and widespread pain. The Pain Catastrophizing Scale (PCS), a 13-item scale, yielded scores ranging from 13–65. Multivariable linear regression models were used to examine the associations between pain characteristics and pain catastrophizing. Older age and chronic conditions, including osteoarthritis, depression, and anxiety, were associated with pain catastrophizing ($p < 0.05$). PCS was higher in older adults with moderate-severe pain compared to those with very mild pain or without pain (means =25.8, 23.2, 21.8, respectively, p -value =0.01). Results were similar for pain interference (p -value=0.004) and pain distribution (p -value=0.03). The associations between pain characteristics and pain catastrophizing persisted after multivariable adjustment for sociodemographic characteristics and chronic conditions. Therefore, pain severity, pain distribution, and pain interference are independently associated with pain catastrophizing in older adults. Longitudinal studies are needed to understand how pain catastrophizing may contribute to pain-related physical disability and falls in this population.

AGING AND CHRONIC PAIN: WOMEN WITH FIBROMYALGIA

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This study investigates the process of aging in women who are affected by fibromyalgia, as well as the physical, personal, and social impacts of this disease. It is a descriptive, prospective and retrospective, quantitative, and qualitative research. The study included 66 women diagnosed with fibromyalgia aged between 30 and 68 years living in São Paulo/SP, Brazil. For qualitative research, a group of 15 women from the 66 was selected. The instrument sought to encourage themes for reflection to access the social representations of pain, disease, and aging with chronic pain. The Collective Subject Discourse technique was used as the methodology to process the data of the qualitative research. The results indicated a higher incidence of fibromyalgia in older women; however, the impact on quality of life, measured by the Fibromyalgia Impact Questionnaire FIQ[Editor1], was higher among the middle-aged group (50–59 years). There was a higher prevalence of the disease among women with low education but its impact was found to be more significant for women with higher education. The presence of religiosity was clear in this group of individuals. The doctor–patient relationship was highlighted as an important factor for facing the adversities caused by the disease because of the need for social legitimization of the disease. Primary attention care requires an appropriate approach for a person with a chronic illness as peculiar as fibromyalgia.

RESISTANCE TRAINING IMPROVES SYSTEMIC AND TISSUE INFLAMMATORY PROFILES IN BREAST CANCER SURVIVORS

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Evidence supports resistance training (RT) as a non-pharmacological therapy to improve quality of life (QOL), fatigue, and physical function in breast cancer survivors (BCS). Less is known about the effects of RT on metabolism and systemic and tissue inflammation. The aim of this study was to determine the effects of RT on inflammation and whether these changes relate to favorable effects on metabolic, physical function, and subjective outcomes in postmenopausal BCS. Eleven BCS (48–75 years old; 2–34 years cancer latency; BMI: $30 \pm 4 \text{ kg/m}^2$; mean $\pm$ SD) underwent QOL (SF-36), fatigue (Piper fatigue scale), and function (6 min walk distance [6MWD] and 5 chair stand time) measurements before and after 16 weeks of whole-body RT. Blood pressure and lipid assessments, a 75 g OGTT, and skeletal muscle and adipose tissue biopsies also were performed. Plasma and skeletal tissue and adipose secretions were examined for IL-1 β , IL-6, IL-6SR, IL-8, SAA, and TNF- α protein content. RT improved strength 25–30%, QOL 10%, fatigue -58%, 6MWD 4%, chair stand time -15%, fasting insulin -18%, and systolic blood pressure -5% (P 's < 0.05). The protein content of IL-6SR, SAA, and TNF- α in plasma tissue and adipose secretions decreased ~25–35% (P 's < 0.05). There was a 75% increase in muscle protein content of IL-8 (P 's < 0.05). Changes in strength and inflammatory markers

were not associated with subjective, functional or metabolic outcomes, except chair stand time, which decreased with increasing leg press strength ($r=0.65$, $P<0.05$). The results support RT as a viable rehabilitation technique to improve subjective outcomes, physical function, metabolism, and inflammation in BCS.

THE GERIATRIC SUBSTANCE ABUSE RECOVERY PROGRAM (GSARP): SOLUTIONS IN POSTACUTE REHABILITATION

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The Geriatric Substance Abuse Recovery Program (GSARP) set within a skilled nursing facility is the first medical rehabilitation initiative for elders integrating substance abuse (SA) recovery into post-acute care. Program goals are to improve psychological functioning and clinical outcomes (e.g. recovery plan adherence). An eight month pilot was conducted to examine program efficacy.

GSARP program components included identification of rehabilitation patients requiring SA services, assessment of patients' addiction and support needs; development of comprehensive individualized care plans to meet patients' inhouse needs (SA counseling, group and individual therapy, AA), involving caregivers, and linking patients with community services before discharge. To monitor recovery and track outcomes following discharge: patients were called within 48 hours, a home visit was conducted after two weeks, and phone interviews (N=29) were completed after 30 days.

Ninety nine patients participated in the intervention (Mean age = 65 years; 67% male; over 50% were minorities; 94% had early-onset addiction). Alcohol SA was most prevalent (91%), followed by illicit drugs (23%), and prescription drugs (9%). One-month after discharge: 69% with alcohol and 64% with drug abuse issues reported not having relapsed, 73% of respondents reported not having difficulty following their discharge plan, and 50%, reported continuing AA/therapy. Additionally, 70% rated their program satisfaction as "excellent" or "good." No differences in depression were found from admission to 1-month post discharge. GSARP participants were more likely to be discharged home (74% vs. 47%) than patients who were referred to the program but refused participation (N=25).

DEVELOPMENT OF THE SIMPLIFIED PILATES EXERCISE PROGRAMME FOR PREVENTION OF FALLS IN OLDER ADULTS

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Traditional Pilates exercise programme may be too demanding for some older adults that may adversely affect their exercise compliance. Therefore, a two-stage pilot study was conducted to investigate the effectiveness of an expert-designed simplified Pilates programme comparing to the traditional Pilates programme. In stage one, four healthcare providers with more than 10-year of experience in exercise prescription were recruited to participate in a focus group aiming to develop an expert-designed simplified Pilates programme (eight Pilates exercises). In stage two, sixteen older community-dwelling adults (mean age = 79 ± 5.4 years) were

randomly recruited from two elderly community centres in Hong Kong and were randomly allocated to simplified Pilates training group or traditional Pilates training group. Each participant completed a 4-week (total 8 sessions) training programme and each session lasted for 60 minutes. All participants were required to complete a battery of physical and psychological assessments before (T0) and after completion of the training programme (T1). Muscle strength, flexibility, functional mobility, balance, depression, self-efficacy, fear of falling and anxiety level were measured. Results showed significant improvements after training in both simplified and traditional Pilates training groups ($p < 0.05$) on various physical outcomes, such as scores of Berg Balance Scale, Timed Up & Go test, Sit & Reach test and average peak force (e.g., left knee flexors, left hip abductors and left hip extensors). Additionally, participants who completed the simplified Pilates training improved significantly better than participants in the traditional Pilates training group in the scores of Berg Balance Scale and Geriatric Depression Scale.

GREAT TRIAL: PERSONALISED COGNITIVE REHABILITATION GOALS OF PEOPLE WITH EARLY-STAGE DEMENTIA

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The use of individual goals in psychosocial interventions ensures that these interventions are aligned with patient's values and address their vital needs. There is preliminary evidence from small-scale studies that people with early stage dementia (PwD) can identify personally-meaningful therapy goals. Here we present evidence of successful goal-setting in a large multicentre RCT of cognitive rehabilitation for PwD.

The Bangor Goal Setting Interview was used to elicit therapy goals related to everyday functioning for 473 people with early stage AD, vascular, or mixed dementia as part of the baseline assessment in the GREAT trial. Researchers and PwD worked together to identify up to three specific, measurable, achievable, personally relevant and time-bound therapy goals. Identified goals were analysed thematically to reveal common therapy needs.

Over 1500 therapy goals were identified by 473 PwD. Goals were driven by the motivation to reduce dependence, improve safety and increase engagement in pleasurable activities. They related to better management of everyday life through improving orientation, contributing to household chores, managing medication, and locating lost items. There was also an emphasis on increase activity levels, with goals around participation in meaningful activities, socialisation, remembering names, exercising, and using new technology.

The overwhelming majority of PwD in the GREAT trial were able to identify meaningful therapy objectives. These findings have implications for research, clinical practice, and policy. An understanding of the areas where PwD most want support can be used to develop genuinely person-centred care and provide targeted support where and when it is needed most.

SESSION 3705 (POSTER)

PRIMARY CARE

WHAT GP AND PRACTICE CHARACTERISTICS MAKE A DIFFERENCE TO OUTCOMES IN LATER LIFE?

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This paper aims to identify physician and practice characteristics associated with better health outcomes of older people. We performed a secondary analysis of data from a cluster randomised controlled trial involving 3,893 community-dwelling patients aged 75+ enrolled in 60 randomly selected general practices in three urban regions in New Zealand (response rates were 52% practice-, 36% GP-, and 47% patient-levels). After controlling for patient-level predictors of health status, we examined the association between 25 GP- and practice-level characteristics and enrolled older patients' 36-month outcomes: functional ability, assessed by the Nottingham Extended Activities of Daily Living; ratings of quality of life domains, obtained using the WHOQOL-BREF; and rates of ambulatory sensitive hospitalisations from the national dataset of hospital events. The largest significant differences in 36-month outcomes are as follows: lower function in practices that followed-up missed appointments ($b = -0.44$, $p = 0.006$); higher function in practices with greater proportion of older patients ($b = 0.19$, $p = 0.004$); lower QOL ratings in practices that followed-up missed appointments ($b = -1.77$, $p = 0.018$); higher ratings in GPs attending more clinical sessions ($b = 1.90$, $p = 0.014$); 8% lower admission rates for each 10% increase in locum physicians ($p = 0.018$); and 113% higher rates in main urban centre practices ($p = 0.008$). The large differences in rates of ambulatory sensitive hospitalisations highlight potential benefits of investing in physician- and practice-focused interventions.

THE PATIENT-CENTERED MEDICAL HOME FOR THE OLDER ADULT: WHAT NEEDS TO BE DIFFERENT?

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The purpose of the Patient-Centered Medical Home (PCMH) in the United States is to position the primary care system to provide better health care, better health, and lower cost per capita coupled with high-quality, accessible, and efficient care for all Americans. The PCMH is a promising model for transforming the organization and delivery of primary care. This presentation highlights the published White Paper entitled "Patient-Centered Medical Homes and the Care of Older Adults" in the fall of 2016. It provides a roadmap for the PCMH to continue the transformation of primary care delivery of care to the spectrum of older patients and/or their caregivers. The presentation will discuss the approach needed to recognize, facilitate, and encourage improved care for older adults in a PCMH setting by providing person-oriented

and patient-goal directed health care that is inclusive of connections to community-based organizations.

FACTORS ASSOCIATED WITH OTOTOXIC MEDICATION USE AMONG OLDER ADULTS

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Drug related ototoxicity may exacerbate age-related hearing loss, yet older adults are often on multiple medications for concurrent chronic illnesses. The purpose of this study was to explore factors associated with ototoxic medication use among older adults in Beaver Dam, Wisconsin. Cross-sectional analyses were conducted using the large Epidemiology of Hearing Loss Study database. Trained interviewers administered a questionnaire at baseline and at a 10-yr follow-up examination that included questions on medications that participants were taking at least once per week and on their health history. The assessments included an additional evaluation of actual medications currently used to assure accuracy.

Participants with hearing loss were taking a greater number of ototoxic medications than those without hearing loss at both baseline and 10-year follow-up. Hypertension, diabetes, cardiovascular diseases (CVD) and history of smoking were associated with ototoxic medication use at baseline, while only CVD and hypertension were associated at 10-year follow-up. Age and hypertension were associated with change in ototoxic medication use over 10 years among participants who were not taking any ototoxic medication at baseline. Hypertension, diabetes, and CVD may add significant risk for hearing loss among ototoxic medication users because these diseases themselves are risk factors for age-related hearing loss. Therefore, health providers need to consider the benefits vs. harms of adding potential ototoxic medications to people who have diabetes, hypertension, or CVD. Epidemiological studies are needed to refine our understanding of the relationship between potentially ototoxic medications, age-related hearing loss, and healthy aging.

ASYMPTOMATIC PERSISTENT EOSINOPHILIA IN AN ELDERLY PATIENT WITH SURGICAL MESH

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69 years old female, presented with asymptomatic, incidental finding of eosinophilia, on her first office visit. Medical history of HTN and surgical history abdominal hernia repair with mesh, 5 years ago. She has no pets, no foreign travel, nonsmoker, with no alcohol or substance use. No drug allergies and no family history of malignancy or immune disorder. Her mammogram and screening colonoscopy was normal. She takes the following for the last 10 years; Aspirin, Amlodipine; supplements include Fe, folic acid and multivitamins.

Review of systems was unremarkable except for mild occasional itching at her surgical site. Physical exam was unremarkable, except for the hernia repair scars on her

abdomen. Cell count and differential, revealed an elevated eosinophil count (11.8 /cc mm); a persistent eosinophilia for the last 3 years, since her hernia surgery, was noted. Comprehensive metabolic panel was normal.

Results

Based on the temporal relationship of her medications to the development of eosinophilia, we concluded, that the persistent eosinophilia was indicative of possible subclinical, graft vs host reaction GVHD. She was advised periodic follow up and observation.

Discussion:

Surgical mesh has been associated with a robust GVHD and immune complications but there is a paucity of literature with respect to the elderly patients. Further studies are warranted about the impact of surgical implants in elders.

Conclusion:

Subclinical GVHD reactions, should be included in the differential diagnosis of Eosinophilia, in the elderly patient with surgical mesh. Late GVHD presenting asymptomatic eosinophilia, in the elderly, merits close monitoring and follow up

THE MEDICARE WELLNESS VISIT: AN UNDERUTILIZED PATH TO EXCELLENCE IN GERIATRIC PRIMARY CARE

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Primary care faces a demographic imperative to serve older adults. However, primary care of seniors occurs in short visits that preclude systematic assessment and management of complex needs. Quality of care often suffers as a result. The Affordable Care Act has afforded Medicare recipients the benefit of an annual hour long wellness visit. However, nationally, only 10% of eligible people receive a Medicare Wellness Visit (MWV), a proportion that was mirrored in a community-based family medicine clinic in Southeastern Virginia (10.3%). In an effort to improve MWV rates of utilization, a 10 item survey was designed to ascertain among patients the extent to which the decision to utilize the MWV was influenced by their primary care clinician, their awareness of and satisfaction with the MWV. We sought to determine whether patients were aware of the MWV, if their primary care clinician had recommended one, and if there were attitudinal barriers towards having a MWV done. Emergent findings revealed: 1) recommendation by primary care clinicians was the strongest predictor of getting an MWV, 2) MWV recipients were highly satisfied with their experience, 3) attitudinal barriers such as "death panels", and concerns about costs, however, an aversion to various preventive services was not a barrier, and 4) the overwhelming majority of persons who had not had a MWV had never heard of the MWV. Findings led to patient education and the completion of 129 MWVs between April and July of 2016. Annualized, 384 MWVs represented an increased utilization rate of 74%.

AGING AND THE FREQUENCY OF NSAID-RELEVANT COEXISTING MEDICAL CONDITIONS IN THE PRIMARY CARE SETTING

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The second most common reason adults seek care from primary care providers (PCP) is musculoskeletal and connective tissue conditions; the most common medicines discussed at these visits are analgesics. Primary care providers can help promote the safe use of over-the-counter (OTC) analgesics, especially in the aging population, by identifying all coexisting medical conditions including those that increase the risk of NSAID associated complications. Data from 3 large healthcare claims databases (Truven Health) were analyzed to identify NSAID-relevant coexisting medical conditions of interest among adults ≥ 18 years with a PCP visit in 2013 and with at least one year of enrollment prior to their first PCP visit. The databases were representative of privately insured, Medicaid, and employer-based supplemental Medicare insurance populations. For this analysis, NSAID-relevant coexisting medical conditions of interest were asthma, CV risk (e.g., prior MI, coronary artery disease, congestive heart failure, hypertension, stroke), GI risk (e.g., history of gastrointestinal bleed, peptic ulcer disease, alcohol use, exposure to anticoagulants or steroids), and renal insufficiency. Hepatic cirrhosis was not included. At least 50% of all patients and at least 60% of patients diagnosed with a musculoskeletal disorder had at least one NSAID-relevant coexisting medical conditions. This frequency of at least one NSAID-relevant coexisting medical conditions increased with age in each population. These data reinforce the critical role PCPs can play in identifying aging patients with NSAID-relevant coexisting medical conditions and in turn providing them guidance on appropriate choice and use of OTC analgesics.

ATTITUDES TOWARDS DEMENTIA EXPRESSED BY MEDICAL STUDENTS AND RESIDENTS IN BRAZIL

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The present study describes the attitudes towards demented patients in three different phases of medical education: the end of the last semester of medical school, the beginning and end of three residence programs. A questionnaire on attitudes towards dementia was applied to 338 subjects. The subjects answered that (a) the quality of life of the patients with dementia can be improved; (b) it is the physician's role to inform the family about the diagnosis of dementia without using euphemisms; (c) it is fair to refer the families to specialized services; (d) the General Practitioner has a major role in caring for these patients; (e) caring for the patients with dementia is more rewarding than frustrating. Four statements showed an evolutionary pattern with statistically significant differences ($p < 0.05$): (1) the residents in the final period of their training agreed less than the

resident in the beginning and less than the medical students that "much can be done to improve the quality of life of the caregiver"; (2) only the residents in the first period of their training agreed more than the medical students that "it is more useful than harmful to provide diagnosis" and (3) that "dementia is better diagnosed in specialized services"; (4) residents in the last period of their training agreed less than the less advanced medical student that "primary care has limited role in the management of patients." The results show that some attitudes change as the subjects turn from students to more mature doctors.

RISK EVALUATION OF SUPER-ELDERLIED IN JAPAN BASED ON POTENTIALLY INAPPROPRIATE MEDICATIONS

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Older adults are considered to be at risk of developing multiple chronic diseases and polypharmacy. We conducted a study to clarify actual states of the prescriptions for the super-elderly patients aged 90 years and over in Tokyo, Japan. This study was done at an urban tertiary medical center in Tokyo Japan, and 203 patients age over 90 admitted from June 1 2009 to May 31 2012 were enrolled.

The demographics of the study were patients aged 90–104 years with the mean age of 93.62 (± 3.14), 74.4% female. The mean number of prescription drug was 5.2 (± 3.4) kinds and the mean daily cost of medications was 420.48 JPY. Of all patients, 54.2% received 5 or more medications, 16.7% received 9 or more. Furthermore, 35.0% received medications specified in Beers Criteria List as potentially inappropriate. In substudy, patients were classified into two groups based on the level of care need. The comparison of the number of drugs taken daily, pill counts, drug costs, and the use of potentially inappropriate medications in the Beers criteria was performed. There was no significant difference between the patients with the high care need and the low care need. As the conclusion, the super-elderlies aged 90 and over received multiple drugs, including potentially inappropriate medications. No differences were observed among the levels of the care need. Adequate medication reviews for this age group is critically needed.

COMPARISON OF ERADICATION RATE OF H. PYLORI WITH SEQUENTIAL REGIMEN BETWEEN ELDERLY AND YOUNG PEOPLE

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Background

The possibility of exposure to specific antibiotics is increased with aging. Especially, if the patient is used specific antibiotics commonly used in the eradication of *Helicobacter pylori* (H.P.) to treatment other disease. Therefore, the treatment of H.P. in the elderly could be cautious about drug resistant compared to the young.

Aim

This study aims to find out the difference of H.P. treatment resistance according to age.

Methods

The 231 patients were enrolled who were diagnosed H.P. and treated with sequential therapy(Rabeprazole, amoxicillin followed by metronidazole, clarithromycin or moxifloxacin) at the Seoul national university Bundang hospital, Korea, from January 1, 2013 to December 31, 2015. We classified patients older than 60 years old group(Group A), and between 20 to 59 years old group(Group B). And the difference in eradication rate of patients who underwent sequential therapy as a primary eradication therapy were compared in the two groups.

Results

The 184 patients were successfully treated to sequential therapy(79.6%). The 116 patients were group A and 86 patients were on treatment success(74.1%). The 115 patients were group B and 98 patients were on treatment success(85.2%). Eradication rate differences between these two groups was statistically significant with P value of 0.036(Pearson's chi-square test).

Conclusion

The group B is significantly higher eradication rates(85.2%) compared with the group A(74.1%). Antibiotic resistance maybe one of the possible cause of low eradication rate in the elderly patients. Further studies are needed to clarify the difference between two groups.

REDUCING POLYPHARMACY AND IMPROVING MEDICATION RECONCILIATION IN A FAMILY MEDICINE CLINIC

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Polypharmacy can adversely impact patient safety and healthcare systems. We designed a pilot, randomized non-blinded IRB approved study (CHS23290) to identify and address potential polypharmacy in adults 18 years and older with 4 medications or more using a team of physicians, pharmacist, and pharmacy students. Recruitment is ongoing with goal n=50 control, n= 50 intervention. To date, 12 patients are enrolled. Pharmacist/students chart review electronic medical records and select per above criteria and call prior to appointment, to obtain verbal consent for study participation, conduct medication reconciliation, and identify patient concerns. Medications are reviewed for appropriateness including drug-drug interactions, therapeutic appropriateness, and duration of drug treatment. Discrepancies and recommendations are addressed on day of visit with physician followed by post-visit surveys. Examples of interventions: discontinuing medication for side effect or lack of efficacy; adding, removing, or changing dose to reflect accurate medication profile; changing administration route for ease of use; adding medications to better control condition. Primary outcomes to date for 8 intervention patients at time of abstract submission – 12% of medications were decreased, and 100% of patient's medications were changed. Secondary outcome – 2 potentially harmful medications eliminated. Post-survey, 87.5% of patients felt they had more time with physicians during the clinic visit. Preliminary results indicate that interdisciplinary medication reconciliation prior to and during office visits can help to reduce the number of medications used.

Polypharmacy is a significant patient safety concern especially in geriatric populations; interdisciplinary medication reconciliation is key in addressing this issue.

DIFFERENT MEANINGS OF HEALTHY AGING FROM MULTIPLE PERSPECTIVES AND THE PROMOTION OF HEALTHY AGING

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In Thailand, the number of older population rises more significantly than other countries and the second fastest in South-East Asia, next to Singapore. In the northeastern country has high proportion of old people and the figure keeps increasing. Although healthy ageing is the goal in promotion of older people's health, however there is a lack of studying regarding this concept in this region. A qualitative approach has been conducted. Participants involve 17 older persons, 14 relatives who are responsible for taking care of older people and 36 community nurses who worked with those people. In depth interviews with open-ended questions were used to gain a variation of conceptions of healthy ageing from older persons and relatives' perspectives. Focus group discussions were used to engage the community nurses in discussions about the meaning of and promotion of healthy aging. Phenomenographic analyzing method was used to analyze the data from older people and their relatives. A latent content analysis was conducted to analyze the data from focus groups discussion. The findings reveal variations of healthy aging meaning through the three descriptions; "being interconnection", "the ability to do something well and feeling valued" and "thinking beyond capacity and function of body and mind". Promoting of healthy aging was described as "providing health assessment", "sharing knowledge" and "having limited resources". These findings shed some light upon the importance of holistic approach when promoting of healthy aging. The knowledge gained from the study may be helpful for improving healthy aging strategies in Thailand.

SESSION 3710 (POSTER)

QUALITY OF LIFE AND SUBJECTIVE-WELL BEING IN LATER LIFE I

QUALITATIVE MEASURES OF HEALTH-RELATED QUALITY OF LIFE IN AN OLDER ADULT POPULATION

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This study aimed to explore domains that are important to vulnerable older adults in relation to their Health-Related Quality-of-Life (HR-QOL) through a qualitative assessment. We then compared qualitative findings to a standard QOL measure. This was a secondary data analysis from a project funded by the Michael Reese Health Trust, designed to assess

the health of older adults ($n=232$) in the Chicagoland area receiving services from CJE SeniorLife, a non-profit community based organization. HR-QOL is a concept being used nationally to assess how health status impacts quality of life. HR-QOL is defined to include several domains of health, including physical and mental health, social functioning, and emotional well-being. Analysis from this study found that when directly asked about HR-QOL, older adults brought up some topics that were not included in traditional HR-QOL measures. When asked to consider anything and everything related to their HR-QOL, 62% of responses included issues related to mobility, 53% included themes related to medical issues, and 49% included themes related to general health. Qualitative themes were then compared to quantitative findings. Those who rated their QOL as very good or excellent were more likely to define HRQOL as being related to mobility (68%), those who ranked their QOL as poor/fair were more likely to define HRQOL related to access to medical care (57%). HRQOL is an important concept, but we must understand what it means for older adults, and which domains of health are most salient to them.

IMPACT OF PRESENT-ORIENTED SAVORING ON OLDER ADULTS' PSYCHOLOGICAL WELL-BEING

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Savoring is the use of positive emotion regulation strategies to increase awareness, enjoyment, and appreciation of positive experiences. Savoring can encompass past (positive reminiscence), present (savoring the moment), or future (positive anticipation) positive experiences. According to socioemotional selectivity theory, older adults tend to prioritize emotional goals in the present moment. The current study examined whether the ability to savor the moment may be more strongly associated with measures of well-being in older adults compared to the ability to savor past or future experiences. Participants ($n = 266$, mean age = 73.4 years, 81% female, 74% White) completed a survey that measured past-, present-, and future-oriented savoring ability, happiness, depression, and resilience. Multiple regression analyses were conducted with past, present, and future savoring ability predicting psychological well-being (i.e., happiness, depression, or resilience). Higher levels of present-oriented savoring were significantly related to greater happiness, lower depression, and higher resilience, $b = .65$, $\beta = .57$, $p < .001$, $b = -.23$, $\beta = -.45$, $p < .001$, and $b = .51$, $\beta = .43$, $p < .001$, respectively. Past- and future-oriented savoring were not significant predictors after accounting for present-oriented savoring. These findings suggest that the ability to savor the moment contributes to greater psychological well-being in older adults. Interventions designed to enhance older adults' savoring the moment may be more beneficial for enhancing psychological well-being than interventions focused on positive reminiscence or positive anticipation.

COMMUNITY COHESION AND PSYCHOLOGICAL WELL-BEING AMONG ELDERLY WITH AND WITHOUT DEMENTIA

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Community cohesion, feelings of trust and belonging in physical living places, may encourage elders' participation in

social activities and enhance psychological well-being. Using two waves (R1, R2) of the National Health and Aging Trend Study, we examined the direct effect of community cohesion on psychological well-being and the indirect effect of social activity participation among elders living in the community. Both the dementia ($n=806$) and the no dementia ($n=3754$) groups rated community cohesion (R1) and psychological well-being (R2; quality of life, positive and negative affect). Elders also reported the number of social activities in the last month (visiting others, religious services, clubs/classes, going out for enjoyment) at R2. Stratified structural equation models were estimated for elders with and without dementia. For the dementia group, community cohesion had direct effects on quality of life ($\beta=0.195$, $p<.001$) and positive affect ($\beta=0.19$, $p<.001$), but not negative affect. For the no dementia group, community cohesion was directly associated with quality of life ($\beta=0.175$, $p<.001$), positive affect ($\beta=0.15$, $p<.001$), and negative affect ($\beta=-0.14$, $p<.001$). Indirect effects of social activity participation were found with quality of life (dementia group: $\beta=0.05$, $p<.001$; no dementia group: $\beta=0.04$, $p<.001$), positive affect ($\beta=0.04$, $p<.001$; $\beta=0.04$, $p<.001$), and negative affect ($\beta=-0.04$, $p<.001$; $\beta=-0.03$, $p<.001$) in elders with and without dementia, respectively. Better psychological well-being among elders with high levels of community cohesion was associated with increasing participation in social activities. These findings demonstrate the importance of developing and maintaining community-level social cohesion for sustaining well-being among elders regardless of dementia status.

COGNITIVE RESERVE IS ASSOCIATED WITH QUALITY OF LIFE, SELF-ESTEEM, AND SELF-EFFICACY IN LATER LIFE

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With the growing older population worldwide there is increasing emphasis on helping this population age well. Cognitive reserve may provide a pathway to maintaining both cognitive and emotional health in later life. Previous research has shown that higher levels of cognitive reserve are associated with better cognitive function, reduced risk of dementia and lower levels of depressive symptoms. This study of 236 community-dwelling people aged 60+ sought to assess whether cognitive reserve is also associated with greater self-perceived quality of life, self-esteem and self-efficacy. Cognitive reserve was assessed with the Lifetime of Experiences Questionnaire, which assesses a combination of education, occupational complexity, and lifetime engagement in cognitive and social activity. Higher levels of cognitive reserve were associated with significantly higher levels of self-reported quality of life, self-esteem, and self-efficacy. Comparing the individual constituent elements of the cognitive reserve measure, education was the factor most strongly associated with self-efficacy, while engagement in cognitive and social activity in later life was the factor most strongly associated with quality of life and self-esteem. Occupational complexity was not associated with any of the dependent

variables, suggesting the results were not attributable solely to socioeconomic status. Encouraging people to continue to engage in the cognitive and social activities associated with higher cognitive reserve may increase well-being in later life in terms of quality of life, self-esteem and self-efficacy as well as helping to maintain cognitive function.

WELL-BEING OVER THE LIFE COURSE: CHANGES AND ADAPTATIONS

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Scholars have been trying to understand the concept of well-being for hundreds of years. Many experts from multiple disciplines have weighed in on the topic. Our research takes a phenomenological approach, conducting a mixed methods study to explore how people think about and experience well-being. We conducted over 100 semi-structured interviews with people from 18 to 82 years of age. During these interviews, people were asked to describe times in their lives when they experienced particularly high and low well-being. In addition, we collected survey data from 222 individuals (27 to 84 years old), assessing the various domains of well-being culled from rigorous analysis of the interviews. Results indicate that well-being is a multi-faceted concept that includes various domains: how people feel physically (e.g., pain experienced, vitality, ability to resist illness), emotional health, social connectedness, stress and resilience, finding purpose and meaning in daily life, taking care of oneself through healthy lifestyles, and several other domains. Older participants (age 60 and older) and younger participants reported similar levels of well-being, in spite of the fact that the older group was more likely to have one or more chronic illnesses. Different domains of well-being were more strongly associated with global ratings of well-being between the groups. For example, being resilient when facing setbacks was more strongly associated with well-being among the older group while physical functioning was more strongly associated among the younger group. The qualitative data illustrates how and why people change their weighting of the domains as they age.

NAPPING FREQUENCY, PLANNED VS. UNINTENTIONAL NAPS, AND DAYTIME FUNCTIONING IN OLDER ADULTS

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It is unclear whether napping is positively or negatively associated with activity participation among older adults, and less is known about whether planned vs. unintentional napping affects this association. We studied 2,852 community-dwelling adults aged ≥65 from Rounds 3 or 4 (2013–2014) of the National Health and Aging Trends Study. Participants reported napping frequency (never, rarely, some days, most days, every day), whether naps were planned vs.

unintentional, and whether health or functioning restricted their activity participation (e.g., socializing, volunteering). We categorized participants reporting rarely/never napping as non-nappers and remaining participants as either planned or unintentional nappers. In further analyses excluding non-nappers, participants were categorized as napping some days or most days/every day. We fit logistic regression models with activity restrictions as the outcomes and napping variables as primary predictors, with adjustment for age, sex, race, education, body mass index, anxiety and depressive symptoms, and self-rated health. Overall, 23.3% of participants reported planned naps and 29.7% unintentional naps; 47.0% were non-nappers. Among nappers, 51.9% reported napping some days. After adjustment, compared to non-nappers, planned and unintentional nappers had a greater odds of activity restrictions (Planned OR=1.48, 95% CI 1.14–1.92; Unintentional OR=1.50, 95% CI 1.14–1.96). Compared to those napping some days, those napping most days/every day had a greater odds of activity restrictions (OR=1.70, 95% CI 1.29–2.23). Among older adults, frequent, planned and unintentional naps are associated with a greater odds of activity restrictions. Longitudinal studies with objective napping measures are needed to further investigate links between napping and activity restrictions.

EDUCATIONAL INEQUALITIES IN LATE-LIFE DEPRESSION ACROSS EUROPE

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This study explores country- and gender stratified absolute and relative educational differences in depression among older adults from 10 European countries. We also examine whether the social gradients in depression are explained by differential exposure to adverse circumstances. We use cross-sectional, nationally representative data from the Generations and Gender Survey. The analysis comprises 27,331 Europeans aged 60–80. Depression is measured with a seven-item version of the Center for Epidemiologic Studies Depression (CES-D) scale. Findings show considerable between-country heterogeneity in late-life depression. An East-West gradient is evident, with rates of depression up to threefold higher in Eastern European than in Scandinavian countries. Rates are about twice as high among women than men in all countries. Findings reveal marked educational gaps (prevalence differences) in depression in all countries, yet the gaps are larger in weaker welfare states. This pattern is less pronounced for the relative inequalities (odds ratios). Some countries observe similar relative inequalities but vastly different absolute inequalities. We argue that the absolute differences are more important. Educational gradients in depression are strongly mediated by individual-level health and financial variables. Socioeconomic variation in late-life depression are larger in countries with poorer economic development and welfare programs.

DAILY MINDFULNESS AS A MEDIATOR OF DAILY STRESSORS AND PHYSICAL AND MENTAL HEALTH IN OLDER ADULTS

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Daily stressors are associated with increased physical symptoms and negative affect in older adults, but mindfulness may be a very promising tool in the fight against stressors and their response. Mindfulness is characterized by focusing on the present and is a naturally occurring characteristic that differs between and within individuals. Mindfulness may facilitate well-being through self-regulated activity and fulfilment of basic psychological needs (i.e., autonomy, competence, and relatedness). We examined daily mindfulness as a mediator of the relationships between daily stressors and physical symptoms as well as negative affect in a sample of older adults. Participants ($n = 116$, ranging in age from 60–90) were recruited via mTurk (Amazon's crowdsourcing platform) and completed a 9-day daily diary study online. Using multilevel models for our analyses, we found evidence for trait as well as state variation in mindfulness; 68% of the variance in daily mindfulness was between-person and 32% of the variance was within-person. We did not find evidence for mediation of daily mindfulness when examining negative affect, but we did find evidence for mediation of daily mindfulness when examining physical symptoms. Specifically, days with increases in daily stressors were associated with decreases in mindfulness which was then associated with increases in physical health symptoms. These results suggest that efforts to increase daily mindfulness may be useful in reducing physical reactivity to daily stressors in older adults.

ART FOR AGES: THE BENEFITS OF MUSICAL EXPERIENCE ON THE HEALTH AND WELL-BEING IN NURSING HOMES

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Listening to music has been shown to play a significant role in many older adults' lives and the health benefits of making music for elders have also been demonstrated in recent studies. However, the field remains under-researched.

This communication reports a not randomized clinical trial conducted in four Swiss nursing homes (NH). Residents aged of 65 years old and more, willing to take part in music activities, participated to 10 music sessions: one group focused on singing ($n=40$) and the other on rhythm ($n=40$). Participants involved in other not-music activities of the NH acted as controls ($n=40$).

The music sessions were held – with live singing and playing simple instruments but also sticks, cups or graters – by the master's students and musicians of the Conservatorio della Svizzera italiana/University School of Music. They were well attended by the residents with minimum drop out.

A music questionnaire together with measurements of quality of life (SF12), depression (GDS scale) and loneliness (De Jong Gierveld Loneliness Scale) scales were administered at baseline and after the last session. Before and after one music session, saliva samples were collected to measure levels of stress hormones. Psychological data are compared using repeated measures analysis of variance (ANOVA) across time and between groups, biological data are analyzed using

saliva multiplex assays. Data show an increase in the importance conferred to music by residents taking part in music activities and an improvement in their perceived health status and in some dimensions of quality of life and well-being.

RESILIENCE MEDIATED THE BENEFICIAL EFFECT OF MALLEABLE MINDSET ON OLDER ADULTS' COGNITIVE WELL-BEING

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Implicit beliefs regarding whether people's personal characteristics attributes (e.g. intellectual ability, personality, moral character, and shyness) are changeable (the malleable mindset) or static (the fixed mindset) are shown to be related to a lot of important outcomes, including better academic achievement, higher level of resilience, more efficient self-regulation, and less negative reaction to social exclusion. However, most previous studies about implicit theory were about adolescents and young adults. Only very few studies have tested the effect of implicit theory in older adults. Older adults frequently encounter major or minor changes in their lives, such as retirement, loss of loved ones, or change of residence. Believing that one's intelligence is malleable after putting in effort may lead older adults to be more willing to try relatively novel and difficult tasks in life, and be more resilient when facing adversities. To test the important role of implicit theory in later adulthood, the current study recruited 112 older adults aged 60 to 92 years old and measured their implicit theory of intelligence, resilience, and cognitive difficulty in everyday tasks by questionnaires. Results revealed that malleable mindset was significantly related to higher level of resilience and less difficulty in everyday cognition. Furthermore, resilience fully mediated the beneficial effect of malleable mindset on everyday cognition. The findings support that implicit mindset is important for older adults' well-being. More studies can be conducted to thoroughly investigate the benefits of holding a malleable mindset in later adulthood.

GENDER DIFFERENCES IN QUALITY OF LIFE OF URBAN ELDERS IN ETHIOPIA

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According to WHO, two-thirds of the world's older adults live in developing nations. This proportion is expected to increase to 80% by 2050. Sweeping social and demographic changes in developing countries such as Ethiopia raise many questions regarding the quality of life of older adults, particularly women. In the absence of public pensions and with family supports waning due to migration and poverty, the well-being of an alarming number of elders is at-risk. This study examined gender differences in the quality of life of urban older adults aged 60 and over in Addis Ababa, the capital city of Ethiopia. Data were collected by face-to-face interviews in 2014 from 384 older adults (208 women, 176 men). The WHOQOL-BREF was used to assess quality of life in 4 domains (physical, psychological, social, environmental). Over half of respondents had incomes of less than \$25 a month, with women faring worse than men. Only 10% of respondents rated their health as excellent. Not surprisingly,

over one-third (37%) of elders rated their QOL as poor or very poor and another third were undecided. Women, the old-old, those lacking formal education, and those with lower incomes reported significantly lower QOL in the physical, psychological and social domains. Physical functioning, social support and perceived economic status had a direct effect on all four domains of quality of life. These findings can be useful in advocating for policy changes and in designing intervention strategies to promote QOL in older adults in developing nations.

FACTORS RELATED TO WELL-BEING IN CHILEAN CAREGIVERS OF OLDER PERSONS WITH DEMENTIA

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Well-being related to care for person with dementia (PwD) is an important health measure as it involves both negative and positive implications of caregiving. To learn about factors related to caregiver's well-being perception, a cross-sectional study was conducted in family caregivers of older persons with mild and moderate dementia, who assisted a daycare center for dementia in Santiago, Chile, from March to July 2016. Data were collected using the following assessments: PCI (perceived wellbeing), ZBI-6 (caregiver burden), EQ-5D (health perception), GDS-Reisberg (dementia severity), NPI-Q (neuro-psychiatric behaviors and distress) and ADCS-ADL (activities of daily living). The relationship between perceived well-being and other factors was evaluated through correlations (r 's) and logistic regression models (OR). In 86 subjects, significant correlations were observed ($p < 0,05$) for perceived well-being and caregiver burden ($r = -0,53$), health perception ($s = 0,39$), depressive symptoms ($s = -0,44$), activities of daily living ($r = 0,21$), neuro-psychiatric behaviors ($r = -0,43$) and distress ($r = -0,54$). Perceived well-being and its dimensions were associated negatively to neuro-psychiatric behaviors (OR=1,07; 95%CI=1,03-1,15), caregiver burden (OR=1,48; 95%CI=1,18-1,86), and positively associated to activities of daily living (OR=0,95; 95%CI=0,91-0,99). Caregivers of PwD perceived well-being does not relate solely to burden sensation, but also to health situations and PwD symptoms. Interventions targeting caregivers should not only consider the negative implications of care (as burden) but also the positive elements that could be useful to improve well-being.

SOCIAL CAPITAL, HEALTH, AND SUBJECTIVE WELL-BEING IN THE VERY OLD: THE K2 STUDY

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Aging populations are becoming a worldwide phenomenon that has turned the attention of researchers and politicians towards strategies tackling not only financial but also societal issues relevant to healthy ageing. Regarding social issues relevant to aging, social capital resources and sense of community have found to be important for understanding health and well-being. However, if and how social capital and psychosocial factors effect on health and well-being in

the very old yet to be elucidated. The purpose of this study is to investigate the effects of structural and cognitive aspects of social capital, and sense of community on self-rated health and subjective well-being among older adults aged 75+ years, living in Japan. The participants were 873 Japanese older adults aged 75, 80, or 85 years. Concerning social capital, we assessed informal social networks, general trust, norms of reciprocity (mutual aid), and feeling of safety. Sense of community was measured by attachment, membership, and cohesion. Subjective Well-being was assessed by evaluative well-being (life satisfaction), hedonic well-being (positive affect), and isolation. Hierarchical regressions showed that social capital and sense of community were not associated with hedonic well-being significantly, whereas these factors were associated with higher self-reported health and higher evaluative well-being, and lower isolation beyond the effects of sociodemographic factors and physical functional limitations. Moreover, the results showed that social capital and sense of community were more strongly associated with higher life satisfaction and lower isolation among older adults aged 80 and over than those aged 75 years.

LESSONS LEARNED FROM TEACHING THE ART OF HAPPINESS TO OLDER ADULTS

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As the US population ages, late life depression becomes more of a public health problem. Depression is associated with increased mortality and decreased physical, cognitive, and social functioning, which can impact the ability to maintain independence. The Art of Happiness is an 8-week intervention based on the teachings of the Dalai Lama with the goals of enhancing happiness levels and overall mental wellbeing in older adults. This pilot program conducted at a senior center consisted of 90 minute classes that examined several topics including; (1) defining happiness, (2) stress management, (3) reflecting on happiness, (4) compassion/human connection, (5) forgiveness, (6) transforming suffering, (7) mindfulness, and (8) humor. 20 participants who completed the course were mostly married (42.1%), female (80%) and Caucasian (90%) with an age range of 56–84 years of age (mean age= 72.26 $\pm$ 7.38). Participants' levels of gratitude, life satisfaction, depression, mindfulness, arousal states, and subjective happiness were assessed pre and post program. Paired t-tests showed significant improvements in participant subjective happiness ($p < .01$), mindful awareness ($p < .05$), PHQ9 depression scores ($p < .01$), and the AD/ACL- subscore of tension ($p < .0001$). Results also showed a trend of improvements in gratitude levels, satisfaction with life, and perceived stress, however these changes were not significant. These results suggest that older adults may benefit from participating in programs that emphasize positive outlook and mindful awareness. Future studies will investigate how to implement programs in other older adult settings, including continuing care retirement communities.

RELIGIOUS MEANING AND PSYCHOSOCIAL DEVELOPMENT IN LATE LIFE

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Religious meaning is the process of turning to religion in an effort to find a sense of purpose and direction in life and a sense that there is a reason for self existence throughout the life span and development. The aim of this study is to examine the relationship between religious meaning and the psychosocial development (generativity and integrity), and life satisfaction in older adults.

Cross-sectional study, $n=393$ community-dwelling older persons 60+years, Jalisco Mexico. Mean age of participants was 70.74 ($SD=8.35$). The assessment included Religion Meaning Scale, Loyola Generativity Scale, Integrity scale, Satisfaction With Life Scale, and socio-demographics. Data were analysed in SPSS-18, chi-square and Pearson correlation coefficient was calculated.

Most of the participants strongly believed that God put them in this life for a purpose (83.5%), God has a specific plan for their lives (80.2%), God has a reason for everything (83.3%), their Faith gives them a sense of direction in life (84.5%), helps to better understand themselves (83.7%) and other people (82.2%).

In general, religious meaning was positive related to generativity, integrity and life satisfaction.

Specifically, there were found differences in associations between Faith or God component of the religious meaning and psychosocial development.

It was found a stronger significant positive Faith – generativity relationship, integrity (transcendence), and satisfaction with life ($p < .05$).

It was found a positive relationship between religious meaning and the psychosocial development, and life satisfaction in older adults. Religion may have the potential to capture the core issues involved in the psychosocial development in the aging.

SESSION 3715 (POSTER)

SUCCESSFUL AGING: QUALITY OF LIFE, WELL-BEING, AND SOCIAL INCLUSION AND NETWORKS

VARIATION BY GENDER AND AGE IN THE HEALTH EFFECTS OF ECONOMIC STRESSORS

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Research in the wake of the recent recession has shown differences by gender and age cohort in the effects of economic stress on indices of psychological and behavioral health. To improve our understanding of these differences, we conduct a series of recursive structural equation models using data from a national survey conducted in 2009. We first consider variation by age and gender in a wide array of economic stressors, including home ownership problems, undesirable living situation, problematic employment situation, unemployment or underemployment, inadequate health insurance, social role constraints, and inadequate sick time. We next explored the possibility that the associations between the economic stressors examined and psychological

distress, past-month drinking and problematic drinking may vary within gender by age cohort. The results indicate clear differences in how one's age cohort influences the effects of economic stressor exposure across health outcomes, and in ways that appear gendered. Among women, for example, there is a clear pattern that employment-related stressors are of greater relevance for women of younger age cohorts, whereas non-work-related stressors appear to be of greater relevance for older women. In contrast, among men, work-related stressors appear to be most salient for psychological well-being and alcohol consumption among older men. These findings indicate that prevention or intervention strategies aimed at reducing psychological and behavioral health issues may be more efficacious if they address age and gender variation in how an economic downturn is experienced.

“WITHOUT WALLS” SENIOR CENTER PROGRAMMING AS A STRATEGY FOR RURAL SOCIAL ENGAGEMENT

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Limited transit options and long travel distances heighten the risk of isolation of older adults in rural regions. These challenges, as well as limited funding for fixed physical infrastructure and paid program staff in rural areas, necessitate consideration of adaptive, nontraditional, senior center models. This poster examines facilitating factors and challenges in the development of Gateway Seniors Without Walls, an older adult-led virtual senior center operating without a standing facility in a rural US region providing social, and health promotion programming at partnering community sites as well as serving as a connector to formal health, social service, and business resources. In 2015, Gateway partnered to provide approximately 30 activities monthly representing 1,162 hours of programming. In 2013, ten community member focus groups were convened to inform the design of Gateway. Dominant themes included: 1) concerns about transportation as a barrier to accessing senior center programming; 2) a desire for programming that extended beyond entertainment and social activities to include information and resources for healthcare, education on aging, and legal services; and 3) a desire for diverse single session activities to compliment regular programming. Methods for this qualitative study included a review of focus group and meeting notes, and information provided by key informants associated with Gateway. Key challenges identified include: identifying volunteer older adult leadership in formulating programming; collecting participation and demographic data from attendees at diverse sites; and successfully marketing health and wellbeing-focused programs to potential participants. Best practices for program replication in other rural locations will be provided.

DEVELOPING CRITICAL FACTORS ASSOCIATED WITH POSITIVE OUTCOMES FOR INFORMAL CAREGIVERS

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Informal caregivers are the backbone to the health system and need support in their role as caregivers through

policy and practice. Since the neoliberal reforms of the 1980s, the onus of care has increasingly been placed upon friends and families. Societal changes, including ageing in place has resulted in greater pressure on informal caregivers. This research reveals critical success factors that can lead to positive health outcomes for informal caregivers and care recipients who are older adults, people with disabilities and people suffering chronic illnesses. This research employed a mixed methods approach. Data from qualitative interviews informed the development of a New Zealand-wide survey that was conducted in 2013 over 12 months. Six hundred and seventy responses were received from caregivers about 'best practices' that would support their provision of care. Caregivers reported on the factors that improved their quality of life that positively affected the people they cared for. The significant factors influencing quality of life included finances, consideration of the positive and negative aspects of caring and practical caregiving support. Measuring quality of life is important as the success of outcomes for care recipients are dependent upon the caregiver's well being. This research will inform policy and practice that supports informal caregivers and those that are cared for. There is an urgent need to develop best practices associated with positive health outcomes for caregivers that may also improve sustainability of quality care.

EXPLORING PROGRAMS FOR REDUCING SOCIAL ISOLATION AND DEPRESSION IN RURAL AGED CARE CLIENTS

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The link between social isolation and poor health is well established. However, effective interventions to reduce social isolation in older people, and how to implement these in aged care is less clear. This project, a collaboration between CQUniversity Australia and PresCare aged care, used literature reviews and environmental scans to meet the overall objective of describing how social isolation and depression impact on health and wellbeing of older people living in regional areas, and how to reduce these effects for this group.

There is a lack of evidence for effective interventions to reduce the effects of social isolation and depression in older clients, particularly in regional areas, but a plethora of past projects. The main success factors for successful interventions were enhancing group membership and identification through socialization, providing meaningful activities that enhanced sense of belonging, and using a social identity approach to tailor activities to the client characteristics.

There is a wide range of possible programs and activities to choose from in aged care settings; format and type of activity or program will depend upon the needs, personality and capacities of the individual, the setting, and resources available. Management support is critical, including providing adequate resources of staff, time and funding.

The most mentioned barriers to success were: lack of adequate continuing funding; lack of appropriate transport; lack of adequate time; lack of fundamental management support; lack of willing staff, family and volunteers; the poor health and disability of the clients; and the negative attitudes of the clients themselves.

MAPPING TYPOLOGIES OF SOCIAL PARTICIPATION TO PROGRAMMING FOR ELDERLY IN THE CHANGING ASIAN CONTEXTS

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This study, informed by the social ecological perspective, seeks to unpack (1) social isolation and related vulnerabilities and (2) social inclusion, and better participation in 'successful ageing' program activities, in a multi-ethnic Singapore elder population, over 55 years old. We synthesised qualitative data from 8 focus groups; 4 photovoice sessions; and 6 walk-along interviews. We identified isolated elders living on the margins, for whom subsidies were not working – often because before claims could be made, family needed to be shown legally to not offer support. Elders fallen on hard times wanted to be self-sufficient, doing odd jobs, collecting cardboards, keeping them out of mainstream activities. 'Closed doors', characterised mistrust, cited as advised during the cultural shift to an urbanised Singapore; other barriers included hostility, soured relationships. 'Comfort-zoning' alone with sedentary routines was common, sometimes explained by traditional norms defining social activities as wasteful. Among more socially included were the very active, repeat attendees to organized activities, and volunteers. More occasional participants sought out 'safe' routines within known inner circles. Ethnic minorities were under-represented in mainstream activities, pointing to structural barriers and preference for cultural groupings. At the macro-level subsidies need to be recast as means-tested on elders' instead of families' income and assets; the benefits of social contact explicitly taught; and cultural precepts of wasteful activities counteracted. At the meso-level religious institutions can be leveraged to run programs, encouraging natural grouping within them to carry through amidst community activities; while breaking lone routines by trust-building and befriending from the active.

RELATIONSHIP BETWEEN SOCIAL ISOLATION AND SUPPORT EXPECTATION IN THE MARGINAL COMMUNITY

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Purpose: A marginal community is defined as a community in which over 50% of the population is over 65 years old and facing difficulty maintaining adequate function for their daily lives. Difficulties facing the marginal community can include unemployment, shopping for daily necessities, and others. This situation occurs not only in Japan, but also worldwide, especially in developed countries. This research aims to reveal the relationship between social isolation and support expectation in the marginal community.

Method: Cross-sectional research was conducted in 2015 through questionnaire. The questionnaire was administered to people over 20 years old through visiting all the houses in marginal community. Only the elderly (65+) respondents' data were used for analysis. The data were analyzed using a t-test. Social isolation was measured by "How many times

do you have a number of involvements with someone?”. Support expectation was measured by “Can you expect to get a support by each of families or relatives, friends, and formal services?”.

Results: Statistically significant differences were found between social isolation and support expectation. When the support could be expected from “families and relatives”, “friends” who live inside or outside of the community, a number of involvements were found significantly higher average ($P < .05$). Between the expectation for formal services and a number of involvements were not found a significant difference.

Conclusion: These results are suggested that support expectations for daily lives are given up by social isolation in the elderly. Social isolation can be a risk of life continuation in the marginal community.

WALKING SPEED OF OLDER PEOPLE AND PEDESTRIAN CROSSING TIME

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Decreased gait speed in older people may put them at risk of injury and social seclusion for being unable to cross streets at safe. Traffic lights consider the walking speed of 1.1 meters per second (m/s) to regulate the time for pedestrian crossing in Sao Paulo, Brazil as in New York City. However, this regulation does not consider walking speed changes across time.

The objective was to assess walking speed of older people, and to compare these results with international standards for pedestrian crossing. In this cross-sectional study, the probabilistic sample of 1,191 individuals aged 60 or more years, in the city of Sao Paulo, Brazil, in 2010. Walking speed was directly assessed by a physical test, and dichotomously classified using two cut-off points: 1.1 and 0.9 m/s. Interviews informed socio-demographic and health status characteristics. A preponderant proportion (95.7%) of older adults walks at a slower pace than is currently demanded pedestrian lights (1.1 m/s). Reducing the reference speed to 0.9 m/s would allow decreasing this proportion to 69.7%. Women, brown individuals, those less schooled and those reporting poorer health status had higher odds of walking at a slower pace than would be required by traffic lights to cross streets in the city. Most older adults cannot cross streets at their own walking speed in São Paulo. These results reinforce the need of interventions targeting the whole traffic environment, to prevent accidents with older people and to promote urban mobility.

RESIDENTS' CHANGE IN SOCIALIZATION AND LONELINESS SINCE MOVING TO SENIOR HOUSING

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It is frequently assumed older adults who move to senior housing communities (SHCs) will socialize more and be less lonely. The purpose of this study is to describe changes in residents' frequency of socialization and loneliness since moving into senior housing, and to determine factors associated with these changes. Ninety-six older adults living in two SHCs completed cross-sectional surveys with items regarding changes in socialization and loneliness since moving into a SHC, age, education, depressive symptoms, anxiety symptoms, years lived

in the SHC, and distance to previous residence. Analyses for the current study include descriptive statistics and multinomial logistic regression models. Since moving into a SHC, twenty-five percent of residents had decreases in socializing with family, 20% had decreases in socializing with friends, 19% had decreases in level of companionship, 21% felt more left out, and 14% felt more isolated. Age, education, anxiety symptoms, and years living in the SHC were related to changes in socialization and loneliness in the multinomial logistic models. These analyses suggest a significant portion of older adults living in senior housing may socialize with friends and family less and feel lonelier after moving to senior housing. It is important to understand the reasons for decreasing social interactions and increasing loneliness after older residents move to senior housing, and how to intervene upon their behalf. Additional studies are needed to determine if these findings are consistent, and interventions should be developed to increase socializing and decrease loneliness among residents living in senior housing.

THE SIGNIFICANCE OF INTIMACY AND INTIMATE RELATIONSHIPS IN ASSISTED LIVING

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Intimate relationships are rarely studied in the context of older adults' care arrangements, particularly in long-term care settings. Consequently, little is known about the availability and effects of intimacy in the lives of long-term care residents. Addressing this gap, this paper focuses on the intimacy experiences of older adults residing in 8 diverse assisted living (AL) communities. We analyze data drawn from a five-year NIA-funded qualitative study (R01AG044368) guided by the “Convoys of Care” model. Previous analysis of study data shows that most residents experience some form of intimacy in their day-to-day lives. Yet, a range of multilevel factors influences intimacy and many have unmet intimacy needs in these settings. Building on this work, our aim is to understand how the presence and absence of intimacy influences residents' lives, relationships, and care experiences in AL. Findings show that some AL residents sought out, created, and maintained intimacy through a variety of interaction and relationships and with other residents, family, and care staff. Residents who had companionship, particularly involving physical interactions, felt it enhanced their quality of life and care. In some instances, such companionship created conflict within care networks. Mostly, however, formal and informal caregivers experienced relief and satisfaction when residents established intimate connections, including friendships. Many residents desired, but lacked outlets for intimacy, which frequently led to feelings of loneliness, isolation, and sadness. This outcomes was particularly prevalent among men. Our findings imply the need for a holistic model of care that takes into account and addresses intimacy needs.

SYNERGISTIC IMPACTS OF PRE-HOMEBOUND AND SOCIAL ISOLATION ON MORTALITY AMONG THE OLDER IN JAPAN

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Aim: The object of the study is to clarify whether synergistic impacts of low frequency of going outdoors and social isolation on mortality among the community dwelling older adults in Japan.

Methods: We examined a prospective cohort of 1,162 community-dwelling persons, aged 65 years or older, who completely responded to both the baseline mail survey in 2008 (T1) and follow-up survey in 2010 (T2) in Wako City, Saitama prefecture, Japan. Participants were asked about frequency of going outdoors, social isolation status (having contact < once a week with anyone outside household), functional capacity (TMIG-IC), age, gender, annual income, years of schooling, self-rated health, depressive mood, medical history, and mortality.

Results: The mean age of participants was 72.8 years (SD=6.0), and 58.3% were women. We defined the groups as follows. Group 1: not isolated and going outside the home every day (n=647), Group 2: not isolated and going outside the home < every day (n=234), Group 3: isolated and going outside the home every day (n=163), Group 4: isolated and going outside the home < every day (n=118). Cox regression analyses demonstrated that the variables identifying Group 4 with reference to Group 1 were predictors of subsequent all-cause mortality even after adjustment for confounders (Odds ratios =2.03, 95% CI: 1.14–3.63).

Conclusion: Synergistic impacts of low frequency of going outdoors and social isolation among the older predicted all-cause mortality.

DRIVER LICENSING DECISIONS FOR MEDICALLY AT RISK, OCCUPATIONAL THERAPY, AND LOCAL PROVIDER NETWORKS

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In North America, the motor vehicle is the main mode of transportation, especially for rural and suburban communities. Importantly, older adults value driving as a “key” to their independence. Decisions to cancel a license have serious implications. The process to determine a driver’s fitness to retain their license is complex. There is an implicit duty to ensure evaluations consider each unique individual’s problems and potential. For individuals with medical conditions, the criterion to make licensing decisions requires the skills, knowledge and understanding of the medical condition challenging driving competence. Unfortunately, this is too often not the case. Several programs serve drivers but are not trained to evaluate medical risk, and we caution if these skill sets are interchanged. A driving instructor, who excels at evaluating driving knowledge and skills, may see errors in driving through the lens of educational needs not capacity to learn. It is unfair to drivers and the professionals that serve them if we misalign programs. This session will present the strengths, weaknesses, and opportunities of driving evaluation and the varied professionals that offer services under this umbrella term. The presenters will describe how driving schools and driving rehabilitation differ, each offering a distinct value to the aging driver. Occupational therapy practice is dedicated to improving instrumental tasks of daily living, which includes driving and general practice OTs work with a small number of specialists to offer a networked service.

Participants in the audience will receive multiple resources for referral, practice and treatment.

UNDERSTANDING THE USE OF COMPENSATORY STRATEGIES TO ENHANCE OLDER DRIVERS’ MOBILITY

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Rationale: Use of compensatory strategies, i.e., means used to adjust for diminished abilities, can optimize the community mobility of older drivers. However, although several investigations have been carried out on compensatory strategies, facilitators and barriers to the use of these strategies are mostly unknown. This study aimed to explore facilitators, barriers and needs for the use of adaptive driving strategies which can optimize the community mobility of older drivers.

Method: An exploratory qualitative clinical research design was conducted with 11 older drivers, 7 relatives and 14 driving professionals.

Results: Facilitators for the use of adaptive driving strategies were: being a woman; perceiving dangers; recognizing the usefulness of strategies and abilities as diminished; having disabilities or discomfort when driving; experiencing complex driving situations; receiving help of relatives and services of professionals; and having other transportation options. Barriers were: not knowing strategies; being proud; lack of self-criticism; unwillingness of relatives and physicians to intervene; having costs to the use of adaptive strategies; recognizing driving as important; perceiving the complexity of using other transportation options; and lack of proximity to facilities and services. To foster the use of adaptive strategies, TV, radio, newspapers and information sessions need increasing older drivers’ awareness about the age-related changes, the community resources, and the strategies themselves, including their importance in safe driving. Furthermore, to support older drivers in changing their driving habits and using adaptive strategies, results demonstrated that it is important to involve their relatives and professionals.

Conclusion: While promoting safe driving and the prevention of collisions and injuries on the road, knowledge about facilitators, barriers and needs for the use of adaptive driving strategies could ultimately allow seniors to optimize their community mobility.

PRODUCTIVE AGING, FAMILY CAREGIVING, AND SUBJECTIVE WELL-BEING OF OLDER ADULTS IN CANADA

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Productive aging is a significant topic in the gerontological study, which is closely and positively associated with older people’s subjective wellbeing. However, family caregiving as a key aspect of productive aging may play a different role in this scenario. Current study intends to explore the relationship between older adults’ engagement in different productive activities and their subjective wellbeing in Canadian context. Using the secondary data from General Social Survey (Cycle

22)-Social Network, analyses are conducted to explore the relationship between productive activities include employment, volunteering, family caregiving (for children or senior) and housework, and subjective wellbeing includes life satisfaction, happiness and perceived mental health. Analyses based on general aging population indicate that older adults actively engaging in employment, voluntarism, and housework would report better subjective wellbeing, but family caregiving for seniors is negatively associated with subjective wellbeing. Analysis is further conducted within different groups of aging population. As a result, involve in voluntarism and housework activities are positively related to their life satisfaction among aging people from ethno-cultural or immigration communities. Also, a positive relationship between volunteering activities and subjective wellbeing, and negative relationship between caregiving for senior and life satisfaction/perceived mental health are identified among Canadian born aging people. The findings reveal the different role of family caregiving in later life regarding to subjective wellbeing. Also, with the increasing aging and diversified population in Canada, the findings emphasize the importance of providing better-tailored service to support aging people from varying demographic background.

HAS CONSUMER-DIRECTED CARE IN COMMUNITY AGED CARE IMPROVED QUALITY OF LIFE FOR OLDER AUSTRALIANS?

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The Australian Government has recently committed to major policy reform in aged care, with the widespread introduction of consumer directed care (CDC) in community care. The main aims of this study were to assess the impact of CDC on the quality of life of older Australians. Quality of life was assessed using the EuroQoL 5 dimensions 5 level (EQ-5D-5L) and the older people-specific capability index (ICECAP-O). The relationships between quality of life, length of time receiving CDC and socio-demographic characteristics were examined using descriptive statistical and multivariate regression analyses. 484 older people were approached of whom 150 (31%) consented to participate. Mean quality of life scores were 0.56 (sd=0.26) and 0.76 (sd=0.17) according to the EQ-5D-5L and the ICECAP-O respectively. Sub-group analysis revealed slightly higher quality of life scores for both instruments for those in receipt of CDC for ≤12 months [0.57 (0.25) and 0.78 (0.15)] compared to >12 months [0.54 (0.25) and 0.72 (0.18)]. However these differences were not found to be statistically significant. Although little variation was found overall in quality of life outcomes according to the length of exposure to CDC for either the EQ-5D-5L or ICECAP-O, analysis at the dimension level suggested that those with a longer period of exposure had stronger capability in being able to do things that made them feel valued. These cross-sectional results should be interpreted with caution and longitudinal follow up is needed to facilitate a detailed examination of the relationship between CDC and its longer-term influences on quality of life.

ASSESSMENT OF THE EFFECTIVENESS OF A COMPREHENSIVE DRIVING TRAINING PROGRAM FOR OLDER ADULT DRIVERS

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Several driving retraining programs have been developed to improve older drivers' driving skills and researchers have been interested in assessing their effectiveness. This study was designed as a replication of a previous study done by our team (Sawula et al. submitted). The objective of both studies was to determine if a compressive training program combining 1) basic in-class training (BT); 2) on-road training with individualized feedback (OR); and 3) on-road training with individualized feedback plus training on a driving simulator (ORS) would lead to improvements in older drivers' on-road driving evaluations. Using a randomized controlled trial (RCT) study design, 43 older drivers (mean age=71.7 years, SD = 4.91) were randomly assigned to one of three groups (BT, BT+OR, or BT+ORS). All participants completed a pre- and post-intervention on-road driving evaluation on a standardized route. The driving evaluations were recorded using video and GPS equipment and were scored by a blind assessor. The results of this study demonstrated that post-intervention driving evaluation scores for the BT+OR and BT+ORS groups when compared to the BT group were significantly different. While unsafe driving errors showed a 6% reduction in the BT group, BT+OR and BT +ORS group reduced their errors per 23% and 34% respectively. There were no differences between BT+OR and BT+ORS group, thus further research is required to determine the contribution of simulator training on its own.

AGING IN LOW-DENSITY URBAN ENVIRONMENTS: TRANSIT MOBILITY AS A SOCIAL JUSTICE ISSUE

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Around the world, particularly in North America and Australia, urban sprawl in low-density urban and suburban cities has contributed to transit mobility barriers for persons who do not drive. Consequently, older nondrivers may experience limited access to health care and find themselves isolated from familiar lifestyle habits, social networks, and obtaining goods and services. Such social exclusion can undermine quality of life, diminish intellectual stimulation, and accelerate declines in personal health, leading to difficulties in independent living. As part of a community-based participatory research (CBPR) study of the age-friendly domains of an ethnically diverse metropolitan U.S. city, we explored the experiences of adults age 55 and older about their transit mobility needs and its impact with respect to 'aging well.' Using inductive and deductive methods and Atlas.ti software, we analyzed qualitative data collected (N = 60) from six ethnically diverse focus groups and individual interviews of homebound older adults. Four themes emerged specific to the influence of contextual factors on transit mobility barriers

among older drivers and nondrivers. Findings suggest that local historical, political, and cultural attitudes combine with the 'built' environment to further marginalize older adults' access to adequate, affordable transportation options. The reciprocal fit between transit mobility needs and the environment is critical to freedom, independence, and healthy aging for older adults in settings of urban sprawl. Research at the intersection of aging and transit mobility requires equal grounding in a range of justice principles (environmental, social, economic) in the pursuit of sustainable transit options for aging populations.

LEISURE ACTIVITIES AND SUBJECTIVE WELL-BEING OF OLDER ADULTS IN RESIDENTIAL CARE CENTRES

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Older adults are at the risk of loneliness, depression, and isolation when they move to the residential care centres due to their cognitive and physical disabilities; however, little has been done to explore their leisure activities. Quantitative studies have established a correlation between leisure activities and well-being, but they cannot establish causality or provide insights into the perceptions of residents themselves.

The main aim of this research is to explore the meaning, perception and experiences of leisure and the perceived relationship between leisure activities and well-being through a qualitative approach.

Triangulation was used in data collection, which involved three components: participant observation, key informant interviews with professionals, and in-depth interviews with residents. Semi-structured interviews were conducted with a purposive sample of Twenty-Four residents chosen on the basis of their abilities, including cognitive impairment. The second set of interviews were conducted with six key informants. Finally, one-day observations were made in each of the six residential care sampled.

The results provide insights into the best practices for engaging people with various abilities in activities and emphasize the importance of leisure activities, particularly those that involve families, social ties, and companionship. They also highlight the problems of non-participation by physically and cognitively impaired residents.

This session will provide guidance to policymakers, as well as the staff and managers of residential care facilities on developing new strategies, plans, and programs to increase the active participation of older adults in a variety of activities.

TRANSNATIONAL SUPPORT EXCHANGE AND QUALITY OF LIFE: THE INTERNET USE OF OLDER CHINESE IMMIGRANTS

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This paper aims to explore how the internet use facilitates transnational support exchanges among older Chinese immigrants in New Zealand. Although transnationalism has become the major theoretical trend in international migration studies for more than a decade, little attention has been directed to the transnational life and practices of older immigrants. Even less academic effort has been made to investigate the role that the internet plays in older immigrants' transnational activities, due to the widely assumed notion

that the elderly are in general on the disadvantaged side of the digital divide. This current research is based on the data derived from 35 qualitative interviews with older Chinese immigrants living in New Zealand. Findings show that the internet has been used by the participants as a tool to maintain connections with their families and friends who are in China or in other host countries. This is found to facilitate the process of exchanging practical and emotional support, which helps the older Chinese immigrants to cope with their day-to-day lives in New Zealand. More importantly, the support exchanges enable them to develop a transnational perspective regarding their quality of life and ageing experiences. By exploring the relations between internet use and transnational support exchanges, this paper provides insights into our understanding of transnational lifestyles of older Chinese immigrants.

SOCIAL SUPPORT, STRESS, AND LIFE SATISFACTION AMONG RETIRED OLDER ADULTS IN SOUTH KOREA

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This study tested the relationship between stress and life satisfaction of retired older adults in South Korea as moderated by social support. The 2013 and 2014 Korean Retirement and Income Study (KRIS), nationally representative longitudinal datasets, were used to analyze 2,449 retired older adults (65+). Stress was measured in five dimensions: family, finance, health, housing-environment, and sense of loss. Social support was measured in four dimensions: emotional, informational, material, and appraisal support. Life satisfaction was composed of five items that solely focus on general satisfaction of daily life. Life satisfaction as a dependent variable was regressed on stress while controlling for age, education, cost-of-living allowance, and self-reported health. A moderating effect of social support was examined using hierarchical multiple regression analyses. To examine the significance of a moderating effect, we made an interaction term between stress and social support.

Our results pointed to the ability of social support to moderate the relationship between stress and life satisfaction. A statistically significant increase in R-squared and the vanished effect of stress on life satisfaction after adding the interaction indicated the moderating effect of social support. Additionally, lower levels of stress and greater perceived social support were directly associated with higher levels of life satisfaction. Greater age, more education, better health, and financial security also had positive associations with life satisfaction. Policy implications of these findings for future generations of retired older adults who will be more likely to expect lower levels of social support due to demographic and economic changes are discussed.

AUTONOMY AND SOCIAL PARTICIPATION OF NURSING HOME RESIDENTS: NURSES' PERSPECTIVES

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The aim of this study was to examine organizational structures in nursing homes and nurses' autonomy and participation in decision making. Additionally, nurses' influence on the residents' autonomy and social participation was examined.

Twelve qualitative Interviews with nurses working in four different nursing homes were conducted. The participants were interviewed using a previously developed semi-standardized interview guide. Interviews were audio-recorded and transcribed verbatim. All transcripts were thematically analyzed using content analysis approach.

The participants described a structured daily routine in the nursing homes, including basic care or meal times. Within these structures nurses are able to determine individual schedules and, in exceptional cases, to vary from daily routine. However, autonomous decision making was seen as a form of enhanced responsibility and therefore rejected, whereas more responsibility was associated with wanting higher salary and changes of existing structures. Nurses' reported that they have a big influence on residents' autonomy and social participation and great responsibility as to that matter.

Nurses' autonomy and participation in decision making may be limited by institutional structures and, moreover, nurses' decision making is lacking autonomy and participation because they cannot or do not want to accept responsibility. Thus, the residents' autonomy and social participation could be restricted because nursing home residents are influenced by nurses' acting.

EXPLORING PROCESSES OF ADAPTATION FOR SUCCESSFUL AGING: LIVED EXPERIENCES OF OLDER SINGAPOREAN ADULTS

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Defining successful aging is a critical research and policy question. The overall purpose of this study is to present theoretical and pragmatic recommendations to improve holistic interventions for elders; as such we explored views of Singaporeans over 55 years of age on: What is protective in preserving elders' health and adapting to inevitable changes; And, related programmes. Semi-structured interviews (n=40) explored Biophysical (B) health, Psycho-emotional (P) well-being, and Social (S) relationships. Focus groups (8 groups, n= 83) asked about improving: B-health lifestyle / disease-management programmes; P-wellbeing guided therapeutic autobiography; S-relationship building activities. Interviews showed that B-health was characterised by 'keeping on keeping on' attitude, wanting to keep moving and learning; exercise was most highly valued. This theme was notably linked to self-determination to overcome age-related decline, carrying through to P-wellbeing. Itself defined by: 'doing right' – helping others, the power of prayer, and being able to reflect and talk about changes, as part of one's identity. Therefore S-relationships were also important here – we identified a taxonomy explaining quality of relationships, dependant on

'inter-connectedness' of practical 'sharing' and close, confident 'caring' support; sharing was sometimes seen to substitute caring. Protective themes overlapped, demonstrably lifting elders toward better functioning; focus groups suggested how Interventions could be improved to leverage these. E.g. by emphasising 'doing' healthy lifestyles rather than 'knowing' them; addressing confidentiality in community settings; and offering non-technical inclusive 'emotionally safe' activities that allow caring relationships to develop.

SOCIAL VERSUS POLITICAL: VIEWS OF ELDERLY IN RUSSIA

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T. Marshall (1965) noted that social rights are more familiar to and important for citizens than political ones. Current research focused on the comparison(s) of the views of elderly persons and young individuals in areas of social and political rights. Procedures involved structured phone interviews (CATI system; Saint-Petersburg) with random sample subject groups of 450 respondents 60 and older (E) and 530 18-29 years old (Y).

Data suggests 45% of the elderly and 35.5% of youth couldn't name any of political rights, while the majority (E-81.4%, Y-64.1%) was checking political news via mass media on daily bases. Suffrage was named as the main political right by approximately half of the sample (E-42.2%, Y-50.4%). Freedom of thought was identified as a political right by (E-12.8%, Y-20.3%) with equivalent rating of the right to freely receive and disseminate information legally (E-11.6%, Y-8.5%). The right to assemble peacefully and without weapons was noted by (E-8.5%, Y-5.9%).

Social rights appear more familiar to elderly citizens than political ones, e.g. the right for labour (E-33.7%, Y-28.4%), education (E-33.7%, Y-47.0%), medical help (E-42.6%, Y-40.3%), and social care (E-33.7%, Y-17.8%). The majority of respondents (E-62.0%, Y-78.0%) consider social rights as more important than political ones; some (E-21.7%, Y-8.9%) consider both of equal merit; with some (E-9.1%, Y-6.4%) preferring political rights. Summery data support the major premises of T. Marshall: with the elderly attaching more importance to political rights than youth and appear to be better informed regarding both political and social rights.

THE INFLUENCE OF KOREAN ELDERLY'S PARTICIPATION IN SOCIAL ACTIVITIES ON THEIR LIFE SATISFACTION

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Korea shows the faster growth in aging than any other country, as it has the fastest growing rate in the population of older people. The problems caused by the aging society are beyond personal level, instead, require the national level approaches.

Though continued participation in social activities are believed to be important for successful aging, older people's participation is poor in Korea. While participating in social activities, the elderly participants can play roles of service providers, in which they may have satisfaction as contributing to their communities. Using their own experiences, knowledge,

skills, and abilities for their communities enables them to feel productive, thus, becoming active and vibrant, which will eventually influence their life satisfaction positively.

Therefore, this research will study on the effect of older people's social activities on their life satisfaction and draw implications for Korean social welfare.

This study conducted a survey of 438 elderlies at age of 65 and over, statutory age as old people in Korean Welfare of the Aged Act. IBM SPSS Statistics 18.0 was used to analyse the survey results. As a result, participation in social activities is significantly correlated with positive effect on life satisfaction by 52.3%. Based on the results, it will make suggestions for welfare for the aged and future studies.

SESSION LB3720 (POSTER)

LATE BREAKER POSTER SESSION 4

IMPACT OF AN EDUCATIONAL BRAIN FITNESS INTERVENTION ON BEHAVIOR AND KNOWLEDGE CHANGE IN SENIOR LIVING

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With a growing interest in brain fitness, there is growing interest in brain fitness programming for older adults. One approach to providing brain fitness content is through educational interventions, where behavior change would take place outside the classroom. But evidence is needed to show that such educational interventions can produce behavior change. One potential additional obstacle for such interventions is that program staff lacks the expertise to provide detailed brain fitness content, particularly if older adults are interested in the science behind brain fitness lifestyle recommendations (which our prior research suggests is often the case). This random assignment wait-list control intervention study examined an implementation of the multi-dimensional educational Boost Your Brain & Memory cognitive fitness intervention in 12 senior living organizations. This program employed a train-the-trainer model to facilitate wider potential distribution and to enable non-experts to deliver the program content as instructors. The impact of this program on knowledge and behavior was examined comparing pre- and post-results of the intervention group and waitlisted controls. Older adult participants (n=166) completed measures of: brain health knowledge, use of memory techniques, physical and intellectual activity, and mindfulness, at baseline and after the intervention group's completion of the course. Changes in knowledge scores and in self-reported physical and intellectual activity increased significantly more for intervention participants than for waitlist controls at the conclusion of the course. There were no significant changes between the groups in mindfulness or use of memory techniques.

THE ASSOCIATION BETWEEN SOCIAL ENGAGEMENT AND RISK FOR ELDER ABUSE AMONG CHINESE OLDER ADULTS

X. Dong, K. Li, *Rush Institute for Healthy Aging, Rush University Medical Center, Chicago, Illinois*

Elder abuse is a pervasive public health issue among aging population. However, limited research explored whether social engagement is associated with the risk of elder abuse among Chinese older adults. Data collected from 3,157 Chinese older adults aged 60 and above through the Population Study of Chinese Elderly in Chicago (PINE study), were used to examine the association between social engagement and elder abuse. Social engagement was measured by a list of 16 questions regarding social activities and cognitive activities. Elder abuse was measured by modified H-S/EAST and VASS, modified CTS, and unmet needs assessment. After adjusting for the confounding variables, social engagement was significantly associated with lower risk of caregiver neglect (OR, 0.96 (0.94, 0.97)). In contrast, older adults who had cognitive activities were more likely to have the risk of elder abuse (OR, 1.02 (1.00, 1.04)). There was also significant association between social engagement and higher risk of financial exploitation (OR, 1.03 (1.01, 1.04)). The protective role of social engagement was well documented in literature. However, our study showed social engagement may also be associated with the higher risk of elder abuse, financial exploitation in particular. It is probably because social engagement increases the exposure of older adults to society and they are more likely to encounter with negative financial related issues. Future research is in need to understand the different roles of social engagement on elder abuse.

A PSYCHOEDUCATIONAL PROGRAM FOR FAMILY CAREGIVERS OF DEMENTIA PATIENTS: EFFECTS AND REPLICABILITY

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Caregivers of family members with Alzheimer's disease frequently report moderate to severe perceptions of burden, increasing the probability that they will develop stress-related health problems. Psychoeducational intervention programs have focussed on: (a) teaching about dementia, (b) stress management, and (c) ways to deal with problematic behaviors. The "Three Cs Program" (comprehend, cope, and collaborate) builds on earlier work, but also helps caregivers include the dementia patient in everyday situations, and to establish more positive interactions with others. Our objectives were to evaluate: (a) the effectiveness of the program, and (b) the replicability of these results. In Study 1, one healthcare worker met individually with 14 caregivers in a city in MG, Brazil. In Study 2, nine other healthcare workers who were trained to use the program met individually with a further 15 caregivers, in a city in SP, Brazil. Among other measures, the caregivers completed the Zarit Burden Inventory prior to and following the intervention program. On average, we observed a nine point reduction in perceptions of burden, in Study 1 ($t(13) = -3.109$, $p = 0.008$), indicating program effectiveness, and also in Study 2 ($t(14) = -3.943$, $p = 0.001$), indicating replicability of the results when other healthcare workers delivered the program. In future studies, healthcare worker and caregiver variables that moderate program effectiveness should be identified. A follow-up study is also needed, to determine whether caregivers continue to use the strategies they adopted during the intervention, and the longer-term effects of the program on the caregivers' wellbeing.

AGEISM: COMBATING NEGATIVE PERCEPTIONS OF AGING THROUGH EXPERIENTIAL LEARNING

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An influential social construct, ageism is best defined as a set of discriminatory/prejudicial beliefs against people that are “old”. Ageism is more pervasive than sexism or racism and largely understudied. Therefore, the present study aim was to reduce ageism through aging simulation. Adults ($n=63$; 29.5 ± 12.0 years) were assessed on two occasions, once to perform measures without the aging suit and again at least seven days later in the GERT aging suit (GERontologic test suit). Before and after performing functional fitness measures, participants completed the Aging Semantic Differential Scale (ASD) to determine attitudes toward older adults and assess ageism. ASD composite score represented perspectives on aging; larger composite scores indicating more negative perceptions of aging. Perceptions of older adults were negative before task performance with or without the GERT aging suit, indicated by preliminary ASD scores (77.5 ± 14.9 and 81.2 ± 13.6 , respectively). Following functional task performance without the GERT suit, the ASD score slightly decreased (2.2%); however, the change in score was not significant ($p=.08$). Following older adult task performance in the GERT suit, aging perspectives became significantly more negative (8.5%; $p=.01$). Results from this study indicate that aging simulation via GERT suit had a significant impact on attitudes toward older adults. Contrary to our hypothesis, aging simulation resulted in greater negative perceptions of older adults. This finding is postulated to be due to the self-reported increased difficulty in functionality when wearing the GERT suit. Therefore, future investigations should incorporate additional psychometric analyses (i.e., empathy) as it relates to ageism following aging simulation.

VALIDATION OF THE PERCEPTIONS OF AGING AND HEALTHY AGING FOR CHRONIC DISEASE OLDER PERSONS

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Background: The percentage of older persons aged 60 and above has reached 19.13% in Taiwan. Up to 88% of older persons in Taiwan report at least one type of chronic disease. However, no reliable and validated instrument is currently available in Taiwan to measure the perceptions of aging and healthy aging of chronic disease in older persons. Aim: The purpose of this study was to validate the Chinese version of the perception of aging and healthy aging for chronic disease older persons. Method:

The participants were recruited chronic disease older persons from outpatient department and community medical service in Southern Taiwan. We had developed questionnaires supporting the perception of aging (APQ), healthy aging (HAQ) for future study. The APQ was to translate the Barker et al.(2007) questionnaires; HAQ based on literature and Ryff & Singer (2009) healthy aging theory. The mean content validity index were 80–100% from 10 experts. From January to December 2016, 415 valid questionnaires were

returned. Exploratory factor analysis and Cronbach's Alpha were applied to examine the validity and reliability of the questionnaire. Result: The results of this study showed the APQ and HAQ in Chinese version accounted for variance of 69.77% and 65.91% were explained by the factor, the Cronbach's Alpha is 0.87 and 0.81, subscales from 0.83 to 0.91 and 0.65–0.89. Conclusion:

The Chinese Version APQ and HAQ showed good validity and reliability when applied to Taiwanese chronic disease older persons.

EXAMINING THE WITHIN-PERSON COUPLING OF CONTROL BELIEFS AND COGNITION IN OLDER ADULTS

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The current study examined the within-person relationship (e.g., coupling) between control beliefs and cognition in a heterogeneous sample of older adults and whether race moderated this relationship.

The sample consisted of 206 community-dwelling elders ranging in age from 60 to 94 ($M = 73$, $SD = 7.00$), of which 22 were African American (AA). Participants completed a computerized cognitive battery and Daily Control Belief Questionnaire over eight testing occasions over a 2–3 week period. Daily Control Belief Questionnaire included two subscales: locus-of-control scale (higher scores reflected more internal control) and perceived competence scale (higher scores were indicative of greater self-perceived competence). Multilevel modeling suggested that on days when older adults reported higher internal locus of control, simple and complex reaction time was faster. Moreover, older adults, who typically demonstrated low levels of locus of control across the study, exhibited faster simple reaction times on those occasions when their internal locus of control was higher than their usual levels.

Models with race as a moderator suggested that European Americans (EAs) experienced an increase in performance on the Digit Symbol Substitution Task (DSST) on occasions when their daily competence was high. A similar coupling relationship was not observed for AAs. In addition, EAs with low locus of control over the course of the study had faster complex reaction time when their daily locus of control was high. Discussion will focus on the possible mechanisms underlying the association between controls beliefs and cognition and differences in these coupling associated with race.

ASSOCIATION BETWEEN DEPRESSION SYMPTOMS AND ELDER SELF-NEGLECT AMONG U.S. CHINESE OLDER ADULTS

Y. Xu, X. Dong, *Rush Institute for Healthy Aging, Chicago, Illinois*

Background: Elder Self-neglect is an imperative public health issue. However, little is known about the association between depressive symptoms and elder self-neglect among Chinese community-dwelling populations. This study aimed to examine the association of depressive symptoms with elder self-neglect and its phenotypes. Method: Data were from the Population Study of Chinese Elderly in Chicago (PINE) study, a population-based survey of U.S. Chinese

older adults aged 60 years and above. Depressive symptoms in past 2 weeks were examined by the Patient Health Questionnaire (PHQ-9). Self-neglect was assessed with 27 items including hoarding, personal hygiene, unsanitary conditions, house needs repair and lack of utilities. Logistic regression was applied. Result: Of the 3,157 community-dwelling Chinese older adults, 853 (27.0%) were found have self-neglect. Among them, 531 (62.3%) reported having depressive symptoms. After controlling demographic variables, years in U.S., and years in the neighborhood, language preference, medical comorbidities, and cognitive functions, having depressive symptoms was associated with increased risk of having self-neglect (OR:1.50 (1.26–1.79)). Compare with those without depressive symptoms, older adults with mild (OR: 1.31 (1.08–1.58)) and moderate/severe (OR: 2.07 (1.62–2.63)) level of depressive symptoms were more likely to have self-neglect. The results in five phenotypes were consistent with overall self-neglect. The results in five phenotypes were consistent with overall self-neglect. Conclusion: This study advanced the knowledge of the association between depressive symptoms and depressive symptoms among U.S. Chinese elderly population. Community health care providers and other professionals should consider screening elder self-neglect while treating those with depressive symptoms.

COMPARISON OF THE ASSOCIATION BETWEEN MARITAL TRANSITION AND BIOLOGICAL RISKS BY GENDER

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This study examined gender differences in the association between marital transition and biological risks at old age. Data on adults age 57 years and older (N=2,261) were drawn from the United States National Social Life and Aging Projects, Waves 1 (2005–2006) and 2 (2010–2011). Marital transition was measured as cross-wave changes in marital status and quality of marriage (spousal support and strain). Biological risks examined were dysfunctions of cardiovascular-, metabolic-, inflammatory-, and hypothalamic-pituitary-adrenal (HPA) activities measured at Wave 2. A series of Poisson and logistic regression were used to analyze the total sample and gender-stratified sample. Results show that being continuously married compared to being unmarried was significantly associated with reduced cardiovascular- and metabolic-risks, and the effects were more salient among women. Adversely, being continuously married was associated with higher risk of low HPA functioning among older men. Among older women, the transition from being married in wave 1 to unmarried in wave 2 was linked to lower cardiovascular risks, but the effect was marginally significant. Sensitivity analyses of the married participants in wave 2 indicated that spousal support was significantly associated with lower cardiovascular risks for both sexes, while spousal strain was only associated with reduced cardiovascular risks among women. Changes in marital status and quality did not associate with measures of chronic inflammation and HPA activities. The findings suggested that a longer and more supportive marriage was beneficial for socially disadvantaged older adults' physiological functions, especially among women.

PAIN COMMUNICATION IN OSTEOARTHRITIS PATIENTS AND THEIR SPOUSES

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Osteoarthritis (OA) patients who tend to hold back disclosing pain or other arthritis-related concerns to their spouse report poorer illness adjustment (Porter et al., 2008). Greater self-efficacy for communicating breast cancer symptoms is related to less holding back (Edmond et al., 2013); however, it is not known if patients' self-efficacy for communicating pain is associated with more pain disclosure. Additionally, patients tend to report that their pain is not well understood by spouses (Herbette & Rimé, 2004) which may discourage disclosure or cause difficulties adjusting to chronic pain (Flor, Turk, & Scholz, 1987). The current study sought to examine the effects of self-efficacy for pain communication and perceptions of spouse understanding on rates of disclosure to one's spouse. This study involved knee OA patients (N = 152) and examined self-efficacy, pain disclosure, and perceptions of spouse understanding across 3 time points of data collection spanning 18 months (T1, T2, T3). Consistent with hypotheses, regression analysis of T1 data showed that self-efficacy for pain communication predicted higher rates of patient pain disclosure, beyond the effects of marital satisfaction, patient sex, and OA severity ($p < .05$). The same effect was found for greater spouse understanding at T1 ($p < .05$). Contrary to hypotheses, we found no longitudinal effects of self-efficacy (T1-T2: $p = .24$; T2-T3: $p = .93$) or understanding (T1-T2: $p = .81$, T2-T3: $p = .17$) on pain disclosure. Findings suggest that patient and spouse factors are influential in patients' concurrent level of pain disclosure.

SOCIAL SUPPORT PREDICTS ILLNESS BEHAVIOR TRAJECTORIES IN THE SWEDISH ADOPTION/TWIN STUDY OF AGING

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Social circumstances (e.g., stress, loneliness, support) predict illness behaviors, i.e., responses to symptoms of illness, but little is known about social influences on trajectories of illness behavior in late-life. We examined the predictive value of social support on illness behavior trajectories in SATSA. Participants were 1,314 twins (Mean age at baseline=60.26; SD=13.20; 58% female). Illness behavior was a single factor score calculated from four indicators across four surveys between 1987–2003 (i.e., somatic complaints, over-the-counter medication use, activity limitations due to pain, and perceived illness complications). Higher scores indicated greater likelihood of treatment seeking. Baseline social support measures indexed perceived availability of support from family and friends. Covariates were baseline comorbidity, gender, SES, marital status, and age (centered at 70 years). Illness behavior increased annually ($B=.16$, $SE=.02$, $p < .0001$). People with more comorbidity ($B=2.50$, $SE=.14$, $p < .0001$) and females ($B=2.63$, $SE=.46$, $p < .0001$) reported higher illness behavior levels, whereas friend support ($B= -.17$, $SE=.04$, $p < .0001$) and age ($B= -.20$, $SE=.02$, $p < .0001$) negatively predicted illness behaviors. Further, age ($B=.004$, $SE=.001$, $p < .0001$) and

comorbidity ($B=.02$, $SE=.01$, $p=.02$) predicted faster increases in illness behavior. While multi-morbidity predicts increases in illness behavior level and change, friend support, but not family support, predicts reduced levels. Hence, friend support might be a useful target for reducing overutilization of health-care in older adults.

VALIDATING GEROTRASCENDENCE FOR AN UNMARRIED OLDER POPULATION

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Gerotranscendence is a rapidly growing theory of psychological development in older adulthood that is implicated in well-being and life satisfaction during later life. The purpose of this study was to assess the structural validity of Tornstam's 10-item gerotranscendence scale in a population of unmarried older adults. A total of 227 older adults ($n = 65$ never-married, $n = 93$ widowed, and $n = 69$ divorced) from the Iowa Unmarried Survivors Study participated (71% female, 92% Caucasian), ranging in age from 65 to 94 years old. A confirmatory factor analysis (CFA) using Mplus was computed with the gerotranscendence scale's traditional three factor structure; however, this resulted in no convergence of the data. An exploratory factor analysis (EFA) was completed to identify a better fitting model, which indicated a four factor structure fit the data more optimally. However, due to insufficient factor loadings, one factor was dropped from further analysis. The adjusted gerotranscendence scale CFA was computed with the modified factor structure. Results indicated an acceptable model fit to the data, χ^2 ($df = 11$) = 25.53, $p = .01$; CFI = .95; RMSEA = .08, using the modified gerotranscendence scale. Factor loadings were also acceptable, ranging from .61 to .93, with one item loading at .41. Results suggest that a modified version of Tornstam's gerotranscendence scale with revised dimension factors may be more appropriate for assessing gerotranscendence in a population of unmarried older adults.

VALIDATION OF THE SOCIAL APPEARANCE ANXIETY SCALE WITH OLDER HETEROSEXUAL AND SEXUAL MINORITY MEN

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Social appearance anxiety (SAA) refers to anxiety about being negatively evaluated by others due to one's overall appearance. It is associated with several mental health problems, including body dissatisfaction, disordered eating, depression, and social anxiety. Due to a lack of psychometrically valid instrumentation, there has been little research on SAA in older adult populations, including older sexual minority men, who may be at particular risk for SAA. The current study examined the psychometric properties of the 21-item Social Appearance Anxiety Scale (SAAS; Hart et al., 2008) in a global, demographically diverse sample of heterosexual and gay/bisexual men aged 50–88 ($N=1,275$). For both sexual orientation groups, the SAAS demonstrated a one-factor structure and high internal consistency reliability. In both groups, the SAAS also demonstrated good construct validity: it was positively and moderately associated with depression and loneliness, as well as two personality traits:

social inhibition and general rejection sensitivity. It was also negatively and moderately associated with self-esteem, self-perceived attractiveness, and overall mental well-being. Although both groups reported lower levels of social appearance anxiety with increasing age, overall mean levels were higher for sexual minority men. Moreover, the relationship between SAA and both self-esteem and self-rated attractiveness was stronger for sexual minority than heterosexual men. This study suggests that the SAAS is a psychometrically valid instrument to assess SAA in both groups of men. It also suggests important sexual orientation disparities in SAA that warrant further study.

INCOME DROPS AND PERMANENT INCOME OVER 29 YEARS OF ADULT LIFE AND INFLAMMATION IN LATER LIFE

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Inflammatory processes have been implemented in a host of age related diseases, and are a likely mechanism linking low income with cardiovascular disease. In much of the existing scholarship income is treated as a static factor. The current study aims to address if annual income drops and permanent income across 29 years in adulthood are associated with later inflammation. To our knowledge this is the first study to use high resolution repeat measures of income to address this association. The study is based on participants from the Copenhagen Aging and Midlife Biobank ($n=5,460$) with annual measures of personal income from Danish national registers. Income drops were defined as a 20% drop in income over a one year period and permanent income was defined as mean income over 29 years. The associations were estimated using ordinary least squares regression, controlling for age, sex, cohort, and education. Inflammation marked by C-Reactive protein(CRP) and Interleukin-6(IL-6) was measured at mean age 54 years. We found that 42% of the population experienced at least four income drops of more than 20% over the 29 year period and the average annual permanent income was 58,900 USD. Each additional drop in income was associated with a 1% higher level of CRP and IL-6. Each 20% increase in permanent income was associated with a 3% decrease in CRP and 2% decrease in IL-6. The results suggest that income instability over adult life may be associated with higher levels of inflammation in later life.

WHITE MATTER LESIONS ARE DIFFERENTIALLY LINKED TO CARDIOVASCULAR RISK AND PROCESSING SPEED DECLINES

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Cerebral white matter hyperintensities (WMH), present in the majority of older adults, are consistently associated with cerebrovascular disease (CVD) and with cognitive declines in processing speed and executive function. Here we more comprehensively evaluate associations between WMH burden and longitudinal measures of health, lifestyle, and multiple cognitive indices. In a longitudinal study of 112 community-dwelling adults (age range 50–71 years at initial

assessment), we used an advanced data mining approach to evaluate the relative strength of 52 variables (including socio-demographic, lifestyle, health, and multiple cognitive measures) in association with cerebral WMH burden (total and regional). Greater chronological age, elevated symptoms of cardiovascular disease, and processing speed declines were most strongly (and consistently) linked to elevated WMH burden (jointly accounting for ~49% of total WMH variability). Frontal lobe WMH counts were significantly associated both with elevated cardiovascular symptoms (+17% WMH / +1SD, 95%CI [8%, 27%]) and with negative change in processing speed (+13% WMH / -1SD, 95%CI [6%, 20%]), whereas temporal lobe WMH counts were only significantly associated with negative change in processing speed (+37% WMH / -1SD, 95%CI [14%, 54%]). Outcomes generally support the vascular hypothesis of cognitive aging; however, WMH-cognition associations in temporal regions may be etiologically distinct from those related to cardiovascular illnesses.

FINDING THE MEANING IN LIFE PROGRAM FOR OLDER ADULTS: THE PATHWAY TO WONDERFUL AGING

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A sense of the meaning in life has been highlighted as an important factor in the mental and physical health in the elderly. As psychological programs designed to improve the well-being for older adults living in the community were scarce, a Finding the Meaning in Life Program, consisting of nine 90-minute weekly group sessions, has been developed as a way to realize the personal strengths and pursue meaning in later life. This program was conducted for three consecutive years using four separate groups.

The purpose of this study was to evaluate the effectiveness of this program in subjective well-being and cognitive functions, as well as to investigate possible moderators of these outcomes.

A randomized waitlist-controlled trial was conducted. The trial included 66 participants aged 58 - 81 years ($M=70.74$, $SD=5.04$). Participants were randomly assigned to the intervention group ($N = 40$, $M = 71.53$, $SD=5.11$) or to the waitlist control group ($N = 26$, $M=69.52$, $SD=4.78$).

Participants completed questionnaires on various measures of subjective well-being and the cognitive functions at baseline, nine weeks post-baseline, and six months after the intervention. To evaluate the potential effects of the program, a multilevel modeling with a repeated-measures design was applied.

Participants in the intervention group reported that the scores of will, hope ($p < .001$), a sense of personal growth

($p < .01$), autonomy and life satisfaction ($p < .05$) improved nine weeks post-baseline when compared with participants in the control group. The improvement was maintained six months later. This program could be an innovative approach to promote subjective well-being in later life.

PAIN INTENSITY, DISABILITY, AND WELL-BEING IN PATIENTS WITH CHRONIC BACK PAIN: DOES AGE MATTER?

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Chronic back pain is a frequent medical condition among middle-aged and older adults. Its detrimental impact on patients' functional ability and well-being are well-known. However, less is known about the role of age: Older patients may, on the one hand, feel less impaired and report higher well-being because pain may be better anticipated and regarded as more "normative" in old age. On the other hand, coping with pain may get more difficult with advancing age because of additional age-associated declines in physical, sensory and other resources, resulting in higher disability and lower well-being among older patients. In this study we compared four age groups (40–50 years: $n = 59$; 51–60 years: $n = 71$; 61–70 years: $n = 59$; 71–83 years: $n = 39$) of 228 patients with chronic back pain regarding multiple indicators of pain intensity, pain disability (as assessed by subjective, self-reported activity restrictions and objective, performance-based tests), and well-being (SF-12 physical and mental health, anxiety, depression, perceived control over life, affective distress). We found no significant age group differences regarding pain intensity. Although the older age groups revealed significantly higher performance-based disability and reported more activity restrictions, they scored higher on most well-being measures than the younger groups. Our findings may thus be seen in line with the "well-being paradox", suggesting that although disability in patients with chronic back pain increases with advancing age, quality of life was generally higher in older patients.

WHO BENEFITS FROM MORE CHOICE IN ELDERCARE: INVESTIGATING PREDICTORS OF CHOICE OVERLOAD

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Economic theory predicts that more choice is beneficial for both individuals and society. However, research suggests that too many options can lead to "choice overload", a phenomenon where individuals feel overwhelmed, potentially leading to lower choice satisfaction, and making poorer decisions (Schwartz, 2004). Although not as universal as initially believed, research suggests that certain circumstances tend to induce choice overload (Scheibehenne, Greifeneder & Todd, 2010). We investigated if the number of alternatives in choosing eldercare provider influenced satisfaction with eldercare decisions.

Two samples of adults were used: one Swedish ($n=176$, age; range=19–86, $m=47$, $sd=19$, 38% men) and one from the U.S. ($n= 156$, age; range 24–75, $m=47$, $sd=14$, 55% men). We measured cognitive functioning (numeracy and memory),

as well as self-rated health. We presented participants with information about 4, 8, or 12 different eldercare facilities and asked them to choose one. After completing the task, we measured participant satisfaction on a seven-point scale.

More alternatives were not related to less satisfaction overall, however, more options had a negative impact on satisfaction among participants with low self-rated health. We found no effects of age or cognitive ability on choice overload. However, we found an age-related positivity-bias indicating that older adults rated their choices as overall more positive compared to younger participants.

The finding that more alternatives were related to less satisfaction in participants with lower self-rated health is of importance in eldercare settings where the majority needs to make these decisions because of compromised health and functioning.

AGING AND SACCADIC EYE MOVEMENTS DURING COGNITIVE ACTIVITY

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Gaze aversion (GA) is a phenomenon in which people turn their gaze away from the faces of other people or from other visual stimuli in order to concentrate on a train of thought. Previous studies have shown that these GA behaviors are associated with cognitive activity, and such behavior may be developed in early stages of life so that it can be utilized as a cognitive strategy. In this study, eye movement was measured in real time during the cognitive task using an eye tracker to objectively evaluate the GA phenomenon. Thirty six younger adults and 36 older adults performed verbal fluency and mental calculation tasks under two conditions: fixing their gaze to the center of the screen or gazing freely according to the gaze condition (gaze fix vs gaze free condition). We found that GA behaviors (the number of saccade and fixation per second) occurred during cognitive activities and the GA phenomenon was observed more frequently in the fluency task than in the mental calculation task. Moreover, GA increased as the difficulty level of mental calculation task increased and this aspect was more pronounced among young adults. Regarding the direction of saccade, vertical movement was observed remarkably in the young, while horizontal movement was observed in the elderly. It is suggested that the decreased GA behavior in elderly is related to aging and further research on whether they reflect pathological aging and function deterioration is needed.

TRAJECTORIES OF COGNITION FROM ACUTE HOSPITALIZATION TO THREE MONTHS POST-DISCHARGE IN OLDER PERSONS

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Acute hospitalization often initiates events leading to changes in cognitive functioning. The majority of studies that investigated cognitive trajectories over time focused on specific patient-populations such as patients who suffered a hip fracture, stroke, or delirium. Moreover, previous studies have had only long-term follow ups. Trajectories of cognitive changes within the short critical three months post-discharge are hence unknown. Therefore, the aim of this study was to identify distinct trajectories of cognitive functioning from acute hospitalization up to three months post-discharge and to study the incidence of functional decline and mortality. We conducted a multicenter prospective cohort study, the Hospital-Associated Disability and impact on daily Life (Hospital-ADL) study, including 400 acutely hospitalized patients of 70 years and older, who had a minimal MMSE-score of 15 at admission. Data were collected in six hospitals in the Netherlands. We identified three cognitive trajectories: 1] consistently high level of cognitive functioning (69%), 2] moderate cognitive functioning and improvement (22%), and 3] consistently minimal cognitive functioning (9%). In the group with a consistently high level of cognitive functioning, 14% had functional decline and the mortality rate was 11% at three months post-discharge. Of the participants with moderate cognitive functioning and improvement, 24% experienced functional decline and the mortality rate was 6.5%. Finally, of the participants with consistently low cognitive functioning, 41% had functional decline and 14% died within three months post-discharge. These distinct trajectory groups of cognitive functioning provide information about the possible prognosis of cognition and functional recovery after an acute hospitalization.

SUBJECTIVE WELL-BEING AND HEALTH: UNIQUE EFFECTS OF GLOBAL AND SINGLE DAY ASSESSMENTS

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A growing area of research concerns associations of non-clinical emotional indicators (i.e., rather than mental illness/depression) with health. Positive (e.g. happy, interested, content) and negative (e.g. frustrated, sad, angry) affect are distinct but related constructs that assess subjective well-being from global/trait to momentary levels. Little is known about whether varying levels of affective granularity are uniquely associated with health. Self-rated health can also be considered across different levels (global or in-a-day), such as single item global self-reports down to how an individual rates health in a single day. The current study leverages underutilized data from the Health and Retirement Study (N = 5650; mean age = 68, SD = 10, Range 51 - 99) to investigate associations of positive and negative affect with self-rated health. Global ("Would you say your health is...") and in-a-day ("How was your health yesterday...") health are the outcome measures. Positive and negative affect were also assessed globally (PANAS) and in-a-day (Yesterday: overall, within activities). A series of linear regression models independently assessed associations of positive and negative affect on self-rated health. All models controlled for age, gender, race/ethnicity, education, wealth, work status, and marital status. All levels of positive affect and all levels of negative affect, aside from that linked to activities yesterday, were significantly

associated with self-rated health (global and in-a-day) in expected directions. The current study finds that over and above known demographic correlates of health, global and in-a-day positive and negative affect have unique effects. Potential mechanisms are discussed.

THE PSYCHOMETRICS OF THE SUBJECTIVE HAPPINESS SCALE AMONG BLACKS AND WHITES

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Subjective well-being is difficult to measure. Most subjective well-being instruments have been developed and assessed on mostly White middle age adults, which suggests a need for a valid and reliable subjective well-being instrument for non-Whites. The objectives of this study were to examine the psychometric properties of the Subjective Happiness Scale (SHS) in a sample of Black and White community-dwelling adults in Alabama (N = 604) and to assess the scale's construct validity across both racial groups. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed using the 4-item SHS. Additionally, we evaluated the internal consistency reliability for the overall sample and separately by race. The initial EFA models analyzed the factor structure for the overall sample and for each racial group separately. EFA results support a one-factor structure for the SHS for the overall sample and for each racial group separately. CFA models determined the goodness of fit of the scale for each racial group separately. The four-item scale demonstrated a significantly good fit among Blacks ($\chi^2 = 0.11$; $p < 0.9$; RMSEA = 0.0; CFI = 1.0; TLI = 1.0), but not Whites ($\chi^2 = 17.8$, p -value = 0.001; RMSEA = 0.15; CFI = 0.98; TLI = 0.95). The four-item scale also demonstrated adequate internal consistency for the overall sample ($\alpha = 0.89$) and separately for Blacks ($\alpha = 0.89$) and Whites ($\alpha = 0.89$). Findings indicate that the SHS is appropriate for measuring subjective well-being among Blacks. Additional work to improve the scale's psychometrics across both racial groups is currently underway.

MEANINGS OF HOMES FOR LIFELONG CAREGIVERS OF ADULT CHILDREN WITH AUTISM SPECTRUM DISORDER

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Homes are seen as markers of identity, histories, and relationships. For many older adults, they may experience their residence as an "empty nest" where the raising of children is self-defined and normatively-defined as a completed social role. However, for some, the raising of children under one's roof continues into older adulthood. This study explores the experiences of older adults caring for adult children diagnosed with Autism Spectrum Disorder (ASD) and how their caregiving relationships are intertwined with their relationship with their homes. As a follow up to a U.S. quantitative study, 51 semi-structured interviews were conducted among older parents, age 50 and over, of adult children with ASD. Transcribed qualitative interviews were analyzed using Atlas.

ti 7 software, using a grounded theory approach and line-by-line analysis. Parents indicated a number of challenges regarding their homes and living arrangements. Many parents with co-residing adult children reported (1) a sense of being on duty, (2) sacrifices that are non-normative to their peers, and (3) wanting a different living arrangement. Parents also experienced (4) a lack of privacy, and (5) an unpredictable (e.g. unsafe) home environment. In considering the complexity of lifelong caregiving, meanings of the home as a primary site of this caregiving relationship must be considered. Older adults may need help coming to terms with how their residential setting reflects their lifelong caregiving obligations. Practitioners should address this aspect of later life caregiving, with attention to the meanings of home in terms of privacy, identity and safety in supporting these families.

ASSOCIATIONS OF PERSONALITY TRAITS WITH INFORMANT SCREENING SCORES OF COGNITIVE DECLINE

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Consistent evidence suggests that personality traits are associated with risk for cognitive decline, with research typically focusing on the role of the Big Five personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience). Although this work has demonstrated the importance of personality traits for concurrent and longitudinal prediction of cognitive decline, evidenced associations typically have been modest in magnitude. The nature and extent of these results may have been limited by the use of self-report personality scales and reliance on broad, domain level Big Five measures.

The current study examined associations between Big Five facets (both self- and informant-rated), assessed using the NEO PI-R, and informant-reports of dementia symptoms, using the AD-8 measure, in a representative, community-based sample of 838 middle-to-older adults (mean age: 66.6 years) participating in the St. Louis Personality and Aging Network (SPAN) study. At the domain level, findings replicated past work as self-reported neuroticism ($r = .20$) and conscientiousness ($-.15$) were associated with AD8 scores. At the more narrow, facet level, research found that while the neuroticism associations held across most facets, the findings for conscientiousness were significant only for some facets (competence, dutifulness, and self-discipline). Moreover, results found that higher scores on activity and positive emotions (aspects of extraversion), and on trust (a facet of agreeableness) were associated with lower AD8 scores. With respect to informant-rated personality, almost all Big Five facets were associated with AD8 scores in the form of socially desirable traits being related to better cognition.

HIV AND AGING: ASSOCIATIONS BETWEEN INFORMATION SOURCES AND HIV KNOWLEDGE AMONG PEOPLE AGE 50+

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Older adults account for 50% of people living with HIV and 20% of new HIV infections in the U.S. This may be partly attributed to limited knowledge of personal risk

factors. Currently, little is known about where older adults receive HIV information and implications of the information sources on their HIV knowledge. Adults 50–84 years of age in a Midwestern city completed one-time web-based surveys to indicate where they receive HIV information from and complete the HIV Knowledge Questionnaire-18. Multiple linear regression analysis was conducted to determine the relationships between information sources and HIV knowledge controlling for covariates. Participants ($n=427$) were predominately white (94%) and female (73%), and reported a mean of 5.7 ($R=0-13$, $SD=3.0$) sources of HIV information. The listed sources of HIV information include the television (82%), Internet (79%), newspaper (76%), radio (61%), family/friends (54%), healthcare provider (38%), local health department (37%), and library (29%). Receiving HIV information from a healthcare provider ($\beta=.64$, $p<.05$), a local health department ($\beta=.52$, $p<.05$), the Internet ($\beta=1.19$, $p<.001$), and the library ($\beta=.63$, $p<.05$) were associated with higher HIV knowledge, controlling for age, gender, income, education, race, and prior employment in healthcare. Higher number of information sources ($\beta=.12$, $p<.001$) was also associated with higher HIV knowledge. Although healthcare providers and local health departments are not the main sources of HIV information, they may be important in facilitating greater HIV knowledge amongst this age group. Health professionals can also guide and assist them to seek information from multiple credible sources.

PREDICTORS OF SATISFACTION WITH AGING IN PLACE: THE ROLE OF HOME- AND COMMUNITY-BASED SERVICES

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Home- and community-based services (HCBS) are critical to helping older adults age in place (AIP). Few studies have examined the association between older adults' satisfaction with AIP and HCBS utilization, particularly in the context of the Andersen behavioral model of health services use. The purpose of the study is to examine how predisposing, enabling, and need characteristics combine with HCBS utilization to predict satisfaction with AIP. A survey was administered to 229 adults aged ≥ 65 years. The survey assessed individual predisposing (age, gender, race, marital status, education), enabling (income, activity satisfaction, informal caregiving availability, HCBS costliness), need (health status change), and contextual enabling (neighborhood resources, neighborhood accessibility, HCBS availability) characteristics. Use of nine HCBS was assessed (i.e., nursing, physical/occupational therapy, personal care, counseling, home-delivered meals, prescription delivery, home maintenance, transportation, and yard maintenance). Among those in need of HCBS ($n=166$), 29% were satisfied with AIP, and 71% were not satisfied; 20% did not use HCBS and 80% used at least 1 service. Satisfaction with AIP was significantly

correlated ($p<.05$) with HCBS use ($\rho=-.16$), activity satisfaction ($\rho=.26$), HCBS costliness ($\rho=-.43$), health status change ($\rho=.20$), and neighborhood accessibility ($\rho=.19$). In a multivariate logistic regression model, satisfaction with AIP increased with health status improvement [$\text{Exp}(B)=3.45$, $p<.05$] and neighborhood accessibility [$\text{Exp}(B)=1.49$, $p<.05$], but decreased with HCBS costliness [$\text{Exp}(B)=0.67$, $p<.05$]. HCBS use decreased satisfaction with AIP [$\text{Exp}(B)=0.18$, $p<.05$], possibly as a result of the overall decline in ability and activities signified by the need for and use of HCBS. Further research is needed.

DETECTION OF CYTOMEGALOVIRUS DNA IN MONOCYTES, CMV-SPECIFIC T CELLS, AND IL-6 LEVELS IN OLDER ADULTS

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Chronic cytomegalovirus (CMV) infection is believed to significantly contribute to T-cell immunosenescence and adverse health in older adults. A major barrier to advancement in this field has been that chronic CMV infection is diagnosed by anti-CMV IgG serology, a crude measure that merely indicates prior exposure to the virus and does not distinguish between past (resolved) or chronic (persistent) infections. We have optimized a nested PCR-based assay for qualitative detection of CMV DNA in the peripheral blood mononuclear cells (PBMCs). In this study, we evaluated 89 men and women InCHIANTI study participants (mean age=79, 65–96 years old). Among them, 36 were HLA-A2+ for whom CMV pp65-specific CD8+ T-cell frequencies were measured through class I tetramer analysis. The results showed that 56 of 89 participants (63%) had detectable monocytic CMV DNA while almost all (99%) were CMV seropositive. Those with detectable monocytic CMV DNA had significantly higher serum IL-6 levels than those without (1.81 ± 1.5 vs 1.19 ± 0.91 pg/ml, respectively, $P=.01$), regardless of anti-CMV IgG titers. Among 36 HLA-A2+ participants, those with detectable monocytic CMV DNA ($n=20$) had significantly higher CMV pp65-specific CD8+ T-cell frequency than those without ($n=16$, $3.65 \pm 3.6\%$ vs $0.86 \pm 0.67\%$, respectively, $P=.003$). Taken together, these results suggest that detection of human CMV viral DNA in the PBMCs may be a better indicator than CMV seropositivity for increased IL-6 levels and CMV pp65-specific CD8+ T-cell expansion in older adults. Research is needed to further evaluate detection of monocytic CMV DNA as a valuable diagnostic tool of chronic CMV infection in older adults.

CHILDHOOD PERSONALITY AS A PREDICTOR OF COGNITIVE ABILITY AND COGNITIVE IMPAIRMENTS IN ADULTHOOD

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Using data from the Hawaii Personality and Health Study, we tested Big Five personality traits assessed in childhood as

predictors of performance on a proxy version of the Mini-cog, a screening tool for cognitive impairment, assessed at age 60. We additionally tested general cognitive ability assessed at age 50 as a potential mediator of associations between childhood personality and Mini-cog scores. These are some of the first data available to test associations between personality in childhood and cognitive outcomes decades later in adulthood. The sample was comprised of 330 participants (52% women) who completed half day clinic exams at average age 50 and again at age 60. Childhood personality traits were assessed at average age 10 using teacher ratings of personality. General cognitive ability was measured at average age 50 using the Woodcock-Johnson Brief Abilities Inventory (BIA). At age 60, participants completed a clock drawing task and the Hopkins Verbal Learning Task (HVLT-R). These were used to construct a proxy Mini-cog. Partial correlations controlling for age and gender showed that childhood Conscientiousness ($r = -.13$), Intellect/Openness ($r = -.12$), and Agreeableness ($r = .12$) were associated with Mini-cog scores. In path analyses testing age 50 cognitive ability as a mediator of these effects, both childhood Intellect/Openness and Conscientiousness showed indirect effects through age 50 cognitive ability on Mini-cog performance at age 60. Childhood Agreeableness maintained an independent association with Mini-cog scores, not mediated by adult cognitive ability. We discuss possible mechanisms that may account for the observed associations.

SENESCENCE AND APOPTOSIS IN AGING SKELETAL MUSCLE

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In mitotic cells, senescence and apoptosis occur in response to certain stressors (e.g., aging). However, in post-mitotic cells, such as multinucleated skeletal muscle myofibers the extent to which cellular senescence and apoptosis occurs is largely unknown. Therefore, the purpose of this study was to explore the role of senescence and apoptosis as drivers of age-associated sarcopenia. We hypothesized that biomarkers of senescence and apoptosis would increase in aging skeletal myofibers and that these changes would be associated with sarcopenia. To identify biomarkers of senescence and apoptosis, the extensor digitorum longus (EDL) and tibialis anterior (TA) muscles were examined from adult (<12 months, N=11) and elderly (>28 months, N=11) male C57BL/6 mice. The EDL was used to assess ex vivo whole muscle physiology while the TA was used to determine protein content (p53, p21, p16, caspase 3, and IL-6) and presence of SA β -gal and Tunnel via histological staining. Muscle wet weight and absolute force production were significantly reduced in the elderly mice. Aging significantly increased p21, IL-6, and caspase 3 content; however, did not appear to impact p53 nor p16 expression. Myofibers of elderly mice had an increase of apoptotic myonuclei, but only presented a small percentage of SA β -gal. Taken together, biomarkers of cellular senescence and apoptosis are present in muscle of elderly mice. Because p21, IL-6, caspase 3, and apoptotic cells were increased in the elderly muscle it is possible that these pathways contribute to sarcopenia.

NEW EVIDENCE THAT PROTECTIVE EFFECTS OF FAMILIAL LONGEVITY EXPIRE AT OLDER AGES

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This study presents new findings that challenge a common belief in sustained protective effects of familial longevity during the human life course. We found that the survival advantage of biological relatives of long-living individuals vanishes at older ages, suggesting that protective effects of longevity-assurance genes disappear at age 95–100 years. We compared survival patterns of 3,664 siblings of U.S. centenarians with survival of a control group of 4,078 siblings of shorter-lived individuals (died at age 65 years). Survival analysis after age 40 years was conducted separately for 4,201 male and 3,541 female siblings born in 1886–1896. Although siblings of long-lived individuals have lower mortality at younger ages compared to siblings of shorter-lived individuals, their actuarial aging rate (rate of mortality growth with age) is consistently higher, so that their survival advantage practically disappears at older ages. To validate these findings, we analyzed data on survival of 3,408 U.S. centenarians born in 1890–97 with known information on maternal and paternal lifespan. We found that indeed both maternal and paternal longevity (lifespan 90+ years) have no protective effect on survival after age 100 years. These findings challenge predictions of the mutation accumulation theory of aging about higher survival advantage at older ages associated with familial longevity due to lower load of late-acting deleterious mutations. Our findings are compatible with predictions of the reliability theory of aging suggesting higher initial levels of system redundancy (reserves) in individuals with protective familial/genetic background. Supported by the National Institute on Aging (R01 AG028620 to L.G.).

EFFECT OF CHRONIC POLYPHARMACY AND THE DRUG BURDEN INDEX (DBI) ON PHYSICAL FUNCTION IN AGED MICE

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Increasing DBI (measure of patient's total exposure to anticholinergics and sedatives) is associated with impaired physical function in observational studies of older adults. We aim to determine the effect of polypharmacy (use of ≥ 5 drugs) and increasing DBI on functional outcomes in aged mice. From 12 to 21 months of age male C57BL/6 mice are fed control diet or treated feed/water containing therapeutic doses of five drugs with Zero DBI (simvastatin, metoprolol, omeprazole, paracetamol, irbesartan), Low DBI (simvastatin, metoprolol, omeprazole, paracetamol, citalopram), High DBI (simvastatin, metoprolol, oxybutynin, oxycodone, citalopram), or single drug (simvastatin, metoprolol, oxybutynin, oxycodone or citalopram). A panel of functional tests

was performed every 3 months. Results to date at 15 months of age, compared to control diet, have found that openfield locomotor activity and midzone entries significantly declined in Low DBI, High DBI and citalopram groups ($n=10-13$, $p<0.05$). At 15 months, compared to control diet, nesting scores were lower with Low DBI, High DBI, citalopram, simvastatin and metoprolol ($n=20-29$, $p<0.05$). No significant difference was observed between treatment groups with grip strength (wire hang impulse) or muscle endurance (rotor rod latency). Our results show for the first time in a preclinical model that chronic polypharmacy with increasing DBI or individual sedative or anticholinergic drugs cause negative functional outcomes. Future research will continue the study through old age to determine the causation and mechanism of the adverse effects of polypharmacy observed in older adults.

GENE THERAPY EFFECTS ON STRUCTURAL CHANGES IN VARIOUS ORGANS OF YOUNG AND OLD MICE WITH DIABETES

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The aim was to study structural, ultrastructural and histochemical changes (light, electron microscopy and morphometry) of the murine pancreatic gland (PG), heart, kidney, liver, spleen and brain and apoptosis in these organs (TUNEL-method) at experimental diabetes mellitus (DM) and its correction with gene therapy (GT) in young (3–5 mos) and old (20 mos) C57BL/6j mice.

DM was modeled by injecting Streptozotocin (40 mg/kg) during 5 days. Four weeks after the development of stable hyperglycemia, the plasmid vector of human preproinsulin (PEI-pDNA complex) was injected into animal livers. The animals were sacrificed in 30 days after plasmid injection.

After the GT the young animals displayed some normalization of PG and internal organs structure (development of compensatory-adaptive processes in them). We observed the increase of the pancreatic islets quantity, their specific volume in the PG tissue and higher functional activity of beta-cells along with the decrease of the apoptosis level, being combined with a definite normalization of blood glucose. The old animals displayed a significant worsening of study parameters, leading to the destructive and dystrophic changes and development of pathological processes (insulinitis) as well as to greater intensity of apoptosis. The effectiveness of GT at experimental DM appeared to be age-dependant. Hence age factor should be taken into consideration in developing DM therapy strategy.

CHANGES IN COPING STRATEGY WITH AGE

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Coping is a strategic approach about how to deal with stressful situations. Those who use proactive coping strategies have a tendency to accept changes and act before changes are expected. In contrast, reactive coping is more inflexible, preservative and more likely act in response to changes. There are a variety of explanations for why people

become conservatively as they age, but changes in the coping style may also be relevant. However, there is not much research on coping style changes with age. Therefore, this study investigated the changes in coping behaviors at 2, 12, and 23 months old mice with its underlying hormonal and biochemical characteristics.

Behavioral measurements in the active avoidance test and shock prod test have shown an age-related increase in reactive style of coping. Also, aged mice showed a tendency of inflexible or even did not attempt to cope in forced swim, fear conditioning and active avoidance test. The circadian and peak concentration of serum corticosterone in resting state was higher. However, the increase in stress hormone was less in response to stress. In this regard, the expression level of GR was lower in the hippocampus in aged animals.

According to these results, aging is related with 1) the rate of selecting a reactive coping strategy increases, 2) stress reactivity decreases 3) which are associated with the change in glucocorticoid receptor numbers in critical brain circuits. These age-related strategic changes may explain why the elderly becomes more conservative.

COMPARISON OF BIOLOGICAL AGE ESTIMATES IN HEALTHY INDIVIDUALS: TOWARD PLASMA-BASED QUANTIFICATION

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Biological Age (BA) assesses a person's deviation from chronological age and is an estimate of the individual's health status. Through quantification of multiple biomarkers one can predict the individual's aging process and mortality risk better than by chronological age alone. Several methods have been developed to compute a person's BA (1–4). Here we compare an BA estimate relying on biochemical and functional parameters (measured in different matrixes)- referred to as ClinicalAge (1) and three BA estimates based on methylation levels of specific DNA CpG sites obtained from PBMCs- termed DNAmAge (2–4) from the same cohort. All measurements were obtained from 60 healthy individuals subdivided in a young (mean 23.9; range 20–30 yrs), middle (45.8; 40–50) and older (65.3; 60–70) age group. Correlations among ClinicalAge and DNAmAge were low, whereas the three DNAmAge estimates strongly correlated with each other. Validation of any BA estimate with respect to its predictive power for mortality and ultimately all-cause morbidity requires large diverse cohort studies with longitudinal follow-up. Previously described BA surrogates were determined by various biomarkers quantified in distinct matrixes of body fluids, which are not all available on large scale in cohort studies. Therefore we aim to investigate the feasibility to measure BA in plasma only. Here we demonstrate that a unique set of epigenetic markers can be quantified in plasma and strongly correlated with chronological age. Ultimately, we established strategies to develop a BA estimate using plasma biomarkers, which subsequently needs to be derived and validated in longitudinal cohort studies.

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AGING AND FRAILTY IN SILICO: THE PROPAGATION OF LOCAL DAMAGE THROUGH COMPLEX NETWORKS

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Background: The relationships between aging, frailty and mortality are well documented but remain mainly empirical. We present a dynamical network model that explains the patterns of mortality and frailty.

Methods: We developed a computational model of human organism as a complex dynamical network of interacting nodes. Each individual is represented by a distinct network with 10,000 nodes- representing potential health deficits that can be in one of two states for every individual: either healthy, or damaged. Some have more connections than others, and each has a local environment defined by the damage state of its connected nodes. The local damage affects the nodes connected with that one (e.g. enhances the damage rate and reduces the repair rate of these nodes). Using Shannon entropy, we calculated how much information frailty adds to assessing the risk of death and how much information individual deficits add.

Results: Transitions between damaged and non-damaged states are governed by their stochastic environment. Our model shows how age-dependent acceleration of the frailty index and the Gompertz law of mortality emerge, without specifying an age-damage relationship. The mortality prediction information added by specific deficits increases with deficit degree, i.e. with the number of connections with other deficits: the most connected deficits (e.g. disabilities) become damaged later in life, in contrast to the least connected deficits.

Conclusions: Our model supports the idea that aging occurs as an emergent phenomenon, and not as the result of age-specific genetic programming. Instead, aging reflects how damage propagates through a complex network of interconnected elements.

RELATIONSHIP BETWEEN CHRONIC INFLAMMATION AND OBJECTIVELY MEASURED PHYSICAL ACTIVITY IN OLDER ADULTS

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It is well established that physical activity decreases with age, and that lower levels of physical activity contribute to increased risk of functional decline with aging. Aging is also linked with an increased pro-inflammatory state; however, the association between objectively measured physical activity and inflammatory burden in older adults is not well defined. Therefore, physical activity (PA) was measured using wrist-worn ActiGraph Link accelerometers continuously over 7 days in 60 older participants (28 women, aged 69 ± 10 yrs) of the Longitudinal Aging Study at Towson (LAST). Accelerometer data was downloaded in 60-second epochs and expressed as the log-transformed average counts per day across the three axes. Blood samples were collected after an overnight fast, processed, and stored at -80°C until analysis. Plasma interleukin-6 (IL-6) and tumor necrosis factor alpha

(TNFα) concentrations were measured by bead-based multiplex assay, and C-reactive protein (CRP) was measured by enzyme-linked immunosorbent assay. Tertiles of each inflammatory factor were created and the association between the mean of the log-transformed activity counts and inflammatory tertiles was modeled using linear regression models, adjusting for age sex, and BMI. In separate models, IL-6 was negatively associated with total daily PA, independent of age ($\beta = -0.11$, $p = 0.01$); however TNFα ($\beta = -0.03$, $p = 0.49$) and CRP ($\beta = -0.06$, $p = 0.18$) were not related to total daily PA. The independent, negative association between IL-6 and total daily PA highlights potential underlying pathways contributing to the age-related decline in PA, and subsequent physical function.

SIRTUIN-2 IS REGULATED BY SERUM RESPONSE FACTOR AND P49/STRAP GENES

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Introduction: Serum response factor (SRF) has been implicated in the regulation of cell growth, proliferation and senescence. SRF regulates its target genes by binding to the serum response element (SRE or CArG-box) with "CC(A/T)6GG" sequence. SRF interacts with SRF-binding protein(s), including p49/STRAP (SRFBP1), to co-regulate SRF-target genes.

Hypothesis: The CArG-sequence exists not only in cytoskeletal genes but also in other genes. Since p49/STRAP, an SRF-binding protein, alters NAD/NADH ratio and affects histone protein deacetylation, we hypothesized that the CArG-sequence may exist in the promoter of sirtuin genes, and that SIRT2 may be regulated by SRF and p49/STRAP.

Methods and Results: Using bioinformatic analysis, we found a classic CArG-box sequence in the promoter of SIRT2 gene (accession no. AC011455). Sequencing analysis of five human DNA samples confirmed that all DNA samples had the same CArG-box sequence. Electrophoretic mobility shift assay showed that SRF protein indeed bound to P32-labeled SIRT2 promoter probe. A luciferase vector containing the SIRT2 promoter was constructed and used for transfection assays. The SIRT2 gene promoter was activated by SRF and myocardin, but repressed by p49/STRAP. Serum starvation also changed SIRT2 mRNA levels.

Conclusion: The SRF protein binds to the SIRT2 gene promoter and regulates SIRT2 gene expression, thus the SIRT2 gene is a SRF-target gene. SIRT2 gene is modulated by p49/STRAP and myocardin through interactions with SRF. The age-associated increases in cardiac SRF and p49/STRAP protein levels likely affect SIRT2 gene expression and induce histone protein deacetylation, thereby contributing to SIRT2-mediated aging in the heart.

MYOSTATIN, STRENGTH, AND POWER AMONG OLDER ADULTS FOLLOWING A 20-WEEK, RESISTANCE TRAINING PROGRAM

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Among older adults (>65 y), 20% suffer from at least one mobility disability. While factors leading to mobility disability are multifactorial, declines in lean muscle mass leading to reductions in parameters of muscle function (i.e. muscular strength and power) are primary determinants of the

disablement pathway. Myostatin, a potent inhibitor of lean mass accretion, increases with age and is postulated to be a primary factor in lean mass loss throughout the lifespan. The purpose of this study was to examine serum myostatin, muscular strength, muscular power, and lean-tissue mass (LTM) changes following a high-velocity resistance training (HVRT) intervention among older adults. Forty-eight participants (77.2 ± 6.2 years; 74% female) were randomly assigned to HVRT or a control exercise group (CON). HVRT performed eight exercises at 70% 1-repetition maximum and CON participated in the same exercises with no external resistance. Participants attended supervised exercise classes two days per week for 20 weeks. There were no group by time interactions in the response to the exercise intervention for strength, power, or myostatin. There was a significant effect of time for muscular strength and power, increasing 28% and 23%, respectively ($p < .001$). A trend for a 9% reduction in serum myostatin ($p = .08$) existed for both groups; however, LTM remained unchanged. HVRT, with or without external resistance, is beneficial for increasing muscular strength and power among older adults. Therefore, HVRT is optimal training modality for increasing muscular strength and power among older adults, potentially minimizing mobility disability with age.

ALEXANDER TECHNIQUE PRACTITIONERS: IMPROVED POSTURAL CONTROL COMPARED TO AGE-MATCHED OLDER ADULTS

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The Alexander Technique (AT) is a movement re-education technique that may have significant potential for improving balance and gait and reducing fall risk in older adults. AT practitioners use conscious control to identify, inhibit, and then replace maladaptive movement patterns. Like many complementary and integrative medicine practices, the AT has received limited scrutiny as an intervention for balance and mobility deficits in older adults, however, recent research has found significant differences in the gait biomechanics of older AT practitioners (ATP) compared to age-matched controls. AT training in older adults has also been suggested to improve balance, yet, to date, no studies have examined the biomechanics of balance control, such as the control of the whole body center of mass (COM). The purpose of this study was to compare COM velocities of older adult ATP to those of healthy controls without AT training on four balance tasks (eyes open firm surface, eyes closed firm surface, eyes open unstable surface, eyes closed unstable surface). Participants included six licensed ATP ($ATP = 65.8 \pm 5.2$ years), seven healthy age-matched and activity-matched controls ($OA = 66.6 \pm 4.2$ years), and five younger adults ($YA = 28.2 \pm 3.1$ years). The ATP group swayed with significantly slower velocities than the OA group on the eyes closed unstable balance task ($p = 0.008$) and with a trend toward slower velocities on the eyes closed firm surface task ($p = 0.08$). Sway velocities were similar between the ATP and YA groups for all tasks. These findings suggest that the AT could mitigate the deleterious effects of aging on postural control.

PREDICTING FUNCTIONAL DECLINE IN COMMUNITY-LIVING OLDER PEOPLE WITH A LOW SOCIOECONOMIC STATUS

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Maintaining independence is the most important goal of the majority of older people. The onset of disability in activities of daily living is one of the greatest threats to the ability of older people to live independently. Older people with a low socioeconomic status (SES) are at high risk of functional decline. It is unclear what predicts functional decline in older people with a low SES. The aim of this study was to determine predictors of 12-month functional decline in community-living older people with low SES in the Netherlands. Functional decline was defined as the inability to perform (instrumental) activities of daily living. A prognostic multicentre study was conducted, using data from The Dutch Older Persons and Informal Caregivers Survey Minimum DataSet. A multivariable logistic regression model was fitted, using a stepwise backward selection process. Performance of the model was expressed by discrimination, calibration and accuracy. A total of 4,370 participants were included. The mean age of the participants was 80 years and 58.9% were female. Functional decline was present in 1486 participants (34.0%). Ten predictors were independently associated with the outcome. Dementia was the strongest predictor (OR 1.83, 95% CI 1.04–3.23). Other predictors were age, education, poor health, quality of life rate, arthrosis/arthritis, hearing problems, anxiety/panic disorder, pain and less social activities. The final model showed an acceptable discrimination (C-statistic 0.69, 95% CI 0.67–0.70), calibration (Hosmer-Lemeshow p-value 0.33) and accuracy (Brier score 0.20). Further research is needed to examine how functional decline can be ameliorated in this population.

MAKING THE MOST OF MEALTIMES: MALNUTRITION AND MODIFIED TEXTURE FOOD IN CANADIAN LONG-TERM CARE

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Modified texture foods (MTFs) are associated with a high prevalence of malnutrition (40–80%) among older adults in LTC, yet research to demonstrate the independent effect of MTFs is lacking. Making the Most of Mealtimes (M3) is a cross-sectional multi-site study that collected data in 32 LTC homes in four Canadian provinces (AB, MB, NB, ON). This secondary data analysis examined if prescription of MTFs as compared to a regular texture diet was associated with the risk of malnutrition in residents of LTC homes when diverse relevant covariates were considered. The Mini Nutritional

Assessment Short-Form (MNA-SF) score was used to determine malnutrition. Use of MTFs, and resident and site characteristics were identified from health records, observations, and standardized assessments. Hierarchical linear regression analysis, accounting for clustering, was performed. A minced diet ($F(1, 382)=5.01, p=0.03$), as well as a pureed diet ($F(1, 279)=4.95, p=0.03$), were both significantly associated with risk of malnutrition among residents. After adjusting for age and gender, other significant covariates were: use of oral nutritional supplementation, cognitive impairment, eating challenges, and poor oral health. Given the significant association between consumption of MTFs and risk of malnutrition, MTFs need further consideration in regard to improving nutrient density and sensory appeal. These improvements could support food intake and quality of life and thus prevent malnutrition and other negative outcomes (e.g., depression, hospitalization). (Funded by Canadian Institutes of Health Research).

CARE COMPLEXITY AND MEDICATION USE AMONG OLDER SINGAPOREANS

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The aim of this study was to investigate whether medical complexity (multiple providers or more healthcare visits) was associated with lower levels of confidence in medication use and adherence. Data on socio-demographics, health encounters, health status, and health attitudes and behaviors from a nationally representative survey of older Singaporean adults were utilized. Participants who responded to questions pertaining to prescription medication use were selected for analysis ($N = 1,572$). The association of medical complexity factors with self-reported medication confidence and adherence was analyzed using logistic regression analysis controlling for age, gender, ethnicity, education, and number of health conditions. The mean age of participants was 71, and 41% were male. We found no significant association between number of visits and either confidence about usage ($OR = 1.06, 95\% CI 0.95-1.20$) or medication adherence ($OR=1.01, 95\% CI 0.90-1.13$). We similarly found no significant association between number of providers and either confidence about usage ($OR=1.03, 95\% CI 0.90-1.18$) or medication adherence ($OR=1.05, 95\% CI 0.92-1.19$). Confidence about medication use was more likely among males, those with $\geq$ secondary education, and more comorbidities. Lower confidence was likely with increasing age. Adherence was less likely among Indian participants and those with more comorbidities. Having more healthcare visits or providers were not independent correlates of lower medication confidence or adherence. Seniors with less education may be at risk for lower confidence or uncertainty in medication usage. The role of other potential contributors to nonadherence in complex patients (e.g., cost and access, patient preference, competing demands) should be evaluated next.

ANTIDEMENTIA MEDICATION USE IS ASSOCIATED WITH DECREASED INFORMAL COSTS IN MILD DEMENTIA

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Antidementia medication use (ADMU) is associated with a delay in the progression of dementia symptoms, but their association with informal costs of dementia care has not been well-studied. Using the Cache County Dementia Progression Study, a population-based sample of persons with dementia (PWD), we examined daily caregiving hours for 219 PWD (46.9% female, mean (SD) age = 85.8 (5.0) years), which were estimated from the Caregiver Activity Survey. Informal costs were then calculated using the replacement cost method by multiplying hours of care by Utah median wages in the visit year. Cost was adjusted for inflation using the Medical Consumer Price Index and expressed in 2015 dollars. ADMU was based on inspection of each participant's medications and interview. Linear mixed models, with gamma log-link function, tested the association between antidementia medications and informal costs. Covariates included: psychotropic and anticholinergic medication use, participant's health status, gender, and dementia severity (measured by the Clinical Dementia Rating Scale-Sum of Boxes). ADMU was 30.7% at baseline and median informal costs were \$9.95/day. Overall, ADMU was not associated with informal costs ($\exp\beta = .79, p = .090$) in the entire sample. In analyses restricted to participants with mild dementia severity at baseline, ADMU was associated with 28% lower costs ($\exp\beta = .72, p = .039$). Among covariates, only dementia severity (time-varying) was significantly associated with informal costs. These results suggest that ADMU is associated with lower informal costs, particularly among PWD using these medications while in mild stages of dementia severity.

FRAILITY AND COGNITIVE CHANGE AMONG KIDNEY TRANSPLANT RECIPIENTS

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With restoration of kidney function, kidney transplant (KT) recipients may experience preserved or improved cognitive function. However, KT recipients have a higher burden of frailty at the time of KT, and frail recipients may not experience this potential benefit. The goal of this prospective study was to assess post-KT cognitive trajectories by frailty status (12/2008 – 12/2015). Participants completed a physical frailty exam (five Fried criteria) and global cognitive testing (3MS) at time of KT-admission, as well as at least one cognitive follow-up during post-KT. We used a mixed effects model including follow-up time, age, sex, race, donor type, and 3MS score at time of KT as predictors, with a random slope (time) and intercept (person), to describe multiple 3MS scores post-KT by frailty status. Of 625 KT recipients (mean age 53 years) followed for a median of 2.0 years (mean of 3.9 visits), 15.7% were frail with a mean 3MS score of 90.3 at time of KT. In the first month post-KT, non-frail recipients experienced a statistically significant cognitive improvement (0.077 points-per-day, 95% CI: 0.047, 0.11), however there was no evidence of such an improvement among frail recipients (0.017 points-per-day, 95% CI: -0.056, 0.089). In the first three months post-KT, analogous trajectories were observed (non-frail: 1.4 points per month, 95% CI: 0.74, 2.1; frail: 0.66 points-per-month, 95% CI: -1.1, 2.5). In conclusion, frailty is associated with mitigated improvement in

global cognition post-KT. Frail recipients may benefit from interventions to improve post-KT cognitive function.

COMPARING VIDEO-BASED AND USUAL CARE INTERVENTIONS FOR IN-HOME DEMENTIA CAREGIVERS

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Approximately 90% of persons with dementia (PWD) develop behaviors and challenging care situations that are linked to caregiver burden, negative health outcomes, and nursing home placement (Bhur et al., 2006; Metlife, 2011). As part of the ongoing FamTechCare randomized controlled trial—where caregivers and PWD dyads are randomized to receive care feedback using in-home video monitoring or standard-of-care telephone conversations—telehealth team and healthcare provider suggested interventions were analyzed. This analysis compared frequencies of suggested intervention counts between the video-monitoring experimental (N=24) and standard-of-care control (N=24) groups. The Schulz & Martire (2004) Stress/Health Model for Caregiving was adapted for thematic analysis to identify emergent intervention themes. A total of 570 interventions were suggested over the 12-week study period and categorized post-hoc into 10 themes. No significant difference was found in the number of interventions provided between groups ($p=0.54$). Interventions focusing on education and skills for behavioral and psychological symptoms of dementia was the most suggested intervention theme in both groups (experimental: $n=51$; control: $n=53$; $p=0.32$). Despite the small sample size, two trends were identified for differences in suggested intervention themes between groups. The experimental group was more likely to receive suggestions regarding education and skills for safety/environmental modifications (experimental: $n=36$; control: $n=15$; $p=0.09$) and the control group was more likely to receive positive reinforcement (experimental: $n=17$; control: $n=36$; $p=0.08$). These differences demonstrate that suggested interventions from healthcare providers to in-home caregivers may differ when video data is observed and analyzed.

STATIN USE AND THE RISK OF HEPATOCELLULAR CARCINOMA: A POPULATION-BASED PROSPECTIVE COHORT STUDY

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Although statin is one of the most widely used drugs worldwide, the association between statin use and hepatocellular carcinoma (HCC) risk remains controversial. This study aims to investigate the association between statin use and risk of HCC in a large scale population-based prospective cohort. We selected participants aged >40 years in 2002 whose health examination data were available from the Korean National Health Insurance Service-National Sample Cohort (NHIS-NSC) database. We collected statin exposure data and medical information of the population in the database over 5 years (2002–2006), and followed up eligible participants for HCC

development over the next 7 years (2007–2013). We used Cox proportional hazard regression models to calculate the hazard ratios of statin use and HCC risk, after adjusting for sex, age, incoming status, disability, body mass index, smoking status, alcohol consumption, physical activity, comorbidity, underlying liver disease, and medication use. Overall, 443,239 participants were included in the analysis, including 3,147 cases of HCC during the observation period. The adjusted hazard ratio for HCC in statin users was 0.66 (95% confidence interval [CI], 0.56–0.77), indicating a 34% risk reduction in a dose-response manner (P for trend < 0.001). Sensitivity analysis showed a reduced risk of HCC in statin users in all subgroups, in terms of age and sex, as well as a stronger risk reduction in patients with underlying liver disease. In conclusion, statin use is associated with a reduced risk of HCC in a dose-response manner.

A PERTURBATION-BASED INTERVENTION IMPROVES GAIT STABILITY AND COGNITIVE PERFORMANCE IN OLDER ADULTS

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Normal aging is associated with decline in both physical and cognitive functions. This contributes to an increased risk for falls, one of the most common and serious problem in late life. Physical exercise can marginally improve balance, gait and cognitive functions. In order to specifically target the neuromuscular skills required for fall prevention, new training paradigms that strengthen the control of compensatory responses after balance perturbations are required. To date, it is unknown if these training paradigms are also able to improve the cognitive functioning.

We have developed a novel cable-driven robot that can apply multidirectional waist-pull perturbations while walking. A case-control study was performed on sixteen older adults to test the hypothesis that a single perturbation-based balance training session would be more effective than normal walking alone to improve (i) balance reactions to perturbations not experienced during the training; (ii) gait stability during unperturbed walking; and (iii) cognitive performance in terms of speed and executive functioning. Results confirmed that only participants trained with repeated perturbations showed acute effects of increases stability, both during walking and while reacting to novel perturbations, and superior performance in the Symbol Digit Modalities Test.

Attention may have been primed through the perturbations or were linked with stability improvements. Even though we are unable to describe the underlying mechanisms mediating the cognitive and physical impairment, we envision to implement a task-oriented balance training program aimed at improving human aging trajectories in terms of balance, gait and cognitive functioning, thus reducing older adults' risk of falling.

LATE-LIFE SUICIDE IN TERMINAL CANCER: A RATIONAL ACT OR UNDER-DIAGNOSED DEPRESSION?

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Context: Previous studies have reported significantly elevated standardised mortality rates in older people with cancer. Terminally ill people represent a unique group where suicide may be considered as rational.

Objectives: The aims of this study are to (i) compare the socio-demographic and clinical characteristics of older people with and without terminal cancer who died by suicide, and (ii) analyze the suicide motives of those with terminal cancer to determine whether they represent rational suicide.

Methods: The New Zealand Coronal Services provided records of all older people (age $\geq$ 65) who died by suicide between July 2007 and December 2012. Socio-demographic and clinical data were extracted from the records. Using the characteristics for defining rational suicide, we determined whether the motives in terminal cancer cases represented rational suicide.

Results: Of the 214 suicide cases, 23 (10.7%) older people were diagnosed with a terminal cancer. Univariate analysis found older people with terminal cancer who died by suicide were less likely to have a diagnosis of depression (8.7% versus 46.6%, $p=0.001$) or previous contact with mental health services (4.5% versus 35.0%, $p=0.004$) than those without terminal cancer. 82.6% of the terminal cancer cases had a motivational basis that would be understandable to uninformed observers.

Conclusions: A high proportion of those with terminal cancer had motives suggestive of rational suicide. Future studies are needed to clarify whether the low rate of depression is secondary to under-diagnosis of depression or people with terminal cancer choosing to end their life as a rational act to alleviate suffering.

COST OF DIAGNOSED HERPES ZOSTER COMPLICATIONS IN PATIENTS AGE $\geq$ 50 YEARS: A U.S. CLAIMS DATA ANALYSIS

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Objective: This analysis (GSK study identifier: HO-15-15772) assessed costs associated with diagnosed herpes zoster (HZ)-related complications using a US insurance claims database.

Methods: Patients with a diagnosis of HZ (ICD-9-CM diagnosis code 053.xx) between 04/01/2008 and 03/31/2013 were selected from the Truven Health MarketScan Research Database (the date of the first observed HZ diagnosis was designated as the index date). Patients were required to be $\geq$ 50 years and to have continuous health plan enrollment 6 months pre- through 12 months post-index date. Cutaneous, neurologic (excluding post-herpetic neuralgia), and ophthalmic HZ-related complications were identified using ICD-9-CM codes. Patients with immunodeficiency diagnoses or who received an HZ vaccine pre-index date were excluded. Healthcare costs were assessed in the 1-year time-frame post-index date; post-hoc multivariable regression models using a tightened definition of ophthalmic complications (neurologic and cutaneous definitions remained unchanged) controlled for demographics, pre-index date costs, and comorbidities.

Results: Of 248,275 patients with HZ, 9.7% had a complication (5,452 cutaneous, 1,076 neurologic, 17,289 ophthalmic). Patients with a complication accrued \$4,716

more in unadjusted all-cause total healthcare costs, on average, versus patients without complications (range: \$2,173 ophthalmic to \$18,323 neurologic). Costs associated with a complication tended to increase with age (range: \$2,925 ages 50–59 to \$5,923 ages 70–79). Multivariable models demonstrated that patients with a cutaneous complication accrued \$5,491, patients with a neurological complication accrued \$10,866, and patients with an ophthalmic complication accrued \$784 greater costs versus patients without complications.

Conclusions: Costs associated with diagnosed HZ-related complications are substantial and tend to increase with age.

CAN WE MODIFY THE COGNITIVE TRAJECTORY IN A HOSPITAL WITH EXERCISE? A RANDOMIZED CLINICAL TRIAL

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Frail older adults have reduced functional and physiological reserves, rendering them more vulnerable to the effects of hospitalization, especially during the acute phase of hospitalization. Despite the theoretical support for the idea that exercise can improve cognition this idea has not been fully translated into clinical practice, especially during the acute phase of hospitalization.

We are conducting a randomized clinical trial in 193 patients admitted to Hospital. Hospitalized patients who meet inclusion criteria are randomly assigned to the intervention (IG) or control group (CG). The intervention consisted of a multicomponent exercise training programme, composed of supervised progressive resistance exercise training at low-moderate intensities, balance-training, and walking for 5–7 consecutive days. Evaluations of cognition (MMSE, TMT-A, Isaacs test), depression (GDS Yesavage 15) and quality of life (EQ-5D) have been conducted at admission and previous to discharge in the control and intervention group. 193 patients have completed pre/post evaluations (control group (CG) $n=83$, intervention group (IG) $n=81$). Dropout has been 29 due to different medical reasons. Mean age was 87.10, mean BMI 27.16, mean CIRS-G 12.04, mean MNA 23.41. In the IG, significant improvements were observed after the intervention in cognition (MMSE (22,29 pre-24,81 post), $p<0.001$; TMT-A (141,8 pre-112,75 post) $p<0.001$; Isaacs test (6,14 pre-8,23 post) $p<0.001$), depression (GDS Yesavage $p<0.05$) and quality of life (EQ-5D $p<0.0001$). The CG had no significant improvements in any of the cognitive, mood or quality of life parameters studied.

GERIATRIC SYNDROMES FROM ADMISSION TO 3 MONTHS POST-DISCHARGE AND THEIR ASSOCIATION WITH RECOVERY

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Studies have addressed the prevalence of geriatric syndromes during hospitalization and showed their association with adverse outcomes. However, data on their course post-discharge and association with recovery are scarce. This study assessed the course of geriatric syndromes from admission until discharge and then monthly until three months post-discharge and their impact on functional decline, readmission, and mortality. A multi-center cohort study, the Hospital-Associated Disability and Impact on Daily Life (Hopital-ADL) study, was conducted, including 400 acutely hospitalized patients aged ≥ 70 years admitted to an internal, cardiology or geriatric ward from 6 Dutch hospitals. Geriatric syndromes that were assessed included: fatigue; malnutrition; fall risk; fear of falling; shortness of breath; incontinence; pain; dizziness; depressive symptoms; cognitive impairment. 80% of patients experienced fatigue at admission, which remained present among 50% up to three months post-discharge. 40% were malnourished at admission, and still 20–30% in the first three months post-discharge. Almost 40% experienced a fall six months prior-hospitalization, and 11–12% had a fall in the first, second and third month respectively. 40% were afraid to fall at admission, 30% in the first months post-discharge. 15–35% experienced shortness of breath, incontinence, pain and dizziness during and post-hospitalization. 22% experienced depressive symptoms at admission, 11% post-discharge. 20% was cognitively impaired at admission, which decreased to 11% post-discharge. At hospital admission and post-discharge, depressive symptoms, malnutrition, fear of falling, shortness of breath and pain were associated with functional decline, readmissions and mortality. Hence, our study underpins the importance of addressing geriatric syndromes in transitional care interventions.

DEVELOPMENT OF A MEDICATION ADHERENCE SCALE FOR ELDERLY PATIENTS WITH CHRONIC DISEASE

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Objectives: This study was to develop a scale to evaluate medication adherence in elderly patients with chronic disease and to examine validity and reliability of the scale. **Methods:** The development process for the preliminary scale included construction of a conceptual framework by concept analysis and initial items, verification of content analysis, sentence correction, and pilot study. This study was conducted using a questionnaire survey with one-to-one interviews during October, 2016. Participants were 345 elderly patients with chronic disease. Data were analyzed using item analysis, factor analysis, criterion related validity, internal consistency, and test-retest. **Results:** The developed scale consisted of 18 items and 4 factors - remember of taking medication (2 items), expectations for drug effects (5 items), practice taking medication according to instructions (8 items), communicating with health professionals (3 items), and explained 69.7% of total variance. The scale had significantly positive correlation ($r = .717$, $p < .001$) with the Morisky Medication Adherence Scale (MMAS-8) of Morisky, Ang, Krousel-Wood

and Ward (2008). Cronbach's alpha was .91, Guttman split half coefficient was .80, and test-retest reliability was .912. **Conclusion:** Results indicate that the Medication Adherence Scale for elderly patients with chronic disease has validity and reliability, and is a suitable scale in health care settings to assess the status of medication adherence in elderly patients with chronic disease.

PERSISTENT USE OF PSYCHOTROPIC DRUGS IN RESIDENTS RECEIVING LONG-TERM CARE IN NORWAY

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The prevalence of psychotropic drug (PTD) use in residents receiving long-term care (nursing home, NH) is high, but few have explored persistency in PTD use in NH residents and factors associated with persistency. This at the same time as we know that risk of side events may be higher with long-term use in older adults. Thus, the aim of this study was to describe the prevalence and persistence in use of PTD and to explore factors associated with persistency in PTD use at two consecutive time points in NH residents. **Methods:** We included 1163 NH residents in a 72-month longitudinal study with five assessments. Use of PTD, neuropsychiatric symptoms (NPS), severity of dementia and physical health were assessed each time. **Results:** The prevalence over time and persistent use of antipsychotic drugs, antidepressants, anxiolytics and sedatives at two consecutive time points were high (50–100 %) in residents with and without dementia. There was an association between greater NPS at the first time point, and persistent use of these drugs, but changes in NPS between time points, did not explain such use. A longer NH stay increased the odds for persistent use of antipsychotics. **Conclusion:** Psychotropic drugs are frequently used as a long-term treatment among NH residents and are associated with severity of neuropsychiatric symptoms, but not with severity of dementia. Closer attention should be paid to follow-up of psychotropic drug treatment, and especially for long-term use of antipsychotics, since the duration of such treatment should be as short as possible.

OMIC SIGNATURES IN FRAILTY AND FRAILTY DIAGNOSIS

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The forecasted increase in the number of older people for this century will be accompanied by an increase of those with disabilities. Disability is usually preceded by a condition named frailty which is still a non-reversible condition when compared with disability. Recent studies stress the relevance of testing the clinical utility of the existing definition of frailty by using combinations of clinical criteria (current definition) and lab Biomarkers (BMs).

In Frailomic we aimed to characterize, both biologically and clinically, frailty by profiling more than 30000 blood and urine derived -Omic signatures in four different European cohorts. In all cohorts, we combined the omic information with existing clinical data that included existing relevant markers such as disability, co-morbidity or depression among others.

The analysis was conducted as a three-stage workflow. In a first stage, we identified those signatures per omic type and per cohort type that were significantly associated with frailty, using a non-parametric approach that included as covariates known frailty covariates such as age or depression among others. In a second stage, we identified using Machine Learning techniques and per cohort, the minimal models of omic and non-omic signatures that better predicted frailty diagnosis. In a third stage, we investigated the robustness of the minimal models and the possible use in combination with existing clinical classifications of frailty.

As a result, we quantified the value of -omic improving the clinical definition of frailty, but also gained frailty-related functional information at the level of blood and urine metabolites and non-coding RNAs.

TRAJECTORIES OF DEPRESSIVE SYMPTOMS AND APATHY FROM HOSPITALIZATION TO THREE MONTHS POST-DISCHARGE

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Depressive symptoms and apathy are both causes for and a consequences of hospitalization among older persons. Depressive symptoms and apathy are highly heterogeneous in its course, and psychological or physical recovery may be related to distinct trajectories. These trajectories are unknown in the context of acute hospitalization and possibly important for post-hospital recovery. Therefore, the aim of this study was to identify distinct trajectories of depressive symptoms and apathy from acute hospitalization until three months post-discharge and to study the incidence of functional decline and mortality three months post-discharge in these trajectories. We conducted a multicenter prospective cohort study, the Hospital-Associated Disability and impact on daily Life (Hospital-ADL) study, including 400 acutely hospitalized patients of 70 years and above. Data were collected in six Dutch hospitals. We identified three depressive symptoms consistently trajectories among acutely hospitalized patients: 1]high level of depressive symptoms (10%), 2] moderate level of symptoms (28%), and 3]minimal symptoms (62%). Percentages of functional decline in the first, second and third group were 32%, 31%, and 12%, respectively. Mortality rates per group were 25%, 17%, and 5%, respectively. We identified three apathy trajectories: 1]consistently high level of symptoms (19%), 2], 2]consistently moderate level (23%), and 3]moderate level of symptoms and decreasing post-discharge (15%). Percentages of functional decline were 23%, 7%, and 15% respectively. Mortality rates per group were 14%, 3%, and 0% respectively. These distinct trajectory groups of depressive symptoms and apathy provide information about the possible prognosis of these symptoms and functional recovery after an acute hospitalization.

ASSOCIATION OF OBESITY AND FRAILTY IN OLDER ADULTS: NHANES 1999–2004

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Body composition changes with aging can impact function in older adults leading to frailty. Measuring adiposity using body fat or central adiposity using waist circumference (WC) have greater diagnostic accuracy than traditional measures such as body mass index (BMI).

We identified individuals ≥ 60 years old using the 1999–2004 cross-sectional National Health and Nutrition Survey (NHANES). Body fat percent was assessed using dual energy x-ray absorptiometry and WC was objectively measured. Frailty was defined using an adapted version of Fried's criteria: (low BMI<18.5kg/m²; slow walking speed [<0.8 m/s]; weakness [unable to lift 10lbs]; exhaustion [difficulty walking between rooms on same floor] and low physical activity [compared to others]). Robust, pre-frailty and frailty persons met zero, 1 or 2, and ≥ 3 criteria, respectively. The primary outcome evaluated the association between frailty and body fat or WC. Frailty was the primary predictor (robust=referent) and body fat and WC were considered continuous outcomes. Multiple imputation analyses accounted for missing characteristics.

Of the 4,984 participants, mean age was 71.1 ± 0.2 (SE) years (56.5% females). We classified 2,246 (50.4%), 2,195 (40.3%), and 541 (9.2%) individuals as robust, pre-frail and frail, respectively. Mean body fat and WC was 35.9% and 99.5cm in the robust, 38.3% and 100.1cm in pre-frail, and 40.0% and 104.7cm in frail individuals. After adjustment, pre-frailty and frailty were associated with a $\beta=0.37 \pm 0.27, p=0.18$, and $\beta=0.97 \pm 0.43, p=0.03$ for body fat and $\beta=2.18 \pm 0.64, p=0.002$, and $\beta=4.80 \pm 1.1, p<0.001$ for WC.

Geriatric obesity defined by higher body fat and high WC are associated with increasing rates of frailty when compared to robust patients.

SSRI/SNRI ANTI-DEPRESSANT INDUCED INTERSTITIAL LUNG DISEASE: A CASE SERIES AND CASE- CONTROL STUDY

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SSRI and SNRI anti-depressants are widely prescribed in the elderly population. For unknown reasons, the incidence of interstitial lung disease (ILD) is increasing in western populations. There are published case reports and references on the Pneumotox web site (www.pneumotox.com) linking SSRIs/SNRIs to development of ILD and/or airway involvement (ILD/AWI). A case of venlafaxine induced ILD/AWI led us to explore this association in more detail. We report a series of 5 cases and a case control study examining the association between SSRI/SNRI usage and presence of ILD/AWI in an elderly population. Participants were all 296 elderly people followed in a primary care geriatric practice. A chart audit of the electronic medical record was done to identify cases and controls. The case definition included chronic respiratory symptoms and presence of ILD/AWI on CT or CXR.

SSRI/SNRI usage was standardized to 10mg of citalopram and person-month (p-m) exposure was calculated. There were 24 cases identified and 272 controls. Their mean ages were 90.5 and 88.6 (ns) respectively. There were 16/24 cases exposed to SSRI/SNRI and 97/175 controls. The Odds Ratio was 3.61, 95% CI 1.49–8.74, $p = 0.007$. The mean p-m exposure to SSRI/SNRI was 129.3 months for cases and 27.1 for controls ($P < 0.001$). We conclude that SSRIs and SNRIs were significantly associated with the risk of ILD/AWI. Because of their wide spread usage, further studies should be done to validate these findings. Prescribers should be cautious to monitor for development of insidious pulmonary symptoms and signs when these drugs are prescribed.

HOME-BASED REHABILITATION AND REABLEMENT: EVALUATING A PATIENT CENTERED, INTEGRATED MODEL OF CARE

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Rehabilitation and Reablement is a patient centered, integrated model of care delivered in the senior's home. It is enhanced, rapid in nature, promotes self-management and independence so that seniors can remain at home. This innovative approach to care was implemented in 2015–16 in a Regional Health Authority in New Brunswick (NB), Canada. This was delivered by NB's publically funded home health care service (Extra-Mural Program) and Social Care Services (Department of Social Development). Eligibility included age 65 and older, with specific targeted diagnoses, were hospitalized or at home and expected to improve within 9 weeks. Care was provided by an interdisciplinary health care team including up to 6 hours per day of personal support. To support a patient centered approach, an evidence based care planning tool was used to inform the focus of care. Out of 348 patients screened, 131 (38%) received this service. Average age was 80.3 years. The average Clinical Frailty Scale was 5.31 (Moderate Frailty). The majority (77.8%) were in hospital with the most common diagnosis being fracture (45%). Eighty percent of patients successfully remained at home. Standardized measures of frailty ($p < 0.0001$), mobility ($p < 0.0001$), basic activities of daily living ($p < 0.0001$) and instrumental activities of daily living ($p < 0.0001$) all showed statistically significant improvements. Although caregiver burden decreased, it was not a statistically significant finding ($p = 0.063$). Patient satisfaction exceeded 80% being satisfied or strongly satisfied. This patient centered, integrated approach to care demonstrates improvement in overall mobility and function facilitating senior's independence so that they can remain home.

QUALITY OF PHARMACEUTICAL CARE IN DEMENTIA PATIENTS

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OBJECTIVES: Use of potentially inappropriate medications (PIM) in dementia patients reflect poor quality of care. The goal of this study was to evaluate quality of pharmaceutical care in dementia patients using the most recent 2015 American Geriatric Society (AGS) Beers criteria.

METHODS: This cohort study used the 5% national Medicare data from 2011–2012. The cohort included elderly patients diagnosed with dementia in the baseline year, i.e. 2011. Quality of care, i.e., use of PIMs, was defined in 2012 using the AGS Beers criteria. Predictors were identified in the baseline year based on the Andersen Behavioral Model: predisposing (sociodemographic), enabling (dual eligibility) and need factors (Elixhauser comorbidities, medication use and healthcare utilization). Descriptive statistics was used to determine the prevalence of PIMs. Multivariable logistic regression analysis was used to determine predictors of PIMs in dementia patients.

RESULTS: The cohort included 57,469 elderly dementia patients, with mean age of 85 ± 8 years. Overall, 53.1% of dementia patients received PIMs. The prevalence of top seven drugs classes were as follows: antipsychotics (31.3%), H2-receptor antagonists (11.3%), antihistamines (10.3%), antimuscarinic urinary incontinence (9.1%), antiemetics (6.7%), nonbenzodiazepine receptor agonist hypnotics (6.1%), tricyclic antidepressants (5.7%). Multivariable logistic regression found that females (odds ratio [OR], 1.16), Blacks (OR, 1.18), patients with Elixhauser comorbidities (twelve conditions), emergency room visit (OR, 1.1) and more than five prescription medications (OR, 3.0) were associated with higher likelihood of receiving PIMs.

CONCLUSIONS: One out of two dementia patients received at least one PIMs reflecting poor quality of pharmaceutical care in this vulnerable patient population.

TRENDS AND PREDICTORS OF 2-YEAR ACTIVITY PARTICIPATION IN COMMUNITY DWELLING OLDER ADULTS

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Background: Decline in activity level portends subsequent decline in physical function, cognitive status and quality of life. The Frenchay Activities Index (FAI) measures activity participation corresponding to a 2x2 framework of indoor/outdoor and work/leisure activities. This prospective cohort study aims to explore baseline factors that predict changes in FAI amongst community-dwelling older adults in the GERILABS study.

Methods: We studied 144 community-dwelling older adults over 2 years. Baseline data on demographics, vascular risk factors (VRFs), mood, physical function and Short Physical Performance Battery (SPPB) were collected. We compared between baseline and 2-year FAI status which were derived using quartile-cutoffs of total FAI scores.

High-performance were defined from the low-performance by improved FAI status or remaining within the upper most two quartiles. Significant variables in univariate analysis were further analyzed using logistic regression to ascertain predictors of improved FAI status.

Results: At 2-year, there were 57(39%) high and 89(61%) low performance (FAI: 2.49 ± 3.39 vs -3.62 ± 4.41 , $p < 0.01$). High-performance maintained outdoor/indoor work ($p < 0.01$) and indoor leisure ($p = 0.198$) activities. High-performance declined in outdoor leisure activities, although of lesser degree than low-performance (-2.23 ± 2.24 vs -4.53 ± 2.45 , $p < 0.01$). Using logistic regression adjusted for gender, VRFs, SPPB and mood, living alone [OR=4.02, 95% CI:1.40–11.50] and younger age [OR=0.937, 95% CI:0.89–0.99] were predictors of improved FAI status.

Conclusion: About two-fifths of community-dwelling older adults, typically those younger and living alone, maintained good activity participation at 2 years. While work activities were maintained, outdoor leisure participation notably declined. Further studies are needed to ascertain how living alone promotes maintenance of activity participation.

FUNCTIONAL STATUS OF NON-DEMENTED COMMUNITY-DWELLING OLDER ADULTS WITH PRIOR TRAUMATIC BRAIN INJURY

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Traumatic brain injury (TBI) is common and associated with heightened dementia risk, but functional implications of prior TBI among non-demented community-dwelling older adults are unclear. We sought to describe functional status associated with prior TBI in the Health and Retirement Study (HRS) - a population-based cohort study of community-dwelling older adults. We studied 984 older adults without dementia randomly selected from HRS 2014 respondents to complete a TBI survey and who reported no prior TBI ($n = 737$) or prior symptomatic TBI requiring medical attention ($n = 247$). Mean time since first TBI was 38 ± 19 years. Functional impairment was defined as self-reported difficulty on ≥ 1 of 6 instrumental activities of daily living (IADL): using a map, hot meal preparation, grocery shopping, making phone calls, taking medications, and managing money. Covariates assessed included demographics, medical comorbidities, depression, global cognition, and gait speed. We compared functional impairment across TBI groups using regression models adjusted for covariates that significantly differed between groups. Respondents with TBI were younger, less likely to be female, had higher prevalence of medical comorbidities and depression, but did not differ on global cognition or gait speed compared to respondents without TBI. Respondents with TBI were significantly more likely to report impairment on ≥ 1 IADL compared to those without TBI (30.0% vs. 20.4%, adjusted risk ratio [95% CI]: 1.31 [1.02–1.66]). In this population-based study of community dwelling older adults without dementia, those with prior TBI had 31% increased risk of IADL impairment even after accounting for higher prevalence of medical comorbidities and depression.

LONGEVITY KLOTHO GENE POLYMORPHISM AND THE RISK OF DEMENTIA IN OLDER MEN

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In mice the Klotho gene encodes a membrane protein that seems to suppress certain physiological aspects associated with the ageing phenotype including reduced lifespan and atherosclerosis. In humans Klotho variants (KL-VS) have been associated with increased longevity and better cognitive function. It is unclear whether they modulate dementia risk.

Using an existing cohort of older men, we recruited 527 individuals aged 71–87 years who were free of cognitive impairment. We used data linkage to track the onset of dementia over 10 years. KL-VS genotyping (rs9527025 T/G) followed standard procedures.

In these men, 370 (70.2%), 145 (27.5%) and 12 (2.3%) had the TT, TG and GG genotypes of KL-VS polymorphism. The Hardy-Weinberg test showed that this allelic distribution was in equilibrium. Overall the age adjusted annual rate of dementia was 17.2‰ (95%CI=14.0–21.1; total = 5053 person-years). The rates were 14.0‰ (95%CI=10.6–18.4; 3582 person-years), 23.5‰ (95%CI=16.6–33.2; 1363 person-years) and 46.4‰ (95%CI=19.3–111.5; 108 person-years) for men with the TT, TG and GG genotypes. Compared with the TT genotype, the sub-hazard ratios of dementia associated with the TG and GG genotypes were 1.6 (95%CI=1.0, 2.5; $p = 0.030$) and 3.5 (95%CI=1.3, 9.1; $p = 0.011$).

The Klotho KL-VS variant is associated with an increase in the incidence of dementia in older men in a dose-dependent fashion (intermediate for heterozygosis and highest for homozygosis). If these findings can be replicated then the risk of dementia may be able to be modulated by exploiting this metabolic pathway.

ARE ACUTE GERIATRIC UNITS MORE EFFECTIVE FOR HOSPITALIZED SENIORS WITH FRAILTY AND ADVANCED AGE?

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Although acute geriatric units (AGU) are effective in care of hospitalized seniors, it is unclear who among them accrue greater benefit. Therefore, this study seeks to evaluate frailty and advanced age as predictors of benefit from AGU care compared with usual care for short-term outcomes. In a retrospective cohort study, we merged chart and administrative data of seniors aged 65 years and older hospitalized with pneumonia at three acute care hospitals over one year. Frailty is defined as Frailty Index of at least 0.25, while advanced age is 80 years and older. Thirty-day mortality, hospital length of stay (LOS), and episode cost are regressed in turn on AGU care, while controlling for frailty, advanced age, gender, severity of illness, recent hospitalization, and nursing

home residence. Interactions of AGU care with frailty and advanced age are examined. Among 2,905 seniors, odds ratios of 30-day mortality for AGU care compared with usual care are 0.54 vs. 1.04 for those with and without frailty respectively, and 0.69 vs. 1.31 for those with and without advanced age respectively (p-values for both differences <0.05). Corresponding comparisons of LOS differences are +1.68 vs. +2.88 days, and +2.87 vs. +1.33 days (p-values for both differences >0.05), while cost differences are -\$746 vs. -\$151, and -\$215 vs. -\$770 (p-values for both differences >0.05). Thus, seniors with frailty and advanced age obtain greater benefit from AGU care where short-term survival is concerned. Trade-offs with respect to LOS and cost may also favour those with frailty, but not advanced age.

ASSOCIATED RISK FACTORS OF RESTRAINT USE IN OLDER ADULTS WITH HOME CARE

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The aim of the study was to gain insight into the associated risk factors for restraint use in older adults with home care. A cross-sectional survey of restraint use was conducted in a randomized sample of older adult home care patients completed by the patients' primary care nurses. A binary logistic regression model with generalized estimating equations was used to evaluate associations with the presence of restraints. Of the 8000 questionnaires, 6397 could be used for further analysis. Patients had a mean age of 80.6 years, 66.8% were females and 46.4% lived alone. 24.7% was restrained. Multivariate regression indicates that restraint use was associated with supervision [OR = 2.433, 95% CI = 1.948 - 3.038]; dependency in ADL-activities (i.e. eating [OR= 2.181, 95%, CI= 1.212 - 3.925], difficulties in transfer [OR= 2.131, 95%, CI= 1.191-3.812] and continence [OR= 1.436, 95%, CI= 0.925 - 2.231]); perceived risk of falls by nurses' clinical judgement [OR= 1.994, 95%, CI= 1.710 - 2.324], daily [OR 1.935, 95%, 1.316-2.846] and less than daily [OR= 1.446, 95%, CI= 1.048-1.995] behavioral problems; decreased well-being of the informal caregiver [OR= 1.472, 95% CI= 1.126 - 1.925]), the informal caregiver's dissatisfaction with the support of family [OR= 1.339, 95% CI= 1.003 - 1.788]; cognitive impairment [OR= 1.398, 95% CI= 1.290 - 1.515], and polypharmacy [OR= 1.415, 95% CI= 1.219 - 1.641]. Restraint use in home care is very common. The results may support the development of interventions to reduce restraint use in home care.

INSULIN GLARGINE 300 U/ML VS. 100 U/ML IN OLDER PEOPLE WITH T2DM: RESULTS FROM A RANDOMIZED TRIAL

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SENIOR was a phase 3b, randomized, open-label, 2-arm, parallel-group, multicenter, 30-week trial. Randomization was stratified by screening HbA_{1c} (<8.0 vs ≥8.0 %), previous insulin use (Yes/No), and sulfonylurea or meglitinide use at screening (Yes/No). Insulin was titrated to the ADA-recommended glycemic target for healthy elderly individuals (fasting SMPG: 90-130 mg/dL [5.0-7.2 mmol/L]), a higher glycemic target than utilized previously in randomized controlled trials of insulin glargine 300 U/mL (Gla-300) versus 100 U/mL (Gla-100) in adults. The aim of the SENIOR trial was to compare the efficacy and safety of Gla-300 with Gla-100.

In total, 1014 individuals (≥65 years) with T2DM were included in the trial, of whom 241 were ≥75 years old. The primary endpoint of non-inferiority of mean change in HbA_{1c} for Gla-300 versus Gla-100 was achieved (least squares mean difference [95% CI]: 0.02, [-0.092 to 0.129] %). Similar percentages of participants in both groups reported confirmed (≤70 mg/dL [≤3.9 mmol/L]) or severe hypoglycemia. The annualized rates of documented symptomatic (≤70 mg/dL [≤3.9 mmol/L]) hypoglycemia were lower with Gla-300 versus Gla-100, both in the overall study population (1.85 vs 2.56 events/participant-year; rate ratio [RR] 0.74 [0.56 to 0.96]) and in the ≥75 years subpopulation (1.12 vs 2.71 events/participant-year; RR 0.45 [0.25 to 0.83]). Frequency of adverse events, including cardiovascular events, falls and fractures was similar between treatments.

These results indicate that Gla-300 was effective in older people with T2DM, with a good safety profile, resulting in comparable reductions in HbA_{1c} and lower rates of documented symptomatic hypoglycemia versus Gla-100.

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MEASUREMENT PROPERTIES OF THE COMMUNITY BALANCE AND MOBILITY SCALE IN YOUNG-OLDER ADULTS

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With the growing number of young-older adults, there is a need for balance and mobility assessment tools specifically validated in this population. This study aimed to evaluate the reliability, validity, responsiveness, internal consistency, and ceiling effects of a challenging balance and mobility scale (Community Balance and Mobility Scale, CBMS) in young-older adults. Fifty-one participants (66.4 ± 2.7 years) underwent CBMS assessment. The Fullerton Advanced Balance scale (FAB), Timed-Up-and-Go (TUG), 8-level balance scale, 3-meter tandem walk (3MTW), and gait speed were used for estimating concurrent validity. Reliability was calculated as Intra-class-correlations (ICC) and internal consistency by Cronbach alpha. Standardized response means (SRM) were used to assess responsiveness in detecting balance and

mobility changes after a 4-weeks exercise intervention. The CBMS correlated high with the FAB ($\rho = 0.74$; $p < .001$); good with the 3MTW ($\rho = 0.61$; $p < .001$); and moderate with TUG, gait speed, and 8-level balance scale ($\rho = 0.31-0.52$, $p < .05$). Reliability (ICC $> .95$), internal consistency ($\alpha = .74$) and responsiveness (SRM = 0.75, $p < .001$) were good. In contrast to FAB and 8-level balance scale, the CBMS had no ceiling effects. Measurement properties of the CBMS are good to excellent in young-older adults. The scale can be recommended to identify balance and mobility deficits and intervention-related changes over time. Results suggest that the CBMS is particularly relevant for detecting and monitoring early age-related changes in balance and mobility, which might be masked by other balance scales used in the geriatric field.

GAIT IMPAIRMENTS DURING SELF-PACED TREADMILL WALKING IN OLDER ADULTS WITH MULTIPLE SCLEROSIS

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Gait impairments are common in persons with multiple sclerosis and normal aging, and would be expected to worsen with the combined effects of aging and this neurological condition. The present study used an instrumented treadmill to evaluate gait impairments in older adults with multiple sclerosis (MS) in comparison to healthy older adults (HOA) during self-paced gait in normal walking (NW) and divided-attention walking (Walking While Talking; WWT) tasks. We hypothesized that older adults with MS would exhibit increased gait impairment during WWT compared to NW tasks on a self-paced instrumented treadmill, when compared to HOA. Twenty older adults with MS (Mean (SD) age = 61 (6) years, 15 female, Expanded disability status scale (EDSS) score of 3.7 (1.6)) and twenty HOA (61 (7) years, 15 female) were recruited from the local community. Spatiotemporal gait parameters were obtained using the C-Mill instrumented treadmill, which allowed for self-paced gait, similar to over ground walking. The MS group demonstrated reduced single support time, anteroposterior symmetry; and increased stride time, step width, and double support time compared to HOA group, particularly during WWT tasks. These findings suggest that divided-attention tasks during self-paced gait on an instrumented treadmill may provide an effective tool in assessing changes in gait function in older adults with MS.

HIGH INTENSITY EXERCISE DOES NOT DELAY COGNITIVE DECLINE IN MILD TO MODERATE DEMENTIA: RCT

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Several small trials suggest exercise may delay cognitive decline in people with Alzheimer's, Vascular or Mixed dementia.

In a multicentre trial (registration ISRCTN10416500, 15 centres), we randomly assigned 494 people with mild or moderate dementia to either a 4-month supervised high intensity exercise training regime and on-going supported physical activity programme or usual care. All participants had a standardised Mini-Mental State Examination (sMMSE) score greater than 10. The primary outcome was the Alzheimer's Disease Assessment Scale-cognitive (ADAS-cog) score at 12 months. Secondary outcomes were physical fitness, ADLs, neuropsychiatric symptoms, quality of life and health service resource use. We undertook pre-specified subgroup analyses and investigated impact on carers

Baseline sample means were ADAS-cog 21 (SD 8.2); age 77 (SD 7.7) and 60% were men. Compliance with exercise classes was high and physical fitness improved. By 12 months, mean ADAS-cog was 25 (SD 12.3) in the exercise group and 24 (SD 10.4) in the usual care group (adjusted between group difference -1.4 (95% CI -2.62, -0.17, $p = 0.026$ higher score indicates worse cognition). Pre-randomisation disease type, sMMSE, physical status and gender were not significant sub-group factors. There were no significant differences in secondary or carer outcomes between groups. The exercise intervention was not cost effective.

In this large, well conducted trial, high intensity exercise training did not reduce decline in cognition in mild to moderate dementia. Although physical fitness improved, the impacts on other important clinical outcomes was null and the intervention was not cost effective from a UK Health care perspective.

SHORTHAND AND COGNITION—RESULTS OF A 5 YEAR PILOT STUDY

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Background: Cognitive decline is common in the elderly. In a pilot study we test the hypothesis that learning shorthand will preserve cognitive abilities. Shorthand is a special method of writing in short cuts and consist of learning a new "language" and writing speed training.

Setting: Ambulatory healthy women from Minden, North Rhine-Westfalia, Germany, independent in all ADLs and IADLs.

Methods: We studied a group of 17 right-handed females, mean age 71.8 ± 4.9 years in 2012. A geriatric, extended neuropsychological and clinical assessment was done yearly until January 2017. Training sessions comprise 2 sessions per week in year 1 and 2 followed by 1 session in year 3 to 5. During the study 5 women (2 depression, 1 malignancy, 1 rheumatic disease, 1 move to another city) left the study.

Results: Compared to 2012 the assessments in 2016 showed significant improvements in Rey Complex Figure Test (CFM: 76.9 vs 95.1, $p = 0.0151$, and CFQ: 66.1 vs 91.3, $p = 0.0018$) or remained stable without any decline, e.g. MMSE (27.6 vs. 28.6, $p = 0.053$) and others (BAS ($p = 0.42$), SBT ($p = 0.83$), TMT A ($p = 0.96$) + B ($p = 0.36$), Wechsler Memory Scale, Regensburg Word Fluency Test, Test of Attentional Performance).

Discussion: Comparing to baseline we found a stable cognitive performance in all participants over 5 years indicating

that shorthand learning and training maybe beneficial for preserving cognitive abilities with aging.

POSTURAL MUSCLES WEAKNESS IN OLDER ADULTS WITH FALL HISTORY: A NEURAL OR A MECHANICAL DEFICIT?

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The decline in torque production of postural muscles during aging is considered as a key factor in the risk of falling. Recent works showed that the maximal torque of plantar flexor muscles (PF) was lower in older adults with recent fall history (OF) than in older non-fallers (ONF). The present study aimed to investigate the neural and mechanical factors associated with the lower maximal PF torque production in OF. Fifteen young adults (YA) (22 ± 4 years), 15 OF (84 ± 4 years) and 15 ONF (83 ± 4 years) were included in this study. Torque and electromyographic activity of soleus, gastrocnemii and tibialis anterior (TA coactivation) muscles were recorded during maximal voluntary contractions of the PF. Electrical nerve stimulation was used to assess the voluntary activation level (neural factor) during maximal plantar-flexion and the muscle contractile properties (mechanical factor). The results showed that the maximal PF torque was significantly lower ($P < 0.05$) for OF (51 ± 12 Nm) than ONF (70 ± 15 Nm) and YA (119 ± 40 Nm). The voluntary activation level was lower ($P < 0.05$) for OF ($73 \pm 18\%$) than ONF ($82 \pm 19\%$) and YA ($90 \pm 14\%$). A similar trend was observed for the maximal PF electromyographic activity. No difference in TA coactivation was reported among the three groups. While age affected the mechanical properties of ankle muscles ($P < 0.001$), no difference was observed between ONF (13 ± 3 Nm) and OF (12 ± 3 Nm).

These results suggest that the alteration of muscle force production observed in OF could be mainly related to a deficit in muscle activation capability rather than reduced muscle contractile properties.

RATE OF FORCE DEVELOPMENT PREDICTS PHYSICAL FUNCTION INDEPENDENT OF PEAK TORQUE IN MEN BUT NOT WOMEN

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While isokinetic peak torque (PT) is associated with lower extremity performance (LEP), it requires expensive equipment not available in clinical settings. The rate of force development (RFD), well known in sports, captures speed during an isometric contraction and may be useful in studies of aging. We assessed whether RFD is associated with LEP independent of PT. Data from 1092 adults (age 26 to 96 years) enrolled in the Baltimore Longitudinal Study of Aging include demographics, body composition by DXA, LEP, PT and peak RFD. Peak RFD was obtained during 3-sec isometric knee extension at 120 degrees and PT from a test of 30 deg/sec concentric knee extension. LEP was assessed as time to complete a 6m walk at usual and fast pace (6m-usual and fast), a 400m walk at fast pace (400m), and distance

covered in a 2.5min walk at normal pace (2.5min) and global LEP by the Health ABC physical performance battery (HABCPB). Analyses used sex-stratified generalized linear regression models adjusted for age, race, height, fat-free mass, fat mass, and PT as covariates. In men, independent of PT, RFD was a significant ($p < 0.05$) predictor of all LEP except the 400m and the 2.5min long walks. In women, independent of PT, RFD was only a significant correlate of the 6m-fast walk ($p = 0.02$). In conclusion, RFD independently contributes to physical functions in men but less in women. RFD may help capture speed-related effects without isokinetic testing, but the sex difference requires further research.

ARE PROTOCOLS FOR MEDICATION HOLDS SUFFICIENT FOR SKIN PRICK TESTING FOR OLDER ADULTS WITH ASTHMA?

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Allergy skin prick testing (SPT) is commonly performed during the work-up of allergic asthma. We examined a cohort of older asthmatics who underwent allergy SPT following a standardized medication hold protocol in use at the University of Louisville. The protocol attempts to address the impact concurrent medication use has on skin prick test outcomes and are aimed at medications with anti-histaminic or anti-inflammatory activity. It is well documented that immune-senescence is common with advanced age. We were surprised to find a disproportionately low number of subjects with positive skin prick tests in our older aged asthmatics. This led us to explore the idea that additional medications which were not withheld by protocol (e.g., not typically recognized as suppressing immune function or allergy reactions) may effect skin prick interpretations. In one case, for example, a muscle relaxant related to amitriptyline was not held, although amitriptyline itself is typically withheld for 5 days prior to testing. Also, opioids and benzodiazepines have some immunosuppressive activity, yet are not singled out for withholding per SPT protocol. Given that older adults tend to have higher rates of both intra and inter-class polypharmacy that aim to treat comorbid conditions outside of asthma and allergy, we have looked at the potential role these medications play with this surprisingly low rate of negative allergy testing results. Our findings suggest that additional studies are needed to further understand the potential role additional classes of medications commonly used in older adults may play with interfering with skin prick testing protocols.

EFFECTS OF NEUROMUSCULAR ATTRIBUTES IN THE RELATIONSHIP OF MILD COGNITIVE IMPAIRMENT WITH MOBILITY

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It is commonly understood that cognition and mobility are in dynamic feedback, but the role of specific aspects of neuromuscular functioning in driving this association has gone unexplored. We used data from Boston RISE ($n=422$; age= 76.5 ± 7.0 ; 68.3% female; 17.3% non-white; SPPB score= 8.7 ± 2.3) to evaluate the contribution of four neuromuscular attributes (leg strength, velocity, knee flexion range of motion [ROM], trunk extensor endurance [TEE]). To quantify the total effect of cognition on mobility, we showed via linear regression that amnesic, non-amnesic, and mixed MCI were associated with reduced SPPB scores in comparison to the no-MCI referent category [mean (95% CI) difference -0.94(-1.49, -0.38); -1.97(-3.09, -0.85); -1.66(-2.19, -1.34), respectively, after adjustment for relevant covariates]. Each MCI category was similarly associated with clinically significant decreases in gait speed. We then re-estimated these models including the neuromuscular measures as covariates; with control for these factors, the apparent effects of MCI on mobility were attenuated by between 21 and 49%. Notably, these models also implied that neuromuscular attributes are independently associated with SPPB scores [strength: 0.52(0.30, 0.75); velocity: 0.38(0.15, 0.60); TEE: 0.57(0.37, 0.76)] and gait speed. We observed little evidence of interaction between MCI and neuromuscular function in predicting mobility. Though derived from cross-sectional data, these results suggest that specific neuromuscular abilities are partial mediators of the influence of cognition on mobility, but also that they express the influence of other factors. They therefore may offer promising targets for interventions to either modulate or compensate for the deleterious effects of cognitive impairment on physical function.

RELATIONSHIP BETWEEN PERSON-CENTERED PRACTICES AND STAFF'S OUTCOMES IN KOREAN LONG-TERM CARE

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Providing person-centered care is a guiding principle in overall healthcare as well as long-term care settings. Rapid aging in recent years makes it a priority to many countries, as they have to find a way of taking good care of older adults. This study examined the relationship between person-centered practices and staff outcome including job satisfaction and turnover intention in Korean long-term care facilities. A total of 299 staff from 13 long-term care facilities in Korea were recruited and completed survey questionnaires including Person-centered Practices in Assisted Living (PC-PAL), job satisfaction and turnover intention. Linear and logistic regression analyses were performed controlling for individual-level covariates (e.g., age, gender, education, marital status, workforce type, tenure, working shift, staff-patient ratio, and salary) and organizational-level covariates (e.g., facility type, ownership, grade, size, and staffing levels). The major study findings showed that the staff who provide more person centered care indicate higher staff job satisfaction scores ($\beta = 0.46$, p -value $< .001$). Specifically, among the five sub-domains of PC-PAL, the workplace practices area indicated the highest relationships with job satisfaction than the other areas ($\beta = 0.341$, p -value $< .001$). However, there was no

statistically significant relationship between person-centered practices and turnover intention in this study. Literature shows that person-centered practices have a significant impact on staff outcomes, care quality, and ultimately residents' outcomes in many countries. This study contributes to the body of knowledge on person-centered care by providing significant impacts of person-centered practices on staff outcomes in Korean long-term care facilities.

HEALING TOUCH AS SELF-CARE FOR VETERANS WITH HYPERTENSION

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Seventy-eight million Americans suffer from hypertension, a key factor of cardiovascular diseases nationally and worldwide. Stress has been implicated as one of the contributors to hypertension (HTN). One out of every three veterans are diagnosed with high blood pressure. Roger's Theory of Science of Unitary Human Beings and Lazarus' Transactional Theory of stress were used to guide this study. The purpose of this pilot study was to examine whether the use of self-care healing touch, can reduce stress and anxiety in veterans 60 and older, diagnosed with hypertension. In this a pre-intervention, post-intervention randomized two-group experimental pilot study, 24 veterans, 10 African American, 9 Caucasians, 6 other, were recruited from Los Angeles County. Participants were randomized into 2 groups (intervention and control) for this 4 week study. Outcome measures included changes in blood pressure, self-reported stress using the Daily Stress Inventory (DSI) and anxiety measured using the Geriatric Anxiety Inventory (GAI).

Results showed a significant difference in the systolic blood pressure in the intervention group compared to the control group at Week 4. There was a marginal significance found in the heart rate, but no statistical significance seen in the stress or anxiety results on this minimal sampling study.

THE RELATIONSHIP BETWEEN SOCIAL CARE ACCESS AND HEALTHCARE USE BY OLDER ADULTS: A SYSTEMATIC REVIEW

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Adult social care is facing substantial pressures in sustainability and accessibility, with consequences for the health sector. A systematic review was undertaken to synthesise evidence on the relationship between access to social care and healthcare utilisation outcomes for older adults. Social care access was defined using Gulliford et al.'s (2002) four domains: availability and supply, utilisation, quality and relevance, and equity. Systematic searches of published and grey literature were conducted, resulting in 11538 records. Titles and abstracts were screened for potential relevance, and full texts of selected studies assessed for inclusion against review criteria. Studies must have reported evidence about the relationship between social care access and healthcare utilisation specifically for older adults, and be published after 2000. A total of 45 studies were included in the review. Evidence was concentrated on the influence of two accessibility domains: social care availability and supply, and social care

utilisation. No studies reporting evidence about the influence of social care quality or equity were identified. Evidence indicates that lower availability and supply of social care is associated with increased use of hospital care, particularly in UK studies. There is some indication that nursing home and residential care may have more influence than home based social care on healthcare utilisation. Evidence typically reflected secondary health care outcomes, with clear gaps regarding primary care use outcomes.

This review offers a clear and timely picture of how access to social care influences healthcare use for older adults.

BESTEST, MINI-BEST, BRIEF-BEST, AND BBS: ABILITY TO IDENTIFY FALLS STATUS, INSTITUTIONALIZED ELDERLY

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Objectives: To verify the ability of the Balance Evaluation Systems Test (BESTest), Mini-BESTest, Brief-BESTest and Berg Balance Scale (BBS) to identify institutionalized elderly falling. **Methods:** This is a retrospective cohort study. Institutionalized elderly (n=39; aged 62–90 years; mean=78.26 [7.3] years) were recruited from a philanthropic nursing home of Sao Paulo City (Brazil). All participants were tested with BESTest, Mini-BESTest, Brief-BESTest, and BBS and the history of falls from a year ago was collected by the medical records. For the analysis, a falls status indicator was used and the sample was dichotomized in “Non-Faller” (participants who had no fall in the last year) and “Faller” (participants who had a fall or more in the last year). The sensitivity and specificity between the total score of the BESTest, Mini-BESTest, Brief-BESTest, and BBS was calculated based on the fall hazard indicator. The cut-off points were determined using the Receiver Operating Characteristic (ROC) curves. The statistical significance of each analysis was verified by the area under the ROC curve (AUC) and by their respective 95% confidence intervals (95% CI). **Results:** All balance tests were able to identify falls status (AUC=0.63; 0.70; 0.78 and 0.75, BESTest, Mini-BESTest, Brief-BESTest, and BBS, respectively), the Brief-BESTest (sensitivity=94%, specificity=61%) and the BBS (sensitivity=94%, specificity=56%) had the higher ability. **Conclusions:** All balance tests are valuable to identify fall status in institutionalized elderly. The Brief-BESTest presented slightly higher ability to identify falls status in our sample.

THE SUSTAINABILITY OF CHAIR YOGA PRACTICE IN OLDER ADULTS WITH LOWER EXTREMITY OSTEOARTHRITIS

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Chair yoga is relatively gentle and easy-to-learn form of yoga and is well suited to older adults with osteoarthritis (OA) who cannot participate in standing exercises. The purpose of this study was to determine whether chair yoga practice could be sustained during and three months after an 8-week chair yoga intervention for older adults with lower extremity OA. A two-arm randomized controlled trial was conducted with twice-weekly 45-minute sessions (16 sessions) of chair yoga or Health Education Program (HEP; attentional control group). Pain, pain interference, balance, gait speed, fatigue, and functional ability were measured at baseline, during intervention (4 and 8 weeks) and post-intervention (1 and 3 months). Hierarchical Linear Modeling was conducted to measure changes across time within and between groups and measure sustainability of the effect of chair yoga compared to HEP from Week 9 to Week 21 (1 month and 3 month follow-ups). One hundred twelve participants completed the intervention and data collection; 106 completed at least 12 of 16 sessions (retention rate = 95%). There was no other statistically significant sustained effect of chair yoga at the 3-month post intervention for any other variables except pain interference ($p = .012$). In terms of compliance with home practice after the intervention, only less than 50% of the yoga participants continued yoga practice at home using the guide book. The findings of this study were that older adults do not enjoy doing these types of activities at home alone and prefer to do programs in groups with support from an instructor.

ONE-YEAR MORTALITY AFTER HIP FRACTURE IN OLD AND VERY OLD PATIENTS

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Prospective cohort of patients included in the Institutional Registry of elderly patients with Hip fracture between June 2014 and December 2016. We excluded pathologic, periprosthetic, subtrochanteric or secondary to polytrauma fractures. We classified patients as: old patients (OP) ≥ 65 and < 85 years and very old patients (VOP) ≥ 85 years. We used Kaplan Meier method to estimate one year survival. We used a Cox model to estimate OP Hazard Ratios with 95% confidence intervals (95%CI).

We included 759 patients, 43% were OP and 57% were VOP. Proportion of women was 83% and 85% respectively, $p=0.45$. They had similar frequency of poly medication (46% and 47%, $p=0.78$) and proportion of people having two or more Charlson score (28% and 32%, $p=0.26$). VOP were more dependent by Barthel score (36% and 65%, $p<0.01$) and more fail Edmonton score (34% and 67%, $p<0.01$). One year survival was 96% (95%CI 93–98) in OP and 84% (95%CI 79–88) in VOP. Complications were more frequent in VOP, 26% and 34% $p=0.02$. Readmission were 30% and 41%, $p<0.01$. Age is an independent risk factor for one year mortality with a crude HR 4.59 (IC95% 2.16–9.73, $p<0.01$), adjusted for frailty, functionality, ASA score, Charlson, poly medication and nutrition HR 3.52 (95%CI 1.63–7.6, $p<0.01$).

CAREGIVING FOR A RELATIVE WITH LUNG CANCER: HOW DO SENIORS COMPARE TO YOUNGER CAREGIVERS?

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Lung cancer is the most frequent type of cancer diagnosed. With a 5-year survival of 17%, such diagnosis is emotionally threatening not only for patients but also for their family caregivers (FC). Studies have reported even higher distress for FC. However, few researchers have focused on this population, particularly in longitudinal surveys. This study compares, for different age groups, distress and quality of life (QoL) among FC of lung cancer patients. Participants completed every 3 months, up to 9 months, validated questionnaires on distress and QoL. Univariate, bivariate analyses and mixed models with repeated measurements were conducted. A total of 105 FC participated to the survey (N=43 aged < 60, N=32 aged 60–69 and N=30 aged ≥ 70). In all groups, FC were predominantly women. Older FC had more frequently health problems. However, at baseline, distress was significantly lower among seniors (IDPESQ score 33.7 in < 60; 27.7 in 60–69; 22.8 in ≥ 70 (score range 0–100); p=0.04). Also, they experienced significantly better global QoL (p=0.008), physical (p=0.01) and psychological (p=0.003) well-being, as well as less social preoccupations (p=0.008) than their younger counterparts. These differences remained after 3, 6 and 9 months. These results suggest that seniors better manage caregiving than younger FC. However, with the expected increase in the prevalence of cancer, the aging of the population and the growing number of frail seniors, more research is necessary in this field, to better document FC experience in order to adapt services to their needs, especially for the very old.

IS A HIGH SODIUM INTAKE ASSOCIATED WITH ARTERIAL STIFFNESS IN THE VERY OLD?

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A high sodium intake and arterial stiffness is associated with an increased cardiovascular risk (CVR).

This study aimed to evaluate the association between sodium intake, estimated from urinary excretion, and arterial stiffness, noninvasively measured, in independent octogenarians.

We included elderly individuals of both sexes, aged ≥80 years and who were physically and cognitively independent. Arterial stiffness was evaluated by pulse pressure amplification index (PPAi), assessed by a noninvasive procedure using the Mobil-O-Graph™ equipment (PPAi=100x((PPb-PPc)/PPc), PP: pulse pressure, b: braquial, c: central). Furthermore, the Tanaka formula was used to estimate 24-h urinary sodium excretion using isolated urine samples, and these estimates were used as a surrogate for intake.

In total, 113 elderly individuals with a mean age of 87.6±4.2 years were evaluated. Women (78.8%) accounted

for majority of the examined individuals. We categorized into two groups on the basis of sodium intakes of <3.0 and ≥3.0 g/day. PPAi was 30.8% and 25.2%, respectively (p = 0.008*).

In conclusion, octogenarians with a sodium intake of ≥3.0 g/day had lower PPAi that means a higher arterial stiffness. Low PPAi strongly predicts mortality and adverse effects in very old. Therefore, these data suggested that the sodium intake-related increase in CVR may be attributed to higher arterial stiffness. Thus, recommendations for controlling salt intake should be emphasized.

PREDICTING HOSPITALISATIONS: COMPARING EIGHT RISK SCORES IN CARE-DEPENDENT ELDERLY FROM SIX COUNTRIES

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Better prediction of hospitalisations may allow preventive interventions directed to appropriate target groups. We compared the predictive accuracy of eight existing risk scores to hospitalisations among older care dependent home dwelling adults across six countries from the IBenC study.

We assessed 2884 persons aged 65 or older, who received professional homecare in six different countries in Europe and followed them for 6 months. Eight existing index risk scores were computed with baseline data: (1) The Changes in Health, End-stage Disease, Signs, and Symptoms Scale (CHESS); (2) Detection of Indicators and Vulnerabilities for Emergency Room Trips (DIVERT); (3); (4) Identification Seniors At Risk Primary Care (ISAR PC); (5) Emergency admission risk likelihood index (EARLI); (6) Sherbrooke Postal Questionnaire (SPQ); (7) the Elders Risk Assesment (ERA), and (8) Community Assessment Risk Screen (CARS). Their accuracy to predict one or more reported hospitalisations or Emergency Department visits was expressed in the area under the ROC curve (AUC).

194 older adults were admitted at the ED and/or hospital ward during the six-month study period. The highest AUC value was found for the EARLI AUC=0.75, followed by DIVERT (AUC =0.69), CHESS (AUC =0.66), CARS (AUC =0.64), ERA (AUC=0.60), ISAR-PC (AUC =0.47) and SPQ (AUC =0.41). Significantly better AUC value were found in persons without a recent admission at baseline for DIVERT, EARLI and CARS risk scores.

Our results reveal two promising risk scores: EARLI, and DIVERT. Identification by these risk scores may help to target preventive intervention in high-risk groups.

DEMENTIA PREDICTED ONE-YEAR MORTALITY FOR HIP FRACTURE PATIENTS: A POPULATION-BASED STUDY

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Objective: We aimed to examine 1-month, 3-month, and 12-month mortality rates in elderly patients with repaired hip fractures. We further explored relative risks of dementia, Parkinson, and medical illness in predicting death following fracture treatment.

Methods: This retrospective observational cohort study analyzed 6,315 older persons with hip fractures, 2000–2012, identified from the 2005 Longitudinal Health Insurance Database. We used outpatient and carrier claims to identify individuals with dementia and Parkinson, traced back 2 years before the hip fracture dates. We used Cox proportional hazards models to estimate the risk of death associated with variables of interest with adjustment for demographic, clinical, treatment, and provider factors.

Results: Among 6,315 hip fracture patients, 10.82%, 5.89%, and 2.82% had dementia, Parkinson, and dementia plus Parkinson, respectively. One-year mortality rates were 15.49% for patients with dementia, 11.68% for those with Parkinson, 15.82 for those with dementia/Parkinson, and 9.78% for those without neurological illness. After covariate adjustment, the hazard ratio for 1-year mortality was 1.41 (95% CI: 1.14–1.74) for dementia patients compared with non-dementia patients. The hazard ratio was substantially elevated for patients with dementia/Parkinson (HR: 1.52, 95% CI: 1.03–2.22) compared with the reference group. There was no significant association with death for patients with Parkinson alone.

Conclusion: Our data show that hip fracture patients with preexisting dementia appear to be at greater risk of death than those without dementia. Parkinson did not predict death in 1, 3, or 12 months. Better follow-up management programs are suggested to reduce the death risk for elderly hip fracture patients, especially those with dementia.

WORTH THE WALK: A CULTURALLY-TAILORED INTERVENTION TO REDUCE STROKE RISK IN MINORITY OLDER ADULTS

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Stroke is devastating disease that disproportionately kills and disables ethnic/racial minority older adults. Over 30% of stroke risk is attributed to sedentary lifestyle, but most older adults are physically inactive. With a goal of decreasing stroke disparities, our interdisciplinary team developed, implemented and tested a behavioral intervention to increase walking among Korean-American (KA), Chinese-American (CA), African-American (AA) and Latino (LT) older adults. We used community-partnered research methods to culturally tailor a 4-week, 2-hour per week curriculum based in social cognitive and attribution theory. We trained in-house senior center staff at 4 community senior centers to implement the intervention; we then measured the intervention's effectiveness using a single-blind randomized waitlist controlled trial. We recruited subjects (age >60 years, able to walk) at senior centers and randomized them into either immediate 4-week intervention or 3-month wait-list control. Measures were assessed by trained staff at baseline (prior to randomization), 1-month, and 3-months in both groups; wait list control subjects received the intervention after all data collection was completed. The primary outcome was mean steps/day over 1 week (measured with pedometers). We

enrolled 233 participants (mean age 74 years; 69% female). Mean baseline steps/day were 4744; after 1 month, control subjects decreased and intervention subjects increased with mean difference 750 steps/day ($p < 0.005$). The intervention increase was not sustained at 3-months. The intervention increased 3-month stroke knowledge and self-efficacy for exercise ($p < 0.05$ for both). We conclude that this initially encouraging community-partnered culturally tailored intervention failed to produce sustained improvements in walking among minority older adults.

IMPACTS OF THE FRENCH LIFESTYLE REDESIGN®, A PREVENTIVE OCCUPATIONAL THERAPY INTERVENTION

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Rationale: Developed in California to enable community-dwelling older adults to integrate meaningful, healthy and sustainable activities, the Lifestyle Redesign® is a well-known cost effective occupational therapy intervention. Recently adapted to French by our team, the impacts of this new version are unknown. This study thus aimed to explore the impacts of this version of Lifestyle Redesign® on French-speaking older adults.

Method: A mixed-method design including a pre-experimental component was conducted with 16 participants (10 women), aged 66–91 (79.4 ± 8.7), 10 without and 6 with disabilities. They completed social participation, health, leisure, engagement in meaningful activities and life balance questionnaires at 0, 6 (immediately after), 9 and 12 months, and semi-structured interviews.

Results: Lifestyle Redesign® increased older adults' mental health ($p = 0.02$), life balance ($p = 0.04$) and interest toward leisure ($p = 0.02$). Results have also shown improvement in engagement in meaningful activities of participants without disability ($p = 0.03$) and in social participation of older adults with disabilities ($p = 0.03$). The majority of participants recommended the intervention to other seniors. Moreover, participants reported several positive impacts of the intervention, both on their personal and environmental factors, and, more specifically, for their social participation. This influence on social participation was seen in several activities, occupational routines and the frequency and quality of their contacts with others.

Conclusion: The French version of Lifestyle Redesign® is a promising occupational therapy intervention for older adults living in the community.

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SURVEY ON SAFETY MEDICATION IN ELDERLY IN THE COMMUNITY

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Objective: To investigate the knowledge of drug safety in the elderly in community, and provide research data for

strengthening supervision on drug application. Methods: A total of 481 elders aged from 60–85 years in the community was investigated with an individually designed questionnaire, which included the knowledge and behavior of drug safety.

Results: 83.6% of the elders were using medicine and the average number of drugs was 5. Most of them lacked knowledge about safe medication. "It would induce untoward effect if many kinds of drug are used together" (41.6%); "They should

have been diagnosed clearly before they use drug" (42.3%); "Observe the patient's condition and reaction closely after they have drug" (33.2%); "Stop taking drug to see doctors after abnormal appears" (21.8%) and "characteristic of medication for the elderly" (6.2%). Their compliance of medication was bad. They changed the time and interval of medication frequently or even forgot to take drug (63.4%); They used the prescription drug and nonprescription drug together (60.5%); They stopped taking medicine too fast or without orders (56.7%) and bought drug without doctor's diagnosis or prescription (53.3%).

Conclusion: The knowledge about safety medication in elderly in community needs to be improved. Various kinds of relevant continuing education should be strengthened.

MUSCLE MORPHOLOGY MEASURES FROM QUANTITATIVE ULTRASOUND ARE ASSOCIATED WITH KNEE ARTHRITIS STATUS

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Knee osteoarthritis (OA) is a complex condition involving articular cartilage, connective tissue, and skeletal muscle. Diagnostic ultrasound (US) has been proposed as an approach to characterize muscle changes in those with chronic conditions. The purpose of this study was to determine if quantitative US muscle morphology and morphometry measures are associated with clinical markers of knee OA. Male Veterans with knee OA ($n=36$; age = 62.2 ± 5.7 yr; BMI = 31.2 ± 6.5) participated in the study. Self-reported symptoms and physical function were evaluated using the Knee injury and Osteoarthritis Outcome Score (KOOS). Knee OA asymmetry was determined by the Kellgren–Lawrence grade and self-reported pain. B-mode quantitative US with a 13–6 MHz linear array transducer was used to obtain tissue echogenicity and muscle thickness values. The primary scanning site was the rectus femoris. Additional sites at the trapezius, deltoid, pectoralis major, and brachioradialis were used as proxy measures of lean body mass (LBM). Lower echogenicity ($\Delta -3.04$ grayscale levels, $t=2.70$, $p=.01$) and greater muscle thickness ($\Delta .17$ cm, $t=2.21$, $p=.03$) of the rectus femoris were identified in the less involved limb. Additionally, the summed US muscle thickness values were associated with the Symptom and Sports/Recreation KOOS subscales ($r=.37-.39$, $p=.02-.03$), and the deltoid was the only muscle group associated with all 5 KOOS subscales ($r=.36-.45$, $p=.01-.04$). In summary, US-derived muscle morphology and morphometry measures identified knee OA asymmetries in Veteran men. Key upper extremity muscle groups and proxy estimates of LBM should not be overlooked as factors that affect the KOOS score.

PRESCRIPTION AND OVER-THE-COUNTER MEDICATION USE IN THE OLDEST OLD IN THE SOUTH-CENTRAL UNITED STATES

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The objective of the study was to evaluate medication usage in individuals aged 95 and above residing in South-Central Arkansas. Electronic medical records of individuals treated at a University of Arkansas for Medical Sciences were reviewed. Of the 121 individuals studied, 13.2 % ($n=16$) were not on any prescription or over-the-counter (OTC) medications. The remaining 105 patients consumed a mean of 4.8 ± 2.7 prescription medications and 3.3 ± 2.2 OTC pills daily. Cardiovascular prescription medications were most commonly used with 76% of the elderly taking at least 1 anti-hypertensive daily (ranging from 1–5 daily). Approximately 46% were on diuretics, and about 11% were prescribed an HMG-CoA reductase inhibitor. Medications for endocrine disorders, diabetes mellitus and hypothyroidism were taken by 27% of subjects. Other commonly prescribed medications included anti-depressants and opioids; being 47% and 29 % respectively. Subjects were infrequently on medications for dementia and Parkinson's (~22%). There were limited prescriptions for insulin (2.6%), metformin (1.7%), and levothyroxine (7.8%). Aspirin was the most commonly used OTC medication at 43.8%, followed by acetaminophen. Other OTCs included laxatives (34%) and stool softeners (22%). The subjects on zero medications appeared to have a healthier hemoglobin and lipid profile compared to those who were on medications of any type ($Hb = 12.6 \pm 1.6$ g/dL and $TG = 106 \pm 40.9$ mg/dL versus $Hb = 11.7 \pm 1.7$ g/dL and $TG = 121 \pm 82.7$ mg/dL respectively). The oldest old still suffer from polypharmacy but the fact that these individuals survived beyond the ninth decade speaks to their resilience and better hematological and metabolic health.

HOW TO SCREEN POST-MENOPAUSAL FEMALES WITH CERVICAL CARCINOMA? A DISCUSSION ON THE METHODS

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Introduction: The cervical cancer screening guideline suggests that females aged 30 to 65 take a combined cytologic and HPV test every 5 years, or a cytologic test alone every 3 years to screen HSIL. Nevertheless, our clinical data indicate incidence of false negative in part of the post-menopausal females' cytologic test. It is necessary to choose a more appropriate screening scheme for post-menopausal females. Methods: We conducted combined Thinprep cytologic test (TCT) and Cobas4800 HPV-DNA test to a cohort of 1489 female patients. Colposcopy and biopsy were conducted to the patients who showed LSIL or above, positive HPV-16 type or HPV-18 type, or ASCUS accompanied by positive HPV-other type in cytologic tests and HPV tests. Results: Among the 1489 females under combined tests, 321 were menopausal, 1168 were non-menopausal. The proportion of HPV infection were 15.89% (51/321) and 13.96% (163/1168) respectively. There was no significant difference between the two groups ($\chi^2 = 0.764$, $p = 0.382$). Verified by cervical biopsy, 12 post-menopausal females

and 18 non-menopausal females had HSIL.8 and 18 among post-menopausal and non-menopausal females with HSIL, respectively, had concordant TCT results as the final diagnosis. cytologic tests led to 4 missed diagnosis among the post-menopausal females with HSIL (2 presented normal cytologic results, 2 presented ASCUS which can be repeated in 6 months without further test), giving a missed diagnosis rate as 33.33%, which is statistically significant ($p = 0.018$). Conclusions : post-menopausal females suffer higher missed diagnosis rate from cytologic test alone than HPV test alone. It serves post-menopausal females better to take preliminary HPV screening than cytologic screening.

RENAL IMPAIRMENT AND ANAEMIA IN HOSPITALISED OLDER PATIENTS: IMPACT ON SHORT-TERM OUTCOMES

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Background: Current risk stratification for predicting outcomes in hospitalised elderly is suboptimal.

Aim: To investigate the impact of chronic kidney disease (CKD) and anaemia on admission on clinical outcomes in hospitalised elderly patients (≥ 60 years).

Methods: In 587 consecutive patients (mean age 85.8 ± 6.9 years, 63.7% females), characteristics and outcomes were analysed. CKD was defined as glomerular filtration rate $< 60 \text{ ml/min/1.73m}^2$. WHO criteria for anaemia were used: haemoglobin (Hb) $< 120 \text{ g/L}$ for females, Hb $< 130 \text{ g/L}$ for males; severe anaemia was defined as Hb $< 100 \text{ g/L}$ and iron deficiency as transferrin saturation $< 18\%$.

Results: Prevalence of CKD, anaemia, severe anaemia and iron deficiency on admission was 56.1%, 49.1%, 12.3% and 68.0%, respectively. There were 112 (19.1%) patients with prolonged hospital stay (> 10 days) and 86 (14.7%) died within 3 months. Significant risk factors (after adjustment for age and gender) for prolonged hospital stay were severe anaemia (OR 2.15, 95%CI 1.19–3.89, $p = 0.011$) and iron deficiency (OR 1.98, 95%CI 1.08–3.62, $p = 0.027$), while presence of CKD (OR 2.27, 95%CI 1.14–4.54, $p = 0.020$) and/or severe anaemia (OR 2.02, 95%CI 1.03–3.94, $p = 0.040$) were significantly and independently associated with mortality. The predictive values of these parameters were mild-moderate (area under the ROC curve 0.575–0.693) but severe anaemia demonstrated reasonable specificity (82.8%–83.3%), iron deficiency and CKD were relatively sensitive (77.6% and 71.8%, respectively) and the negative predictive values were high (84.3%–90.7%).

Conclusion: In older hospitalised patients severe anaemia, iron deficiency and/or CKD on admission increases the risk for prolonged hospital stay and 3-month mortality by twofold. This prognostic information might help in planning adequate individualised management.

COST-EFFECTIVENESS OF MINI-LAPAROTOMY FOR COLORECTAL CANCERS IN ELDERLY PATIENTS

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Objective: The purpose of this study was to apply cost-effectiveness methods to investigate the cost effectiveness of adopting mini-laparotomy surgery (MLS) compared with conventional surgery 1 year following resection in elderly colorectal cancer patients aged 65 years or older.

Methods: We used a prospective longitudinal study design. MLS patients were treated as the process innovation group and conventional surgery patients as the comparison group. Data were obtained from a chart reviewed of patients who underwent colorectal cancer resection during 2007 to 2012 in a medical center of south Taiwan. A total of 125 patients who received elective MLS and 179 who received conventional surgery were included. Cost measures were hospital-index cost and outpatient and inpatient costs within 1 year after discharge. Effectiveness measures were life-years (LYs) saved and (QALYs) saved.

Result: Patients in the MLS group demonstrated shorter post-surgical lengths of stay, but no significant differences were found in blood transfusions, complication rates or admitted to ICU room between two groups. The cost effectiveness analysis found that the health outcomes (LY and QALY gains) for the MLS group were statistically significantly better than the conventional surgery group, as were cost savings for per QALYs saved TWD\$550,967(USD\$18,365) in overall medical costs within one year.

Conclusion: We confirmed that the less invasive surgical process not only saved medical costs, but also increased QALYs for elderly CRC patients.

ASIAN AMERICAN ADULT CHILDREN AS CAREGIVERS FOR THEIR AGING PARENTS: A PUBLIC HEALTH PERSPECTIVE

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This session is focused on adult children, particularly those with Asian ethnic backgrounds, who are caregivers for their aging parents. Specifically, this session will investigate how ethnic background affects caregiving roles and attitudes, positively or negatively. Studies show, for example, that those from Asian ethnic backgrounds often feel a greater obligation to take care of their older parents—often framed as filial piety. The expectations, roles, and consequent stress levels associated with these cultural caregiving values are of particular interest in this session. Identifying the differences in immigration history, acculturation, generational differences, and cultural values and norms within each Asian American sub-population is important in understanding these caregiver roles and expectations. The session draws from scholarly gerontology literature and adopts a Public Health perspective to organize existing studies and suggest appropriate support and interventions for Asian American adult children caregivers.

WHAT IS SUCCESSFUL AGING? COMPARING FRAMEWORKS FOR SUCCESSFUL AGING WITH CULTURAL PERSPECTIVES

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“Successful aging” has different meanings in different cultures. Our purpose was to examine whether published

frameworks for successful aging would align with the values and perspectives of older adults across cultures. We identified studies on elderly populations published from 1997 to 2016 that addressed older adult perspectives on successful aging, or that applied the 1997 Rowe and Kahn framework for successful aging to older adult cohorts. Additionally, we compared findings from these studies with framework found in the 2015 WHO World Report On Ageing and Health. We identified studies from a variety of cultures, including peoples from China, Japan, the Netherlands, the United States, and Nigeria. Key concepts identified from lay perspectives were much broader in scope than the three key criteria in the Rowe and Kahn framework: absence of disease, high physical and cognitive functioning, and engagement. Further concepts we identified included coping, financial security, spirituality, well-being, longevity, and life satisfaction. While published frameworks and cultural values overlapped, key concepts varied in importance from culture to culture. Based on our findings, we propose a framework that includes a comprehensive set of key concepts drawn from multiple cultures, and that allows healthcare workers and policy makers to weigh these concepts differently according to needs and views of each society. For example, Alaska Natives more highly valued well-being and spirituality, whereas Japanese-American men more highly valued financial security. A flexible framework that allows key concepts to be weighted differently depending on culture may be beneficial for defining and understanding successful aging.

RESIDENT AND FACILITY FACTORS ASSOCIATED WITH CARE LEVEL DETERIORATION IN NURSING HOMES IN JAPAN

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The purpose of this study is to determine the resident and facility characteristics associated with the care-need level deterioration of residents in Long term care health facilities for the elderly in Japan. Resident level of long-term care insurance claim data were merged with facility level data from the Survey of institutions and establishments for long-term care for the period from October 2012 to April 2014. The study consisted of 177,048 residents who were admitted into 1502 facilities during October 2012 to September 2013. We divided care-need level deterioration into two categories: deteriorated and not deteriorated. Multilevel logistic regression was used to analyze the facility and resident characteristics that were thought to be associated with care-need level deterioration. Result of multilevel regression showed that at resident level, older age group (OR=1.52, 95% CI, 1.42–1.62) were more likely to experience care-need level deterioration. However, higher care-need level (OR=0.26, 95%CI, 0.25–0.27) were less likely to experience care-need level deterioration. At the facility level, higher proportion of private room (OR=0.86, 95%CI, 0.78–0.95) and being located in a metropolitan area (OR=0.88, 95%CI, 0.83–0.93) were less likely to be care-need level deteriorated. By contrast, higher number of doctor per 100 users (OR=1.05, 95%CI 1.02–1.09) were

more likely to experience care-need level deterioration. We conclude as implication that both resident and facility level characteristics could affect care-need level deterioration. Investigating factors related with care-need level deterioration is important to improve provider performance and enhance competitiveness in the market.

INJURY PREVENTION IN SENIORS: A PUBLIC HEALTH APPROACH TO COMMUNITY MOBILIZATION: A SCOPING REVIEW

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Reducing injuries (e.g. falls) among seniors requires an expanded public health effort to work with stakeholders at multiple levels. To achieve this goal, local public health professionals need to effectively bring together, facilitate, and support community partners to initiate evidence based efforts. However, to date, there has been no formal review of the literature to inform how these professionals can best work together with community partners to address injury prevention among seniors. Thus, this scoping review aims to identify theories, models or frameworks that are applicable to community-based injury prevention initiatives. Six databases (i.e., OVID, PubMed, PsycINFO, CINAHL, Proquest, EBSCO) as well as the grey literature and hand searches were used to identify relevant literature published in the English language, between 2000 and 2016, within a North American context. The search strategy included those items (1) identifying a theory, framework or model related to mobilizing partners; and (2) referring to community-based injury prevention. After reviewing 13,756 abstracts, ten items were included. Findings show that a theory, and various conceptual models or frameworks exist for developing and sustaining partnerships, however, few evaluations are reported, explicit involvement of local public health practitioners is rare and applications to senior community-based injury prevention programs are undocumented. Successful injury prevention initiatives for seniors will require filling these gaps, and translating and evaluating how theories, models and frameworks are applicable to local public health professional practices. Additional models may be needed to specifically guide how public health can work locally with community partners.

PATIENT-CENTERED MEDICAL HOME, HEALTHCARE UTILIZATION, AND EXPENDITURES FOR OLDER CANCER SURVIVORS

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Purpose: The Patient-Centered Medical Home (PCMH) model has been proposed to improve healthcare delivery and decrease costs. This study examined the associations between receipt of care consistent with a PCMH and the healthcare utilization and expenditures among older cancer survivors.

Design and Methods: Secondary data analysis was conducted using data from the Medical Expenditure Panel Survey (MEPS). The study sample included adults aged 65 and over who had ever been diagnosed with cancer. The analytical datasets were constructed in two ways: a cross-sectional sample of MEPS 2008 to 2013, and a panel sample of MEPS Panels 13 to 17. Multivariable analyses were performed to examine the effects of the PCMH on healthcare utilization and expenditures.

Results: The PCMH was significantly associated with higher likelihood of having ED visits and outpatient visits. Among the PCMH domains, comprehensive care and compassionate care was significantly associated with more outpatient visits, having a usual source of care was associated with more office based visits, and accessibility was significantly associated with less total expenditures and less Medicare expenditures.

Implications: Future payment reform could consider incentivizing medical practices that adopt part of the cost-saving PCMH features and facilitate the progression of the implementation of a full PCMH model. Since the PCMH model is expected to adapt to a Medicare payment system that values the quality of care, aligns performance measures and incorporates value-based reimbursement, findings of this study inform the Medicare reform regarding the effects of the PCMH and its components on healthcare utilization and expenditures.

SUBSTANCE USE AMONG OLDER AND YOUNGER ADULTS EXPERIENCING CHRONIC HOMELESSNESS

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Few homeless services are tailored for older adults despite increased recognition of health and mental health challenges that differ from those of younger homeless adults and despite the overall aging of single homeless adults, the largest segment of the homeless population in the United States. In the last three decades, the median age of single homeless adults rose from 35 to 50 and projections indicate that the number of older homeless adults will double by 2050. This study examined the substance use patterns of older (≥ 50 years; $n=111$) and younger (<50 years; $n=109$) adults on a chronic homeless registry in a large city in the southeastern United States. Participants reported using alcohol and cocaine at similar rates. However, older adults reported drinking until intoxicated fewer days in the last month ($m=4.95$, $sd=9.21$) than did younger adults ($m=8.73$, $sd=11.85$), $t=2.64$ (203.7) $p<.01$ and they reported using marijuana fewer days ($m=2.8$, $sd=6.88$) than younger adults ($m=8.3$, $sd=11.82$), $t=4.22$ (173) $p<.0001$. They also reported significantly fewer days using multiple drugs, $t=3.03$ (175) $p<.01$. These behaviors suggest that while substance use services remain relevant, the needs associated with substance use may differ for older and younger adults experiencing chronic homelessness. Interventions should be adapted to better serve both groups. Findings are discussed in light of key interventions in federal initiatives to end chronic homelessness and in light of local and regional challenges to address homelessness.

THE STRENGTHS OF VETERANS: A COMPARISON OF TAIWANESE CENTENARIANS AMONG VETERANS AND NON-VETERANS

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In general, women are longer lived than men in the general population. Yet, a previous study of Taiwanese centenarians (Yang, 2012) found that there were an over representation of male centenarians who were Second World War veterans. To further explore the characteristics of veteran centenarians, this study completed a cross-sectional population survey in Taiwan in the year of 2015. The inclusion criteria of centenarians was those born before December, 31st of 1914. The final sample comprised of a total of 157 Taiwanese centenarians, with 62 males and 95 females. Among them, there were 31 veteran centenarians. Descriptive and referential statistics were performed to compare the general centenarians and the veteran centenarians. Results showed that veteran centenarians were significantly different from the general centenarians in their ADL and IADL scores; i.e., the veteran centenarians were significantly more independent in their daily functioning. Also, many veterans married quite late in their late middle age or old age, so a much higher percentage of 32% still had living spouses who were much younger, compared to only 10% of general centenarians with spouses. There were also a higher percentage of veteran centenarians who were never married and had no children. Therefore, unlike the traditional family support culture dictates, veteran centenarians relied primarily on government pensions for their retirement income. In sum, the survivors of WWII veterans had distinct characteristics and a lot of strengths to sustain them to the super old age. Benefits of early strenuous physical training and life-long independent living were discussed as a lesson learned from the veteran centenarians.

THE SHAPING OF A DEMENTIA-FRIENDLY CINEMA

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There is an increased focus on the challenges of including people with dementia in everyday life, which in Britain for instance can be seen in The Prime Minister's challenge, supported by the Alzheimer's Society, of creating dementia friendly communities. The vision is to tackle exclusion that people living with dementia experience; and yet, what actually constitutes a dementia friendly community is still difficult to determine. In this poster, we explore what makes a public space dementia friendly. We draw on qualitative research from a follow-on evaluation of a dementia friendly cinema pilot within the North East of England to report results from this scheme. Part of this was to explore, and devise an effective method, of gathering feedback from people with dementia and their carers. We introduced 'ThoughtCloud', a digital feedback tool for events, inviting cinema goers to express their thoughts and feelings about the scheme. The motivation of the design was to enable people with disabilities to provide feedback about care services, and this was the first time it was used with a group of people with dementia.

The main strength of using ThoughCloud was in capturing 'snippets' of feedback straight after the films were shown. Key findings highlight how although the physical aspects of the cinema were important, the ambience and role of staff in meeting care needs were also seen as crucial to the success of the scheme.

THIRD REVIEW AND APPRAISAL OF IMPLEMENTING MIPAA: FINDINGS FROM THE UNECE COUNTRY REPORTS

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Every five years, countries of the UNECE region undertake an analysis of the current state of implementation of the Madrid International Plan of Action on Ageing and its Regional Implementation Strategy (MIPAA/RIS, adopted in 2002) and highlight the actions required to make further progress. The UNECE Working Group on Ageing – an intergovernmental body including 56 member States from Europe, North America, Caucasus and Central Asia – facilitates this process and the UNECE Secretariat compiles and synthesises the findings from all country reports.

The 3rd review and appraisal cycle of MIPAA/RIS (2012–2017) will be completed at the UNECE Ministerial Conference on Ageing in Lisbon, on 21–22 September 2017 with a launch of a Synthesis Report and adoption of political declaration.

This poster will provide a preview of findings from the Synthesis Report and will indicate the main areas of focus for the next cycle of MIPAA/RIS implementation in the UNECE region.

EMOTIONAL CONNECTEDNESS: GHANAIAN IMMIGRANTS AND THEIR NON-MIGRANT OLDER ADULTS RELATIVES

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International migration often involves years of separation of nuclear and extended families. The literature shows that Ghanaian immigrants in the United States stay connected with non-migrant relatives in Ghana. The type and frequency of connectedness are found to be associated with certain demographic and socioeconomic circumstances of both the immigrants and non-migrant relatives. Using a survey data from 124 participants, this study assessed the factors underlying the reasons Ghanaian immigrants in the United States maintained emotional connection with their non-migrant older adult relatives.

The study results showed that the frequency of contacts initiated by Ghanaian immigrants is significantly influenced by perceived social disapproval by their peers and non-migrant family members. Specifically, perceived social disapproval contributed 7.7% of the explanation of the variance in phone contacts. We infer that Ghanaian immigrants' uneasiness about negative opinions of their family and friends led to high level of phone and other telecommunication contacts with non-migrant older adult relatives.

We deduced that Ghanaian immigrants initiated telecommunication contacts within the broader context of societal and family expectation of mutual support and connectedness. Although at the geographic distance, they self-identify

with the Ghanaian ethics of shame and honor associated with elder care and elder respect. Through telecommunication contacts, they receive information about the life situations of their non-migrant older adult relatives and provide emotional support and care. This helps Ghanaian immigrants to preserve their honor and social status among their non-migrant relatives and members of the Ghanaian immigrant community.

PRO HEALTH 65+ HEALTH PROMOTION AND PREVENTION OF RISK—ACTION FOR SENIORS

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The ageing of populations leads to an increased attention to health promotion among the elderly. The potential of health promotion to delay health deterioration and enable senior citizens to live relatively healthy and independent lives, serves as a base for the EU healthy ageing strategy and consequent European countries' activities in health promotion and disease prevention.

We present the results of an international research project Pro-Health 65+ (2014–2017), which aimed at identifying effective methods of health promotion and disease prevention for older people, and gathering knowledge on funding, organization and good practices in this area in selected European countries.

Various research methods were applied to meet the objectives. To identify the most effective health promotion interventions, systematic literature reviews were performed. The country analysis relied on a review of available literature and primary data collected among national experts. Three groups of European countries, which represent different levels of economic development and population health status, were included: 1) Germany, Netherlands; 2) Italy, Portugal, Greece; 3) Poland, Czech Republic, Hungary, Bulgaria and Lithuania.

The results indicate that population ageing spurs European countries' efforts to activate older people and to maintain their health. In wealthy countries, community-oriented initiatives focused on physical activity and social involvement prove to work well. In less affluent countries, the attention is on health risks, such as smoking and excessive drinking. Nevertheless, health promotion for older people does not constitute a priority in the countries' health policies and the activities are frequently initiated by NGOs and via social networking.

CARE PLANNING IN U.S. NURSING HOMES, A FRAMEWORK FOR PERSON-DIRECTED CARE PLANNING (PDCP)

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Nursing home (NH) residents leading their own care planning is a key feature of the emerging person-directed culture of long-term care. The U.S.—like some European, Scandinavian, and Pacific Rim nations—supports NH residents to direct their own care through policy, specifically identifying residents “as the locus of control” in care planning and delivery. In alignment with this shift toward a person-directed culture of care, we sought to understand how NH residents can become the leaders of their own care planning. Using the Complexity Theory-based Adaptive Leadership Framework as a conceptual guide, we conducted a two-part study of PDCP: (1) a scoping review of the literature on individuals’ involvement in care planning, widely inclusive of different demographic populations and care settings; and (2) a two-part series of exploratory and confirmatory engagement sessions about care planning with residents, families, and staff (24 sessions, 67 unique participants) in two North Carolina NHs. Using a coding scheme informed by the Adaptive Leadership Framework, our multi-disciplinary team systematically analyzed the literature and engagement session transcripts, identifying two separate sets of themes. We have now cross-validated and integrated these into one set of themes. The integrated themes highlight key aspects of engaging individuals in their own care planning, as well as adaptive and technical challenges to such engagement. Engagement session findings expanded upon some findings from the scoping review. The following themes were identified and substantiated: essential elements of PDCP, engagement across multiple levels, formal/informal PDCP, follow-through, and barriers and outcomes of PDCP.

BUILDING AN AGE-FRIENDLY COMMUNITY FOR OLDER ADULTS IN A LARGE URBAN JURISDICTION

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Expected changes in the U.S. healthcare and social services delivery systems will likely require innovations from non-health sectors to address the health and social services needs of older adults in the community, especially as they age in place. This project describes a regional initiative that unites public and private leadership, resources, and strategies to help create an age-friendly community in the Los Angeles region. The initiative brings together the County and City governments and their partners to join the AARP and the World Health Organization’s networks of age-friendly cities and communities. Backed by a local Board motion and a five-year commitment from its partners, the effort is expected to improve the region’s age-friendliness, which will include the development and implementation of a regional age-friendly action plan. The initiative will begin work on nine focus areas: livability (e.g., transportation, emergency preparedness and resilience), social participation, outdoor spaces and buildings, community and health services, communication and information, housing, civic participation and employment, respect, and social inclusion. The two local area agencies on aging are the co-leads of this initiative. This presentation describes the ongoing process and the barriers and facilitators that are anticipated as this multi-sector, regional initiative moves forward in Los Angeles. Progress made and lessons learned from this effort will have health policy

implications and can be used to further guide age-friendly practices in the region.

EVALUATION OF THE VETERANS’ HEALTH ADMINISTRATION’S COMPREHENSIVE END-OF-LIFE INITIATIVE

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This study evaluated the impact of the Veterans’ Health Administrations’ (VHA) Comprehensive End of Life Initiative (CELICI) enacted in 2009, which financed VA medical center-affiliated hospice units and hospice and palliative care staffing, training, quality monitoring and community outreach. Data from VHA utilization, vital status and enrollment files and Medicare 5% sample enrollment and utilization files were used to identify male decedents and to track hospice use in the last year of life. Veterans and Medicare beneficiaries’ age, race, U.S. region of residence and urban rural residence, major diagnosis categories (cancer, COPD, health and neurological conditions, debility and failure to thrive) and nursing home use in the last 3 months of life were used to control for population differences. A difference-in-difference model compared hospice use among Veterans decedents to Medicare non-Veteran decedents in the pre-CELICI period (2007–2008) to the post-CELICI period (2010–2013). Veteran decedents were grouped to VHA-only users enrolled in Medicare, VHA users not enrolled in Medicare, VHA and Medicare users, and Medicare only users. Adjusting for Veteran factors, findings suggest hospice use by enrolled-Veterans increased subsequent to CELICI at a rate that surpassed increases in hospice use by non-Veteran Medicare decedents (RRR=1.17–1.39). The subgroup of Veterans arguably the most dependent on the VA (non-Medicare enrolled VHA users) had the greatest differential pre/post increase in hospice use (RRR=1.39). These finding likely reflect improvements in the quality of Veterans’ end-of-life care. With the discontinuation of the targeted financial investments, the challenge is to balance maintaining momentum with new competing priorities.

PEER BULLYING AND OTHER ANTAGONISTIC BEHAVIORS AMONG OLDER ADULTS IN INDEPENDENT LOW-INCOME HOUSING

R.P. Bonifas, M. Casalean, *Arizona State University, Phoenix, Arizona*

Peer bullying and other antagonistic behaviors are commonly associated with youth, yet such problematic social interaction patterns also occur between older adults. This poster presentation shares findings from a recent study of negative social interactions among older adults in independent

low-income housing ($n = 44$). Tenants completed a 19-item measure designed to capture the frequency of negative interaction patterns across a continuum of behaviors experienced over the previous year. Example behaviors include gossiping, exclusion, shunning, racial slurs, and threatening comments. Items were measured on a 5-point frequency scale ranging from never to several times per day. Results indicate that 86.4 percent sampled experienced some type of antagonistic behavior within the past year. The most common behaviors included being purposefully ignored (68.2 percent), being the subject of gossip (52.3 percent), being shunned (36.6 percent), purposefully avoided (31.8 percent), teased in a hurtful way (29.5 percent), and being made fun of (31.8 percent). These common behaviors occurred every few months to several times per month; the least common behavior was physical aggression (2.3 - 2.5 percent). Other tenant characteristics measured included health status via the SF-36 and sense of community via the Sense of Community Index II. Individuals who experienced higher levels of negative social interactions tended to have lower emotional well-being, lower physical functioning, and a lower sense of community integration, especially related to lacking a sense of shared emotional connection with their peers. Findings suggest the need for interventions to minimize bullying and other antagonistic behaviors in low-income housing.

RACIAL AND ETHNIC DIFFERENCES IN DISABILITY TRANSITIONS AMONG OLDER ADULTS IN THE UNITED STATES

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Background: Despite the increase in overall longevity over the past decades, racial/ethnic gaps in late-life disability persist. This study examined racial/ethnic disparities in patterns of disability transitions in a nationally representative sample of older adults, using a new disability spectrum that incorporates successful accommodation with devices in response to capacity limitations to prolong independence as an early stage in the disablement process.

Methods: The study sample consisted of 6201 Medicare beneficiaries aged 65 and above who had participated in the National Health and Aging Trends Study (NHATS) since 2011 and completed at least two consecutive annual-interviews during a five-year period. First-order Markov transition models were used to determine racial/ethnic differences in disability transitions between three disability stages (fully able, successful accommodation, difficulty/assistance in self-care activities and mobility) or to death.

Results: At baseline, older Blacks or Hispanics were less likely to report successful accommodation and more likely to report difficulty/assistance than Whites. After adjustment for demographic characteristics, living arrangement and health status, significant differences in disability transitions were found across racial/ethnic groups ($p=0.013$). Compared with Whites, Blacks and Hispanics had lower probabilities of remaining in successful accommodation (Black:52%; Hispanic:46%; White:63%), and higher probabilities of

transitioning from successful accommodation to difficulty/assistance (Black:29%; Hispanic:39%; White:23%).

Conclusions: Minority elders, especially Hispanics, appear less likely to report successful use of adaptations to postpone difficulties and dependence in self-care activities and mobility. Successful accommodation may provide possibilities for implementing interventions to fortify older adults' capacities and reducing the racial/ethnic gaps in disability.

PROTEOMIC SIGNATURE OF AGE IN HEALTHY HUMANS

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Identifying biological signatures of aging in order to gain insight into molecular pathways involved in healthy aging. To identify proteomic signatures of age, we measured 1306 proteins in plasma samples of 260 healthy men and women, aged 22–93 years, from the Baltimore Longitudinal study of Aging (BLSA) and the Genetic and Epigenetic Signatures of Translational Aging Laboratory Testing (GESTALT) study using an aptamer based assay (SOMAscan assay, SomaLogic, Boulder, CO). Linear regression adjusting for sex, study (BLSA or GESTALT), race, and technical covariates found 199 proteins that were significantly associated with chronological age ($P \leq 3.78 \times 10^{-5}$). Ten previously confirmed age-associated proteins (CHRD1, CCDC80, PTN, FSTL3, TIMP1, MMP12, CST3, IGFBP6, ROR1, THBS4) were among the significant proteins. Some of the novel, differentially abundant proteins include growth/differentiation factor 15 (GDF15; $P=2.06 \times 10^{-56}$), sclerostin (SOST; $P=6.84 \times 10^{-33}$), interleukin-18 binding protein (IL18BP; $P=6.65 \times 10^{-20}$), and tumor necrosis factor receptor superfamily member 1A (TNFRSF1A; $P=1.65 \times 10^{-19}$). The most significant protein, GDF15, is a member of the transforming growth factor- β (TGF β) superfamily that is implicated in mitochondrial dysfunction and linked with key age-related diseases. Functional enrichment analysis of the significant proteins indicates that genes in the cytokine-cytokine receptor interaction (22 proteins; $P=1.9 \times 10^{-8}$), complement and coagulation cascade (12 proteins; $P=1 \times 10^{-6}$), and the axon guidance (14 proteins; $P=7.5 \times 10^{-6}$) KEGG pathways are significantly enriched. The study of circulating proteins in blood enhances our knowledge of the molecular changes that occur with age and will help generate new hypotheses about the biology of aging. Additional research to replicate these findings is warranted.

IMPACT OF NOSTALGIA ON EMOTION AROUSAL AND AUTOMATIC PHYSIOLOGICAL RESPONSES

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Nostalgia is a kind of sentimental longing for the past, which has been widely concerned by researchers in recent years. As a common emotional experience of the elderly, Nostalgia is believed closely related to their physical and

mental health. The aim of the present investigation was to examine the impact of nostalgia experiences on subjective feeling and automatic physiological responses (including HR, finger temperature, GSR, finger pulse rate, SpO₂, and respiration rate). This was investigated by a psycho-physiological methodology which used the autobiographical narratives. The study randomly assigned 40 Chinese older adults to a nostalgia or ordinary event condition. In the nostalgia condition, we provided participants with the definition of nostalgia and instructed them to recollect a positive nostalgic autobiographical event. In the ordinary condition, participants were instructed to think about an ordinary event taking place in the last week. The results showed that: 1) autobiographical narratives can be effectively induced nostalgia experiences; 2) nostalgia experiences induced in a controlled laboratory environment can be maintained at least for 4 minutes, 3) in the nostalgia condition, the SCRs and SpO₂ were significantly higher than the ordinary condition. LF and HF within the nostalgia group were much lower than those in the control group. Heart rates did not show significant differences between the groups. The autonomic nervous response patterns of positive nostalgia experiences showed a common pattern of inhibition.

SESSION 3725 (SYMPOSIUM)

UNIVERSITY OF CALIFORNIA SAN FRANCISCO: A LEADER IN AGING RESEARCH, CLINICAL CARE, AND POLICY WORK

Chair: W.B. Max, *San Francisco, California*

This session will present an overview of the breadth and depth of work related to aging being conducted at the University of California, San Francisco. Our work includes research in the basic biology of aging, population science and epidemiology, provision of clinical care, applications of technology and work with industry partners, and social science and policy work on health disparities in aging at the local, national, and international level. Presentations will highlight some of the most exciting work being done and will be presented by leaders on the campus working to improve the lives of older adults. This session will set the context for the 3 sessions to follow, which will provide more detailed presentations of specific programs of research and care.

BRINGING THE BIOLOGY OF AGING TO THE BEDSIDE

J.C. Newman, 1. *University of California, San Francisco, San Francisco, California*, 2. *Buck Institute for Research on Aging, Novato, California*

Study of the basic biology of aging has revealed many of the cellular and molecular pathways that drive the biological changes we describe as aging. Often these pathways are highly conserved across evolution, and can be manipulated in the laboratory by genetic or pharmacological means to extend the healthy lifespan of organisms. Scientists and clinicians are now turning their attention to translating these discoveries to clinical use. Several FDA-approved drugs appear to broadly regulate aging through conserved pathways, and novel compounds are being developed to target other pathways. Therapies that target mechanisms of aging may have

a transformative effect on the treatment of common diseases for which aging is the dominant risk factor, such as dementia or cardiovascular disease, as well as on complex, multisystem syndromes of aging with grave clinical import such as multimorbidity, frailty, and functional decline.

EPIDEMIOLOGY OF AGING: PREVENTION OF DECLINE AND DISEASES IN AGING

M.N. Haan, J. Torres, *University of California, San Francisco, San Francisco, California*

Aging is linked in many cases, to inexorable declines in function, and cognition, and increases in clinical events and death. These processes accelerate the use of costly and largely unsubsidized clinical services and long term care. Prevention of these outcomes in older populations requires the early identification of modifiable risk factors. The stated goal of primary prevention is absence of disease and may be preceded by primordial prevention, achieving the absence of a disease risk factor. Such an approach requires a 'life span' view that is longitudinal, beginning in early life. The certainty of these causal chains of risk factors is far from robust. Therefore, primary prevention in older populations may be most effective if the goal is to mitigate functional decline.

THE FUTURE OF THE AGE-FRIENDLY HEALTH SYSTEM AT UCSF

L. Walter, 1. *University of California, San Francisco, San Francisco, California*, 2. *San Francisco VA Medical Center, San Francisco, California*

San Francisco is the 17th most rapidly aging city in the U.S. and 19% of our seniors live alone. Many seniors become homebound in San Francisco due to the many hills and stairs. To address these challenges the UCSF Division of Geriatrics has developed innovative, multidisciplinary clinical programs to provide high quality care for frail, seriously ill older adults in our community. Results of our clinical programs (e.g., decreased ED visits, decreased hospitalizations, improved patient satisfaction, decreased costs) will be discussed as we shift from costly hospital-centric care to value-based population health with a focus on improving geriatric care for our rapidly expanding older population.

ROLE OF TECHNOLOGY AND INDUSTRY PARTNERSHIPS

A. Gazzaley, *University of California, San Francisco, San Francisco, California*

A fundamental challenge of modern society is the development of effective approaches to enhance brain function and cognition in both the healthy and impaired. For the healthy, this should be a core mission of our educational system and for the cognitively impaired this is the primary goal of our medical system. Unfortunately, neither of these systems have effectively met this challenge. I will describe a novel approach out of our lab that uses custom-designed video games to achieve meaningful and sustainable cognitive enhancement via personalized closed-loop systems (Nature 2013; Neuron 4014). I will also share with you the next stage of our research program, which integrates our video games with the latest technological innovations in software (e.g., brain computer interface algorithms, GPU computing, cloudbased analytics) and hardware (e.g., virtual reality,

mobile EEG, motion capture, physiological recording devices (watches), transcranial brain stimulation) to further enhance our brain's information processing systems with the ultimate aim of improving quality of life.

THE SOCIAL IMPLICATIONS OF GLOBAL HEALTH DISPARITIES IN AGING

H. Pinderhughes, *University of California, San Francisco, San Francisco, California*

The World Health Organization has reported that the world is facing a situation without precedent: We soon will have more older people than children and more people at extreme old age than ever before. As both the proportion of older people and the length of life increase throughout the world, what are the implications of major environmental, social and demographic changes for Global Health Disparities in Aging? Climate change, global conflicts and violence, changes in social relationships and social organization all are having profound impacts on global inequalities in health. The talk will examine the implications of these major global issues for health inequity among older and aging populations globally.

SESSION 3730 (SYMPOSIUM)

INTEGRATED ASSESSMENT ACROSS THE HOSPITAL CONTINUUM: THE INTERRAI HOSPITAL SYSTEMS

Chair: L.C. Gray, *The University of Queensland, Brisbane, Queensland, Australia*

Co-Chair: S. Sinha, *Mt Sinai Hospital, Toronto, Ontario, Canada*

Many frail or vulnerable adults encounter a complex pathway of care when admitted to hospital. Safe, effective and efficient care demands identification of vulnerable individuals and careful assessment as the patient proceeds across the hospital continuum, from entry to the emergency department, through the acute care system, and often into a rehabilitation or other form of post-acute care.

Hospitals usually develop documentation to support assessment using combinations of validated screeners and home grown observations. Such "systems" are often burdensome, inefficient and incompatible across each phase of care.

The interRAI research collaborative has developed a fully integrated comprehensive assessment system which incorporates screening for vulnerable patients, diagnostic and risk screening, quality indicators and comprehensive assessment for complex cases. It is applied to all adult patients, with comprehensive assessment reserved for patients with complex needs. Sub-systems include the interRAI ED Screener and Contact Assessment, the interRAI Acute Care, the interRAI Acute Care for Comprehensive Geriatric Assessment, the interRAI Mental Health and the interRAI Post-Acute Care and Rehabilitation.

This system required 10 years of research and development across many nations, and was released for application in 2016. In this seminar, the system will be described, including detailed accounts of its clinimetric properties, and opportunities for implementation.

OVERVIEW OF THE INTERRAI HOSPITAL SYSTEMS

L.C. Gray, *Centre for Research in Geriatric Medicine, The University of Queensland, Brisbane, Queensland, Australia*

The interRAI Hospital Systems are designed to support case finding and assessment across the entire hospital continuum. Some (general) systems are applied to all adult patients (the interRAI ED Screener and the interRAI Acute Care) while others (specialised) support in depth assessment of patients with complex care requirements (interRAI AC for Comprehensive Geriatric Assessment, interRAI Mental Health and interRAI Post Acute Care and Rehabilitation). The general systems perform preliminary diagnostic and risk assessments, and identify patients who require more complex assessments. These systems are brief and concise. The specialised systems are more extensive.

Each system contains a shared core set of clinical observations, and a set of scalar measures that enable monitoring of progress from the pre-morbid period to discharge. Each system has undergone extensive field testing to determine an extensive range of clinimetric properties, ensuring preservation of fidelity and enhanced efficiency when compared to traditional "mix and match" approaches.

SCREENING AND ASSESSMENT IN THE EMERGENCY DEPARTMENT

A.P. Costa, *Dept. of Clinical Epidemiology & Biostatistics, McMaster University, Hamilton, Ontario, Canada*

Guidelines suggest that older patients presenting to the emergency department (ED) should be screened to identify geriatric complexity and prioritize specialized geriatric resources. Screening and assessment tools have been developed, but few have been compared from a multinational context. interRAI has developed an integrated assessment system for geriatric care in the ED. It includes two companion tools – the ED Screener and the ED Contact Assessment.

We conducted two prospective studies with over 4,000 older ED patients from Australia, Belgium, Canada, Czech Republic, Germany, Iceland, India, Italy, Spain, and Sweden. Patients were assessed at ED admission with a standardized screening or assessment. Outcomes were examined for admitted patients and those discharged home.

The probability of negative patient outcomes was detectable at the multinational level with moderate accuracy. Agreement with independent ratings by geriatricians was high. Results demonstrate the utility of incorporating standardized geriatric instruments in routine clinical examination across contexts.

UNIVERSAL ASSESSMENT AND SCREENING IN THE ACUTE CARE SETTING

N.M. Peel, *Centre for Research in Geriatric Medicine, The University of Queensland, Brisbane, Queensland, Australia*

The interRAI Acute Care is a nurse administered rapid assessment system for all adult patients, that records and interprets functional and psychosocial information, including diagnostic and risk assessments for common geriatric syndromes. It aspires to replace the current compilation of assessment tools used in most hospitals world-wide (often extending to several hundred items), without loss of fidelity but with gains in efficiency.

The system was developed by expert panels internationally through the interRAI research collaborative. Field testing for face and content validity, item frequency distributions, inter-rater reliability, and resource requirement was conducted in 4 Australian hospitals in 2016.

The system is highly acceptable to nursing experts and clinicians. Time to completion is acceptable (median 15 minutes), and less than for most existing schedules. Diagnostic (e.g., delirium, dementia) and risk (e.g., pressure ulcer, falls) screeners have predictive validity at least similar to best of breed standalone tools (e.g., CAM, MMSE, Braden).

DEVELOPMENT OF QUALITY INDICATORS ACROSS THE CONTINUUM

M. Martin-Khan, *The University of Queensland, Brisbane, Queensland, Australia*

Quality assurance activities are complex and multifactorial. Despite this, it is important that patient outcomes are measured, and that improvements in clinical practice are made with a view to changing patient outcomes. Quality indicators (QI) for the interRAI Acute Care Assessment system have been developed through a process of literature review, expert panel advice, and field testing.

The interRAI QIs are derived from clinical data collected during patient assessment. The QIs are designed to support services to evaluate their performance over time. They are also used by hospitals that wish to use them to compare performance (i.e., benchmarking) as a quality improvement process.

A set of ten outcome QIs are derived from the interRAI AC. Work is being finalized on Post-Acute QIs. An additional set of QIs are currently being tested for the interRAI ED Contact assessment.

OPPORTUNITIES AND CHALLENGES IN IMPLEMENTATION

S. Sinha, *Mt Sinai Hospital, Toronto, Ontario, Canada*

Opportunities and Challenges in Implementation

The value of the interRAI hospital systems with their case-finding tools and “targeted” assessment systems at each stage of care supported by a core nurse-administered assessment suitable for all adult patients is now becoming recognized by hospital administrators and clinicians around the world.

It will enable better identification, diagnosis and treatment and even risk-avoidance of geriatric syndromes as well as the reduction in the efficiency and redundancy of current clinical care systems and processes is where the greater opportunity of this suite exists.

Implementing new systems that are not aligned with deeply engrained thinking and ways of working creates potential serious challenges. This presentation will assist clinicians and administrators to understand and appreciate the opportunities that the implementation of the interRAI suite could provide their environments and how to recognize and effectively address common challenges that may arise in advancing its implementation.

SESSION 3735 (SYMPOSIUM)

GSA JOSEPH T. FREEMAN AWARD LECTURE AND EXCELLENCE IN REHABILITATION OF AGING PERSONS AWARD LECTURE

IAGG 2017 World Congress

Chair: T.T. Perls, *Boston University Medical Campus, Boston, Massachusetts*

S.L. Wolf, *Emory University School of Medicine*

The Joseph T. Freeman Award Lecture will feature an address by the 2016 Freeman Award recipient, Thomas T. Perls, MD, of Boston University Medical Campus. The session will also include the presentation of the 2017 Freeman Award. The Joseph T. Freeman Award is a lectureship in geriatrics and is awarded to a prominent physician in the field of aging, both in research and practice. The award was established in 1977 through a bequest from a patient's estate as a tribute to Dr. Joseph T. Freeman.

The Excellence in Rehabilitation of Aging Persons Award Lecture will feature an address by the 2016 Excellence in Rehabilitation Award recipient, Steven L. Wolf, PhD, of Emory University School of Medicine. The session also includes the presentation of the 2017 Excellence in Rehabilitation Award. The Excellence in Rehabilitation of Aging Persons Award is designed to acknowledge outstanding contributions in the field of rehabilitation of aging individuals.

THE LONGEVITY MARATHON AND HOW MEN AND WOMEN RUN DIFFERENT RACES

T.T. Perls, *Medicine, Boston University Medical Campus, Boston, Massachusetts*

Perhaps nowhere in the field of human ageing is the difference between men and women more lopsided than survival to extreme age. 85% of centenarians are women and just 15% are men. Though far fewer, men appear to be more functionally fit compared to women. This apparent paradox is likely due to men having substantially higher mortality risk associated with age-related diseases so that those who survive to very old ages do so because they are a cohort of select survivors, especially relative to women. Numerous hypotheses have been proposed for underlying systemic and cellular mechanisms for why women age so differently from men, but thus far there are no clear answers. Findings from the New England Centenarian Study and studies supporting the grandmother hypothesis suggest that women are responsible for the evolution of longevity-associated genes which enable us to live 30–40 years beyond the cessation of reproduction.

MOVE, MOVE, MOVE: MIND AND BODY—AN EXERCISE IN FERTILITY OR FUTILITY?

S.L. Wolf, *Emory University School of Medicine, Atlanta, Georgia*

As our aging population continues to increase, factors designed to maximize quality of life become an imperative. Based upon over 40 years of clinical and research experience with aging populations, many of whom have sustained neurological deficits such as stroke, this presentation reviews some contributions that have helped to foster novel interventions to confront this imperative. Whether discussing the introduction and systematic assessment of Tai Chi as an approach to delay the onset of falls or procedures to improve limb function following stroke, common threads become intertwined in the fabric of brain plasticity sewn by fundamental precepts of problem solving and proactive engagement. Conclusions derived from a review of some of this work would encourage more group based activities throughout the aging process that are directed by peers and supported by family members.

SESSION 3740 (SYMPOSIUM)

DEVELOPING SENSITIVITY ABOUT TRANSITIONAL CARE AND COGNITIVE IMPAIRMENT

Chair: G. Guo, *Peking University School of Nursing, Beijing, China*

Co-Chair: L. Phillips, *University of California, Los Angeles*

Frail elders frequently use multiple health care settings for their health conditions. Smooth transitions between care settings are essential for safety. As populations age, physical and cognitive declines are common, and declines are even faster among individuals with mild cognitive impairment (MCI), a risk factor for dementia. The prevalence of MCI varies by region in China between 5.4% and 25.0%. The dementia population in China constitutes 40% of the dementia population in the Asia-Pacific region and 25% of the dementia population worldwide. This situation brings great challenges in providing optimal care for older adults. In China, family care for elders at home is common. The China Social Endowment Service System Construction Plan (2011–2015) indicated that home-based care with support from community and institution is the main caring option for Chinese elders. Due to the complexity of cognitive impairment, nursing care of elders across different caring settings includes educating, counseling, and supporting family members. Optimal care also requires successful transition models. This symposium will focus on the ways that cognitive impairment complicates care transitions. A model for ED-to-home transitions for frail elders will be introduced. We will share our research on cognitive function and depressive disorders among community dwelling elders, cognitive function and falling in elders living at home, the effects of a group-based interactive intervention on mood and quality of life of aged care facility residents, and nurses' awareness of dementia. Sensitivity to the complexity of care transitions given the challenges of cognitive impairment will be central to our discussion.

CREATING PERFECT EMERGENCY DEPARTMENT (ED) TO HOME TRANSITIONS FOR FRAIL ELDERLY

L. Phillips, M. Cadogan, *University of California School of Nursing, Los Angeles, California*

In the U.S., frail older adults frequently use EDs and more than half are discharged to home. Several models have been success in reducing the human and economic costs of hospital-to-home transitions, but successful models for ED-to-home transitions are few. The purpose of this paper is to describe, from the perspective of ED care providers, those factors required to improve ED to home transitions. Nine focus group interviews were conducted to elicit data from ED health care staff. Data were analyzed using latent content analysis. Among the major themes were: Improving the transfer information about health and social history to and from the ED; Staffing and educational materials designed to accommodate the learning needs of older adults; and Designing system connections to assure follow-up and follow-through. Creating successful models for perfect ED to home transitions requires listening to the voices of the care providers on the front-line.

MILD COGNITIVE IMPAIRMENT AND DEPRESSION AMONG COMMUNITY DWELLING ELDERLY IN CHINA

H. Zou¹, Z. Li¹, L. Wang², S. Liu¹, F. Zhang¹, 1. *Peking Union Medical College School of Nursing, Beijing, China*, 2. *Desheng Community Health Service Center, Beijing, China*

Mild cognitive impairment (MCI) is a very early phase of Alzheimer disease (AD) which is a topic of continuing investigation, while depression may play an important impact on MCI's progression to AD which is continuously debated. This study aimed to examine cognitive function and depressive disorder in a community elderly sample in Beijing. 451 elderly people aging 60 and older were administered the Montreal Cognitive Assessment (MoCA-PUMC) and Geriatric Depression Scale (GDS). Of the overall sample, 234 (51.9%) were deemed to have MCI, 61 (13.3%) and 21 (4.7%) had mild and severe depression respectively. The incidences of depression between MCI and normal cognition group were significantly different. Logistic analysis demonstrated that older age, lower educational level and depression ($P < 0.001$) were risk factors for MCI in the elderly. The current findings may help health professionals to provide targeted cognitive screening and monitoring for this high-risk group.

THE RELATIONSHIP BETWEEN COGNITIVE FUNCTION AND FALLING AMONG OLDER ADULTS LIVING AT HOME

L. Jiang¹, Q. Qin², 1. *Xinhua Hospital Affiliated to Shanghai Jiaotong University School of Medicine, Shanghai, China*, 2. *School of Nursing, Wenzhou Medical University, Beijing, China*

The falls incidence among the elderly is important and frequency risk factors. The consequences of falls are broad and contribute to immobility and premature institutionalization. To investigate the association between cognitive function and falling in the elderly living at home we designed a case-control study. 1,576 elderly adults in this study completed interviews, and 274 of them who had falls last year were screened out as the case group. The results showed that mild cognitive impairment was associated with fall in the elderly living at home. After adjustment for marital status, level of education, the number of co-morbid conditions and living situation, the relationship was still significant ($OR = 1.747$, 95%CI [1.099, 2.777]). Multivariate logistic regression revealed that orientation and recall impairment, memory and calculation impairment were independently associated with higher rates of falling in the elderly. For elderly, orientation and recall impairment could predict falling in elderly living at home.

EFFECTS OF GROUP INTERACTIVE INTERVENTION FOR RESIDENTS WITH DEMENTIA IN THE AGED CARE FACILITY

J. Wang¹, X. Lin¹, S. Jia¹, X. Cao², Z. Shen¹, 1. *Fudan University, School of Nursing, Shanghai, China*, 2. *Shanghai Mental Health Center, Shanghai, China*

Group intervention is increasingly used to maintain the holistic function of persons with dementia. However, little

attention is paid to patients' interaction during intervention. This study explored the effects of group-based interactive intervention for residents with dementia in aged care facilities. 71 residents with dementia in two aged care facilities were recruited and randomly assigned into intervention group (35) and control group (36). The intervention group received six-month group-based interactive intervention, while the control group received routine care only. Mixed effects model analyses for repeated measurement data showed that daily activities, mood, and cognition level of intervention group residents were obviously better than that of control group residents. Quality of life of intervention group residents was also improved significantly. Therefore, group-based interactive intervention is effective for residents with dementia, which also provide strategies for caring for dementia persons in hospitals or homes when they depart from facilities.

AWARENESS OF ALZHEIMER'S DISEASE AMONG NURSES WORKING IN GENERAL HOSPITAL IN BEIJING, CHINA

Y. Liu¹, W. Bao², 1. *School of Nursing, Peking University, Beijing, China*, 2. *Beijing Hospital, Beijing, China*

More dementia patients are administered to hospitals from home or long-term care facilities at some stages of the disease. Adequate awareness about dementia among nurses in hospitals is essential to quality of the transitional care. This paper assessed the awareness of nurses on AD in a general hospital of Beijing China, and provide concrete information to further continuing education for nurses. 150 convenient samples were recruited from 5 geriatric wards. Awareness of AD was evaluated by ADKS. The overall correct rate was 65%. 'caregiving' (48% correct), 'risk factors' (59% correct) and 'symptoms' (59% correct) were the lowest domain of knowledge. Nurses with longer working years had significant lower scores on domains of risk factors, caregiving, and assessment and diagnosis. Further training on AD should include both medical-oriented and caring-oriented aspects. Well preparation of nurses on caring AD patients is essential for better transitional care.

SESSION 3745 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: THE IMPACT OF FALLS AND FEAR OF FALLING ON OLDER ADULTS' MOBILITY: AN INTERNATIONAL PERSPECTIVE

Chair: M. Auais, *Queen's University, Kingston, Ontario, Canada*

Discussant: J.M. Guralnik, *University of Maryland at Baltimore, Chevy Chase, Maryland*

Falls and Fear of falling (FOF) are common in old age. Although the adverse consequences of falls and FOF were studied extensively, most studies were either cross-sectional, focused on one context, or varied widely in definitions and outcome measures used, which prevented researchers from conducting meaningful comparisons between different nations. The International Mobility in Aging Study (IMIAS) is a population-based, cohort study (2012–2016) on community-dwelling older adults in five sites: Canada (Kingston, Saint-Hyacinthe), Albania (Tirana), Colombia

(Manizales) and Brazil (Natal). Drawing on longitudinal data from IMIAS and using validated and standardized tools in all study sites, presenters in this symposium will provide an overview of their recent research to improve our understanding of factors associated with falls and FOF at an old age in diverse locations, and investigate if FOF can independently lead to disability over time. Ms. Hwang, University of Hawaii, USA will share results from her study to test whether FOF is independently associated with average minutes walking per day among older adults. Dr. Auais from Queen's University, Canada will discuss whether FOF could independently lead to functional disabilities after a 2-year period. Dr. Vafaei from the Queen's University, Canada will explore potential mediators that could explain the longitudinal relationship between FOF and incident disability. Finally, Dr. Gomez, University of Caldas, Colombia will present his findings after testing a simple algorithm to predict falls over time and possible implications. This work has clinical and policy implications and could improve older adults' mobility and, ultimately, their integration in local communities.

THE RELATIONSHIP BETWEEN FEAR OF FALLING AND WALKING

P.W. Hwang¹, N. Rosendaal¹, C.M. Pirkle¹, M. Auais², 1. *University of Hawaii at Manoa, Honolulu, Hawaii*, 2. *School of Rehabilitation Therapy, Ontario, Ontario, Canada*

Fear of falling (FOF) is highly prevalent among older adults. We examine the relationship between fear of falling and average minutes walking per day among community dwelling older adults. Statistically significant differences in walking were observed between site locations, sex, age, educational attainment, functional fitness levels, fall history, and FOF. Participants with low functional fitness walk less on average compared to high functional fitness (β : -9.49, 95% CI: -14.74, -4.23). Participants with high FOF walk less on average compared to low FOF (β : -10.11, 95% CI: -15.13, -5.10). Fall history is not associated with walking in multivariate analyses. When stratified by functional fitness, among those with high functional fitness, those with high FOF walk less than those with low FOF (β : -10.90, 95% CI: -16.67, -5.14). The relationship is not observed among those with low functional fitness. FOF may be a barrier to walking for those with high functional fitness.

FEAR OF FALLING PREDICTS INCIDENCE OF FUNCTIONAL LIMITATION TWO YEARS LATER

M. Auais¹, B. Alvarado¹, E. Belanger³, C.L. Curcio⁴, J.M. Guralnik², 1. *School of Rehabilitation, Queen's University, Kingston, Ontario, Canada*, 2. *University of Maryland at Baltimore, Baltimore, Maryland*, 3. *University of Montreal, Montreal, Quebec, Canada*, 4. *University of Caldas, Manizales, Colombia*

We examined if fear of falling (FOF) predicts incident functional limitation over a 2-year period in older adults using self-reported and performance-based measures. In 2012, 1,601 participants were recruited from Canada, Colombia, and Brazil, and were re-assessed in 2014. We quantified FoF using the Falls Efficacy Scale-International (FES-I). Functional limitation measures were (1) self-reported mobility limitation, and (2) physical performance limitation,

score <9 on the Short Physical Performance Battery (SPPB limitation). We entered in the analysis only those without functional limitation at baseline.

In 2014, 131 (14.3%) and 166 (15.4%) participants reported incident mobility and SPPB limitation, respectively. After adjusting for age, sex, socioeconomic, and health covariates in logistic regression models, one-point increase in FES-I (range: 116–64) at baseline predicted a 6% increase in the chance of reporting mobility limitation (95%CI: 1.04–1.09) and a 5% increase in the chance of having SPPB limitation in 2014 (95%CI: 1.02–1.07).

It is increasingly important to study FOF's effect on functional limitation and to take necessary measures that prevent the transition to end-stage disability.

PATHWAYS LINKING FEAR OF FALLING (FOF) AND INCIDENCE OF FUNCTIONAL LIMITATION IN OLDER ADULTS

B. Alvarado¹, A. Vafaei¹, M. Auais¹, C.M. Pirkle², C.L. Curcio³, 1. *Queen's University, Kingston, Ontario, Canada*, 2. *University of Hawai'i, Manoa, Hawaii*, 3. *University of Caldas, Manizales, Colombia*

We used longitudinal data from the International Mobility in Aging Study (n=1,355) to explore pathways between FOF measured by the Falls Efficacy Scale-International and incidence of functional limitation in old age.

Outcomes were incidence cases of: 1) self-reported difficulty climbing a flight of stairs or walking 400 metres (mobility limitation), and 2) scoring <9 in the Short Physical Performance Battery [SPPB] (physical performance limitation). The potential pathways (gait speed, physical activity, balance, depression, and grip strength) were selected based on available theories and examined using mediation analysis adjusting for age, sex, site, cognition, and comorbidities.

Total and direct effects of FOF on both outcomes were significant in all models. After adjustment, the relationship between FOF and mobility limitation was mediated only through gait speed. In women, no mediator linked FOF to SPPB; however, in men depression was a significant mediator.

FOF has a strong direct effect on disability in older adults. Depression and gait speed partially account for incidence of disability.

DEVELOPING A SIMPLE ALGORITHM TO PREDICT FALLS IN PRIMARY CARE OLDER PATIENTS

F. Gomez², Y. Wu³, M. Auais¹, A. Vafaei¹, B. Alvarado¹, 1. *School of Rehabilitation, Queen's University, Kingston, Ontario, Canada*, 2. *University of Caldas, Manizales, Colombia*, 3. *University of Hawaii, Honolulu, Hawaii*

We aimed to establish an algorithm to identify older adults at risk of falling using Classification Regression Trees (with CHAID).

We used longitudinal data (2012–2014) with 1662 participants completed the second assessment. The following risk factors for falls were entered in the CHAID: age, sex, BMI, multimorbidity, cognitive deficit, depression, number of falls in last year, fear of Falling (FOF), chair-rise speed, balance, and gait speed.

The CHAID identified six end nodes with three levels of partitions and four partitioning variables: number of falls, FOF, chair-rise score, and age group. CHAID identified three

subgroups based on number of falls (none, one, ≥ two). Then, the 'no falls' subgroup was split using FOF into high and moderate FOF groups. Those with multiple falls were also split by their chair-rise speed into 'slow or fast' and intermediate speed groups. Then the 'slow or fast' group was further split into two age groups (64–69 and 70–75).

Overall, those with more than two falls last year, slow or fast chair-rise speed, and aged 64–69 years had the greatest odds of falls (OR: 5.25, 95%CI: 3.16–8.88). While those who had no falls last year and low or medium FOF had the lowest odds of falls (0.42, 95%CI: 0.33–0.52).

SESSION 3750 (PAPER)

FALL RISK, PREVENTION, AND EDUCATION

HOW OLDER PATIENTS ON REHABILITATION WARDS RESPOND TO FALLS-PREVENTION EDUCATION

A. Hill¹, J. Francis-Coad⁵, T.P. Haines⁶, N. Waldron³, C. Etherton-Beer², L. Flicker², K. Ingram³, S. McPhail⁴, 1. *School of Physiotherapy and Exercise Science, Curtin University, Perth, Western Australia, Australia*, 2. *University of Western Australia, Perth, Western Australia, Australia*, 3. *WA Department of Health, Perth, Western Australia, Australia*, 4. *Queensland University of Technology, Brisbane, Queensland, Australia*, 5. *The University of Notre Dame Australia, Fremantle, Western Australia, Australia*, 6. *Monash University, Melbourne, Victoria, Australia*

The aim of the study was to determine how providing individualized falls prevention education facilitated behavior change from the perspective of older hospital patients on rehabilitation wards. Patients were also asked to identify possible barriers to engaging in falls prevention strategies. Older patients (n=610) with good levels of cognition (Mini-Mental State Examination score >23/30) received falls prevention education and were then surveyed using a semi-structured questionnaire. They were part of a larger cluster RCT, where the education was delivered on eight hospital rehabilitation wards. Staff received training to support the program. Deductive content analysis was used to map participants' responses against conceptual frameworks of: i) health behavior change; ii) factors influencing patient risk taking behaviours. Participants who responded (n=473) stated that the education raised their awareness, knowledge and confidence to actively engage in falls prevention strategies, such as asking for assistance prior to mobilizing. Participants' thoughts and feelings about their recovery were the main barriers they identified to engaging in safe strategies. These included over-confidence or misjudgement about their ability to achieve mobility tasks and a desire to be independent. The most common task participants identified as potentially leading to risk taking behavior was needing to use the toilet. Individualized falls prevention education assists older hospital rehabilitation patients with good levels of cognition to engage in suitable falls prevention strategies. Staff should communicate and engage with patients to understand their perceptions about their recovery. Staff should also support patients to take an active role in planning their rehabilitation.

A WORLD CAFÉ FORUM EXAMINES OLDER PEOPLES' PREFERENCES FOR SEEKING AND RECEIVING FALLS INFORMATION

A. Hill¹, L. Khong², K.D. Hill¹, C. Bulsara², 1. *School of Physiotherapy and Exercise Science, Curtin University, Perth, Western Australia, Australia*, 2. *The University of Notre Dame Australia, Fremantle, Western Australia, Australia*

Investigating older peoples' preferences for receiving information about falls prevention could enhance communication and increase the uptake of relevant messages. The aim of the study was to examine the views and preferences of community-dwelling older adults about seeking and receiving falls prevention information. A community forum using a modified World Café approach was conducted. Participants explored and discussed five topics in small groups, under the guidance of café table facilitators. Perspectives were captured on paper. The main facilitator then led large group summation and discussion. Thematic analysis identified older peoples' preferences for seeking information about falls prevention and factors that influenced their engagement with the messages. Participants (n=73) who attended the forum provided diverse perspectives around why and how they sought out falls prevention information. Personal experience of falling was the key factor that influenced a decision to seek information. Participants strongly emphasised that respectful, empathetic interpersonal communication about falls between health professionals and the older person was crucial to foster motivation to undertake recommended activities. While participants approached health professionals they also recommended that resources should be readily available through public libraries and seniors' organisations. These were viewed as credible sources of information. Older people suggested a range of practical strategies that could potentially improve design, communication and dissemination of falls prevention information. Health professionals and organisations could use these findings to enhance effective presentation of falls prevention messages, thereby facilitating subsequent uptake of recommended strategies

PATIENT BED MOVES IN ACUTE HOSPITALS—FREQUENCY, RATIONALE, AND DO THEY CONTRIBUTE TO FALLS RISK?

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Background: Falls among older people in acute hospitals remain unacceptably high. One factor starting to be recognised as a potential contributor to in-hospital falls may be frequency of bed moves for older in-patients. The aim of this study was to describe frequency and circumstances of bed moves during hospitalisation of older people, and explore associations with falls.

Method: Patients aged 70+ with increased falls risk on admission to one of four participating aged care/medical/rehabilitation wards (based on the Falls Risk Assessment and Management Plan, or admitted because of a fall) were included. Subsequent admissions were excluded. Bed moves for eligible patients were tracked, and reasons for bed moves, and falls that occurred were explored through staff and patient interviews.

Results: 459 patients [mean age 84.9 (sd=7.1), 56% females, mean LOS = 9.8 days (19. 7)] were included. Patients had a median of two bed moves (range 1–8) during hospitalisation, and most occurred afternoon to evening, although 12.3% occurred midnight–7.59am. Eight of 29 falls (27.6%) occurred one day after arriving to ED. Several common factors were identified contributing to bed moves, and strategies explored that might be viable alternatives. A case study highlighting multiple bed moves and potential alternatives will be discussed.

Conclusion: Bed moves for older hospitalised patients are common, and may contribute to increased risk of falls, even though paradoxically bed moves may be triggered by a desire to increase surveillance of high falls risk patients. Alternatives to multiple bed moves for high falls risk older patients warrant consideration.

NOVEL ACCURATE APPROACH TOWARD PREDICTING FRAIL OLDER ADULTS' FALLS WITHIN THREE MONTHS

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The purpose of the study was to find a method towards predicting future falls so that healthcare providers can provide interventions. We compared a new Footbed Sensors (FS) platform, which measures foot pressure 5 force sensors and communicates via Bluetooth, and established measures of fall risks: Age, past falls (in 3, 6, and 9 months), Activity-Specific Balance Confidence (ABC), Berg Balance Scale (BBS), Timed up and Go (TUG) and Instrumental Activities of Daily Living (IADL).

We conducted assessments using 27 frail older adults, and followed up for the next 3 months. Analyses used neural network K-fold for the FS to classify fallers and non-fallers, and logistic regressions for other measures, using single and combined predictors. The sensitivity (predicted fallers/actual fallers) was our main interest, followed by the false positive rate (predicted fallers/actual non-fallers).

Of 27 participants, 6 fell (28.6%). The FS had 83.3% sensitivity, zero false positive, thus 96.3% overall accuracy. The sensitivity for single factors such as age, ABC, TUG, and past falls in 3 and 9 months was 0%, for both IADL and BBS, 16.7%, and for the past fall in 6 months, 50%. For combined, it was 66.7%. The past fall in 12 months had 83.3% sensitivity, but 19.0% false positive, therefore 81.5% overall accuracy.

The FS data classified falls better than existing methods. Potential for real-time fall prediction is an area for future R&D. Additionally, investigating the relationship between the sensor readings and the fallers' risk factors, such as physical balance and strength, is planned.

SELF-REPORTED UNSTEADINESS PREDICTS FEAR-RELATED ACTIVITY RESTRICTION AT TWO YEARS FOLLOW-UP

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Poor balance may increase the risk of fear of falling (FOF) and falls in older adults. In this analysis, we examine if self-reported unsteadiness during walking is independently associated with FOF, fear-related activity restriction and falls reported at two years follow-up. Data were obtained from the first two waves of The Irish Longitudinal Study on Ageing (TILDA). Community-dwelling adults (mean age 71.3 years; range 65–93 years), with Mini-Mental State Examination score ≥ 18 and who participated in a health assessment at baseline were included ($n=1,621$). Unsteadiness was based on reports of feeling slightly steady, slightly unsteady or very unsteady (versus very steady) during walking ($n=382$, 23.6%). Participants were asked if they were afraid of falling (no FOF, somewhat afraid, very much afraid), if they restricted their activities due to fear (yes/no) and the number of falls in the past year. Ordinal logistic regression and Poisson regression analyses were used to obtain the relative risk of reporting FOF, activity restriction and multiple falls at follow-up after adjusting for socio-demographics, physical and mental health, self-reported sensory function and usual gait speed. We found evidence of an association between unsteadiness and fear-related activity restriction (IRR=1.82 [1.21–1.73], $p=0.004$) and weaker evidence of an association with FOF (IRR=1.30 [0.94–1.80], $p>0.05$) and multiple falls (IRR=1.37 [0.95–1.97], $p>0.05$). Self-reported unsteadiness is an easily obtained measure which may be a useful indicator of an existing or future balance dysfunction. Its inclusion in a clinical assessment presents an opportunity to target individuals for interventions aimed at improving balance and maintaining activity.

SESSION 3755 (PAPER)

TOOLS TO IMPROVE GERIATRIC ASSESSMENT

THE VESPA PRE-OPERATIVE TOOL: A SCALE THAT PREDICTS POST-SURGICAL GENERAL AND GERIATRIC COMPLICATIONS

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In response to the increasing use of elective surgery among older patients, we implemented the **Vulnerable Elderly Surgical Pathways and outcomes Assessment (VESPA)** into an academic health system general pre-operative clinic (2008–2011) to predict post-operative complications.

We interviewed 770 patients age ≥ 70 years who had upcoming general surgery to assess 5 pre-operative activities of daily living (ADLs) recommended by the American College of Surgeons (bathing/dressing, transferring, shopping, meals), falls, depressive symptoms, and performed a

brief cognitive examination. We also asked a novel question of whether they expected they could manage themselves alone upon discharge. We conducted chart review for geriatric and surgical complications and co-morbidity and collected Work-related Relative Value Units (wRVU, categorized into low/moderate/high tertiles).

Of the 770 interviewed patients, 736 had an operative procedure; of these, 14.3% had one of 5 ADL difficulties and 38.2% foresaw themselves unable to manage self-care alone. A quarter developed either geriatric or surgical complications, 18% had geriatric complications and 15% had surgical complications. **ADL difficulty count** (OR 1.2[1.0–1.5]), **foreseen difficulty with post-operative self-care** (OR 1.5[1.0–2.2]), co-morbidity (OR 1.5[1.0–2.3]), male gender (OR 1.6[1.1–2.3]), and wRVUs (moderate vs low OR 1.9[1.1–3.4]; high vs low OR 8.9 [5.4–14.8]) all independently predicted post-operative complications (overall model **Area Under the Curve [AUC]=0.77**), whereas age was not significant (OR 1.0[0.98–1.1]). **Using these results, a whole-point VESPA score used alone to predict complications also demonstrated excellent fit (AUC=0.76).**

In conclusion, pre-operative geriatric assessment of the oldest patients is feasible in general pre-operative clinic and can help identify higher-risk patients.

PREDICTIVE VALUES OF NEW SARCOPENIA INDEX BY FNIH SARCOPENIA PROJECT FOR MORTALITY IN KOREAN ELDERLY

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We evaluated the Foundation for the National Institutes of Health (FNIH) Sarcopenia Project's recommended criteria for sarcopenia's association with mortality among older Korean adults.

We conducted a community-based prospective cohort study which included 560 (285 men and 275 women) older Korean adults aged ≥ 65 years. Muscle mass (appendicular skeletal muscle mass-to-body mass index ratio (ASM/BMI)), handgrip strength, and walking velocity were evaluated in association with all-cause mortality during 6-year follow-up. Both the lowest quintile for each parameter (ethnic-specific cutoff) and FNIH-recommended values were used as cutoffs.

Forty men (14.0%) and 21 women (7.6%) died during 6-year follow-up. The deceased subjects were older and had lower ASM, handgrip strength, and walking velocity. Sarcopenia defined by both low lean mass and weakness had a 4.13 (95% CI, 1.69–10.11) times higher risk of death, and sarcopenia defined by a combination of low lean mass, weakness, and slowness had a 9.56 (3.16–28.90) times higher risk of death after adjusting for covariates in men. However, these significant associations were not observed in women. In terms of cutoffs of each parameter, using the lowest quintile showed better predictive values in mortality than using the FNIH-recommended values. Moreover, new muscle mass index, ASM/BMI, provided better prognostic values than ASM/height² in all associations.

New sarcopenia definition by FNIH was better able to predict 6-year mortality among Korean men. Moreover,

ethnic-specific cutoffs, the lowest quintile for each parameter, predicted the higher risk of mortality than the FNIH-recommended values.

UTILITY OF THE SPPB FOR SHORT-TERM OUTCOME PREDICTION OF MULTIMORBID GERIATRIC REHABILITANTS

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Previous studies have shown that frail older inpatients, with a high rate of hospital readmission and in-hospital mortality, benefit from a special postacute treatment in specialized geriatric rehabilitation. The well known short physical performance battery (SPPB) is routinely used for physical performance measurements in these rehabilitation hospitals in Germany. While for community-dwelling persons the SPPB has been shown to allow prediction of disability institutionalization and mortality its predictive validity has not been evaluated yet in a geriatric rehabilitation setting.

Routine data from a quality registry of 12251 geriatric inpatient rehabilitants in Baden Württemberg, Germany (KODAS database, 2012–2014), were retrospectively analyzed using the Mantel-Haenszel chi-square statistic and multiple logistic-regression analysis adjusted to age, sex and number of active comorbidities. The mean age was 82 years and the mean SPPB sum score at admission 2,82. Beside a not normal distribution, the SPPB shows significant differences in the mean Barthel-Indices (Disability Outcome) and for nursing home admissions, acute hospital admissions and mortality over the four major SPPB subgroups. Compared with older community-dwelling persons, geriatric rehabilitation inpatients had a substantially lower SPPB sum score with a pronounced floor effect. Nevertheless it can predict overall markers of disease and mortality.

The present study, shows that the SPPB is associated with multimorbidity at risk of disability, nursing home admissions, severe complications and mortality in a short term follow up.

PREDICTION OF POOR OUTCOMES IN INTERMEDIATE CARE WITH A 10-MINUTE TARGETED GERIATRIC ASSESSMENT

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Comprehensive geriatric assessment is the most consistent predictor of adverse outcomes in older adults, but little is known about its predictive value in acute healthcare settings. We developed a 10-minute Targeted Geriatric Assessment (10-TaGA) with the Delphi Technique for predicting poor outcomes in a prospective cohort involving 537 participants aged 60 and older admitted to a geriatric day hospital. The 10-TaGA includes information on cohabitation status, previous hospitalizations, falls, medications, functionality (Katz

index), cognition (10-point cognitive screener), self-rated health, depression (4-item Geriatric Depression Scale), nutrition and gait speed. These items are classified into three levels: normal, mild impairment and severe impairment. A global risk index is calculated by balancing the scores of the ten items. Based on one-year follow-up, we used hierarchical Cox proportional hazards regressions to associate the 10-TaGA index with unfavorable outcomes (fall, emergency department visit [ED-visit], hospitalization, incident disability and mortality). The 10-TaGA index showed remarkable improvement in all outcomes predictions when included in models containing sex, age and race (block-1), and comorbidities (block-2). The 10-TaGA index high-risk category was substantially associated with fall (hazard ratio [HR] 1.98, 95% confidence interval [CI] 1.15–3.41, $p=0.013$), ED-visit (HR 1.73, 95% CI 1.09–2.76, $p=0.021$), hospitalization (HR 2.52, 95% CI 1.36–4.66, $p=0.003$), disability (HR 3.74, 95% CI 1.88–7.76, $p<0.0001$) and mortality (HR 2.78, 95% CI 1.03–7.51, $p=0.043$). The 10-TaGA was very useful for predicting poor outcomes in intermediate acute care. Older adults categorized as high-risk status by the global index were strongly associated with adverse events.

MULTIMORBIDITY AND LONG-TERM LIMITATIONS WITH ADLs AND IADLs IN OLDER ADULTS

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Background: We aimed to quantify the impact of multimorbidity, using a validated multimorbidity-weighted index (MWI) that weights chronic conditions by the Short Form-36 physical functioning, on future functional decline measured by activities of daily living (ADLs) and instrumental activities of daily living (IADLs).

Methods: The Health and Retirement Study (HRS) is a nationally-representative cohort of >38,000 adults aged ≥ 51 years followed 1992–2012. In 2000, participants were interviewed about physician-diagnosed chronic conditions, from which their MWI was computed. Biennially, participants reported the number of ADLs (range 0–5) and IADLs (range 0–6) they had difficulty performing. We used multiple linear regression to measure the association between baseline MWI quintile and ADL and IADL limitations over 10-year follow-up, adjusted for age, sex, race, and education.

Results: The final sample included 18,432 participants after excluding those missing ≥ 1 health condition variables ($N=180$). At baseline, participants had a weighted mean MWI of 4.2 ± 4.1 and 0.49 ± 1.2 ADL and 0.32 ± 0.95 IADL limitations. At 10-year follow-up, participants with the highest quintile MWI had 1.10 ADL limitations (95%CI: 0.95–1.25, $p<0.001$) and 0.59 IADL limitations (95%CI: 0.48–0.70, $p<0.001$), while the lowest quintile had 0.15 (95%CI: 0.11–0.20) ADL limitations and no significant IADL limitations. There was a dose-response association between multimorbidity and future ADL and IADL limitations.

Conclusion: Multimorbidity using MWI weighted to physical functioning was associated with long-term ADL and IADL limitations, with a doubling in those with the greatest MWI. MWI is a valid multimorbidity measure to target older adults at higher risk for functional decline and disability.

SESSION 3760 (SYMPOSIUM)

IMPROVING PRESCRIBING PRACTICES TO PROMOTE ANTIBIOTIC STEWARDSHIP IN LONG-TERM CARE

Chair: P.D. Sloane, *University of North Carolina, Chapel Hill, North Carolina*

Discussant: M.E. Dellefield, *VA San Diego Healthcare System*

Multi-drug resistant infections are a major public health challenge worldwide, leading to increased mortality from resistant infections and fears that “superbugs” will become common in healthcare settings. Consequently, antibiotic stewardship is being encouraged internationally, so that antibiotics are used “only when needed” and prescriptions written for “the right drug, dose, and duration.”

Antibiotic overuse and multi-drug resistant bacteria are especially common in residential long-term care settings for frail older persons; for example, research has indicated that U.S. nursing home residents are on antibiotics nearly 10% of the time. However, successful implementation of antibiotic stewardship is not straightforward, as decision-making involves a complex interplay of clinical factors, including input from nursing staff, medical providers, residents, and families.

Drawing on a series of nursing home studies in the United States and the Netherlands, this session will discuss the theoretical framework, present some of the key issues driving overprescribing, identify potential interventions, and discuss the results of a dissemination trial. Paper one will present theoretical models of decision-making, drawing from several studies by the investigators. Paper two will discuss how laboratory and radiologic results in these settings are often equivocal, and how this uncertainty fosters overprescribing. Paper three will present results of an international Delphi study aimed at developing an algorithm to guide interpretation of clinical findings in suspected urinary infection. Paper four will discuss methods of implementing antibiotic stewardship and present results of dissemination research in 28 U.S. nursing homes. The discussant will provide an organizational change perspective to integrate the presentations.

DECISION-MAKING AROUND DIAGNOSIS AND TREATMENT OF SUSPECTED INFECTIONS IN LONG-TERM CARE

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The decision-making pathway for the diagnosis and treatment of suspected infections in long-term care begins with the initial illness presentation and proceeds through nursing assessment, communication with the medical provider, diagnostic testing, antibiotic selection, and monitoring. At each step, decision-making is fraught with challenges, such as non-evidence based beliefs, time pressure, fear of patient deterioration, and patient or family requests for treatment. We will discuss how these affect the diagnosis and management of the three most common infection types in community-based nursing homes, using data from medical record audits of 260 treated urinary infections, 226 treated respiratory infections, and 161 treated skin/soft tissue infections

from 31 community-based nursing homes in the United States. An overall theoretical model will be presented for understanding these pathways and processes, and for identifying strategies to combat challenges to prevent inappropriate treatment decisions.

THE ROLE OF EQUIVOCAL TEST RESULTS IN ANTIBIOTIC OVERUSE IN LONG-TERM CARE

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In U.S. nursing homes (NHs) the majority of residents have cognitive impairment, and doctors are typically on site only a few hours per week. Consequently, diagnosis of respiratory and urinary infections relies less on clinical factors and more on chest x-ray and urine culture results communicated to medical providers by telephone. This session will present data from 480 NH cases of suspected urinary or respiratory infection. Results demonstrated that 87% of urine cultures and 33% of chest x-rays were equivocal – neither negative nor diagnostic respectively of urinary infection or pneumonia – and that medical providers tended to treat equivocal results as though they were diagnostic of infection. This diagnostic sequence of events leads to overtreatment of asymptomatic bacteriuria and viral respiratory infections and, consequently, to overuse of antibiotics. Clinical and psychosocial factors associated with these processes will be discussed, along with recommendations for interventions to reduce inappropriate antibiotic overprescribing.

CAN THE DEFINITIONAL CRITERIA FOR URINARY TRACT INFECTION (UTI) BE IMPROVED? A DELPHI STUDY

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Previous research has identified disagreement regarding whether and to what extent certain signs and symptoms in long-term care (LTC) residents indicate the presence of a urinary tract infection (UTI), suggesting that better diagnostic criteria are needed. To address this issue, a Delphi study was organized in which an international panel of 16 experts in infectious diseases in LTCs sought to reach consensus on how to incorporate signs and symptoms into decision-making. After the first round of expert panel responses, consensus was reached on a variety of signs and symptoms deemed not likely to be caused by UTI; examples include diarrhea, new/worsening fatigue; and change in urine color. Final study results will be presented, including a practical and internationally-supported algorithm for the evaluation of signs and symptoms often ascribed to UTIs in current LTC practice. Implementation of this algorithm has the potential to reduce antibiotic overtreatment in LTCs.

ANTIBIOTIC STEWARDSHIP IN LONG-TERM CARE: RESULTS FROM AN IMPLEMENTATION STUDY

S. Zimmerman, D. Reed, J. Preisser, P.D. Sloane, *University of North Carolina, Chapel Hill, North Carolina*

Due to growing concern that unnecessary overuse of antibiotics in nursing homes (NHs) fosters the emergence and dissemination of antibiotic-resistant bacteria, U.S. NHs are being encouraged to establish antibiotic stewardship programs. Unfortunately, successful implementation of such

programs is not straightforward, because decision-making involves a complex interplay of factors. Having demonstrated in a clinical trial that antibiotic prescribing can be reduced by over 25% through comprehensive antibiotic stewardship efforts, our research team implemented a dissemination research study in 28 typical community-based NHs to determine change in prescribing and the factors most critical to success in antibiotic stewardship. After one year of implementation, antibiotic prescribing decreased from 12.39 to 10.95 prescriptions/resident day, with most decrease evident for presumed urinary and respiratory tract infections. The session will also discuss the role of nursing home administration, medical staff leadership, staff and provider attitudes, and intervention activities in achieving and maintaining changes in antibiotic prescribing.

SESSION 3765 (PAPER)

UNIQUE PERSPECTIVES IN UNDERSTANDING END-OF-LIFE CARE EXPERIENCES

48-HOUR HOSPICE HOME IMMERSION PROJECT: INNOVATIVE MEDICAL EDUCATION RESEARCH

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BACKGROUND: The University of New England College of Osteopathic Medicine *Hospice Immersion* project was piloted in Maine, USA, 2014. It was designed and implemented as an experiential medical education learning model whereby medical students were “admitted” into the local Hospice Home to live there for 48 hours. Until this project, palliative and end of life care education at US Medical Schools were accomplished through traditional medical education methods.

METHODS: The project utilizes qualitative ethnographic and autobiographic research designs, whereby a unique environment or “culture” (Hospice Home) is observed and life experiences of the medical student before, during, and immediately after the immersion are reported by him/her.

RESULTS: Students report new found skills in patient care such as the 1) importance of physical touch; 2) significance of communication at the end of life for the patient, family, and staff; 3) the value of authenticity and sincerity that comes from being comfortable with oneself, which allows silence to communicate caring; 4) connection with and awareness of the person (rather than their terminal illness) and their family; and 5) the importance of speaking with patients and their families about end of life plans in advance.

CONCLUSION: This project humanizes dying and death, solidified student realization that dying is a part of life and what an honor it is to be a part of the care process that alleviates pain, increases comfort, values communication, and human connections. Medical education in death and dying is advanced; essential in preparing our future physicians.

HEALTH CARE UTILIZATION OUTCOMES FOR PATIENTS ENROLLED IN A LATE-LIFE CARE INTERVENTION

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Health systems in the U.S. are faced with increased utilization for patients in their last years of life. Care for patients with serious illness is complex and requires a greater number of clinicians and care settings. This can contribute to duplicative and unwanted medical procedures. As a large portion of the population approaches retirement, health systems must redouble efforts to better serve patients as they near the end of life. LifeCourse is a patient-centered intervention which leverages a layperson care guide to build upon an expanded set of palliative care domains. Care guides meet with patients, their family members and clinicians to help patients articulate goals, take part in decision making, and connect with resources. LifeCourse is a non-randomized prospective study of 450 intervention and 448 usual care patients followed between October 2012 and June 2016. Patients and controls were selected based on diagnosis, disease progression, and comorbidity mix. Using zero-inflated negative binomial regression models we tested whether participation in LifeCourse resulted in decreased utilization on three outcomes, ED visits, inpatient days, and ICU stays. On average, patients in the intervention group experienced 25% fewer inpatient days (IRR = 0.75; 95% CI: 0.62–0.91) and 57% fewer ICU stays (IRR = 0.43; 95% CI: 0.24–0.77). We did not detect a difference in the number of ED visits (IRR = 0.85; 95% CI: 0.72–1.01). Our findings suggest that when a whole-person approach to care is used and patients’ preferences are known there is a beneficial impact on health care utilization in late-life.

PALLIATIVE CARE AFTER HOSPITALIZATION: PATIENT EXPERIENCES AND CARE OUTCOMES IN NURSING HOMES

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Palliative care consultation (PCC) during hospitalization is increasingly common for older adults with life-limiting illness discharged to nursing homes. Little is known about the consistency between PCC recommendations and post-discharge care. The purpose of this analysis was to describe the care trajectories and experiences of older adults admitted to a nursing home following a hospitalization during which they received a PCC. We recruited a sample of 12 adults over 60 years for this qualitative descriptive study. Care trajectories were mapped using information from medical record audits at five time points from hospital discharge to 100 days following nursing home admission. Interviews (n=15) with participants and surrogates were combined with each participant’s medical record data and care trajectory. Content analysis was employed on the combined dataset. All PCC referrals in this sample (mean age=80 years) were for goals of care conversations during which the PCC team discussed poor prognosis and recommended palliative approaches. All were admitted to a nursing home under the Medicare Skilled Nursing Facility Benefit. Re-hospitalization was common (n = 7); half of the sample lived an average of 19 days. Our analysis revealed three trajectory types: *Focus on Rehabilitative Care*, *Patient-Family Caregiver Incongruence*, and *Comfort Care*. Our findings suggest that there is poor

congruence between PCC recommendations and post-discharge care. Heavy emphasis on recovering functional status through rehabilitation and skilled nursing care despite poor prognosis was identified. Future research should focus on predicting outcomes of rehabilitation and ways to incorporate this information in goals of care discussions.

PERSPECTIVES ON THE IDENTIFICATION OF THE PALLIATIVE PHASE AND ADVANCED CARE PLANNING IN DEMENTIA

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This study aimed to gain insight in the views, experiences and preferences of people with dementia, their family carers, dementia case managers, district nurses and general practitioners regarding early identification of palliative care needs and advanced care planning.

We interviewed 9 people with dementia, 9 family carers and 4 general practitioners individually and organized 2 focus group interviews with district nurses and case managers. Interview and focus group topics involved the process, experiences and preferences regarding the start of the palliative phase and advanced care planning, communication and support.

Analyses of interview transcripts involved thematic content data analyses.

Preliminary analyses show that professionals vary with respect to the start of the palliative phase, some stating that this starts with the diagnosis, others claiming that it starts later in the dementia trajectory. Some people with dementia and family carers do not wish to discuss the future, whereas others make detailed plans, specifically regarding practical medical issues. Professionals emphasize that communication must fit clients' unique experiences, preferences, concerns and fears. All respondents find discussion of palliative matters difficult. Professionals stress that any communication tool should be brief, practical, leaving room for offering person centered care.

We conclude that identification of the palliative phase in dementia and advanced care planning is a sensitive issue for all involved. It requires careful communication that allows for shared decision making. A communication tool for professionals should facilitate professional room and person centred care.

SESSION 3770 (PAPER)

DEMENTIA/ALZHEIMER'S DISPARITIES, PREVALENCE, AND RISKS

POTENTIALLY INAPPROPRIATE MEDICATION AND MORTALITY IN OLDER PEOPLE ATTENDING MEMORY CLINICS

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Austin Health, Heidelberg, Victoria, Australia, 3. *National Ageing Research Institute, Parkville, Victoria, Australia*, 4. *University of Melbourne Academic Unit for Psychiatry of Old Age, St George's Hospital, Kew, Victoria, Australia*, 5. *Dementia Collaborative Research Centre, School of Psychiatry, UNSW Australia, Sydney, New South Wales, Australia*, 6. *Center for Healthy Brain Aging, School of Psychiatry, UNSW Australia, Sydney, New South Wales, Australia*, 7. *Department of Epidemiology and Preventative Medicine, Faculty of Medicine, Nursing and Health Sciences, Monash University, Melbourne, Victoria, Australia*, 8. *Pharmacy Department, Austin Health, Heidelberg, Victoria, Australia*

Potentially inappropriate medication use may increase the risk of adverse drug events, hospitalization, morbidity and mortality in older people.

The aims of our study were to explore the use of medications that are potentially inappropriate for older people with cognitive impairment (PIMcog), quantify anticholinergic cognitive burden (ACB), and examine whether PIMcog use and ACB were associated with mortality.

We performed cross-sectional and longitudinal analyses of data from the Prospective Research In MEemory clinics (PRIME) study. This study involved 964 community dwelling participants, diagnosed with mild cognitive impairment or dementia, who attended nine Australian memory clinics and were followed up for three years.

PIMcog was defined as any medication considered potentially inappropriate for an older person with cognitive impairment according to the Beers criteria or Screening Tool of Older Peoples Prescriptions (STOPP). Anticholinergic burden was calculated using the ACB scale. 360 participants (37.3%) used a PIMcog at some point during the study, the most common being anticholinergics and sedatives. 624 participants (64.7%) used a medication with potential or definite anticholinergic properties (ACB>0) at some point during the study.

Using time-dependent Cox proportional hazards regression, adjusted for covariates including baseline age, gender, education, cognitive diagnoses, total number of medications, disease burden, cognition, physical function and neuropsychiatric symptoms, PIMcog use (adjusted hazard ratio [HR]: 1.42, 95% confidence interval [CI]: 1.12–1.80) and ACB score (adjusted HR: 1.18, 95% CI: 1.06–1.32) were significantly associated with all-cause mortality over a three year follow-up period.

Efforts are needed to improve prescribing for older people with cognitive impairment.

PATTERNS AND DISPARITIES IN FORMAL DEMENTIA DIAGNOSIS AND AWARENESS OF DIAGNOSIS

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Despite increasing prevalence, about half of older adults with dementia are undiagnosed. Both formal diagnosis and patient/family awareness of the diagnosis may have

implications for medical care, decision-making, and future planning. We linked data from the National Health and Aging Trends Study (NHATS), a nationally representative sample of Medicare beneficiaries in the United States, to Medicare claims to examine formal diagnosis (claims-based diagnosis), awareness of dementia (self-reported physician diagnosis), and sociodemographic differences between dementia status groups. Among 7,609 community-dwelling older adults in NHATS, 13.6% (n=1,038) met validated NHATS criteria for probable dementia. We analyzed 633 individuals with probable dementia who had 3 years of continuous fee-for-service coverage in four groups. 116 participants (18.3%) did not report a physician diagnosis but had a claims diagnosis of dementia (unaware but diagnosed); 240 (37.9%) reported a physician diagnosis and had a claims diagnosis (aware and diagnosed); 229 (36.2%) neither reported a diagnosis nor had a claims diagnosis (unaware and undiagnosed); and 48 (7.6%) reported a diagnosis but lacked claims diagnosis (aware but undiagnosed). Females and older participants were more likely to be formally diagnosed, irrespective of awareness of diagnosis. Proportions of non-whites and less than high school educated were greatest in the unaware and undiagnosed group. Median income was greatest in those who were aware and diagnosed ($p < 0.05$ for all between group differences except education, for which $p=0.08$). Understanding both formal diagnosis and awareness of the diagnosis may be important to reduce disparities and improve care in dementia.

A COMPARISON OF THE PREVALENCE OF DEMENTIA IN THE UNITED STATES IN 2000 AND 2012

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The aging of the US population is expected to lead to a large increase in the number of adults with dementia, but some recent studies in the US and other high-income countries suggest that the age-specific risk of dementia may have declined over the last 25 years. Clarifying current and future population trends in dementia prevalence and risk has important societal implications.

We used data from the Health and Retirement Study (HRS), a nationally representative population-based longitudinal survey of US adults to compare the prevalence of dementia in the US in 2000 and 2012. Our sample included individuals aged 65 or older from the 2000 (N = 10,675) and 2012 (N = 10,627) waves of the HRS. Dementia was identified in each year using HRS cognitive measures and validated diagnostic classifications.

Dementia prevalence decreased from 11.7% in 2000 to 9.0% ($P < .001$). More years of education was associated with a lower risk for dementia, and average years of education increased significantly (from 11.7 to 12.7 years; $P < .001$) between 2000 and 2012. The decline in dementia prevalence occurred even though there was a significant age- and

sex-adjusted increase between years in the cardiovascular risk profile among older US adults.

The prevalence of dementia in the US declined significantly between 2000 and 2012. An increase in educational attainment among older adults was associated with some of the decline in dementia prevalence, but the full set of social, behavioral, and medical factors contributing to the decline is still uncertain.

ADDRESSING THE INCREASED PREVALENCE OF DEMENTIA IN AUSTRALIAN TORRES STRAIT ISLANDER COMMUNITIES

E. Strivens^{1,2}, S. Russell^{1,2}, 1. *James Cook University, Cairns, Queensland, Australia*, 2. *Cairns and Hinterland Hospital and Health Service, Cairns, Queensland, Australia*

Indigenous Australians have higher rates of chronic disease and poorer health outcomes than the general population. Recently, a fivefold risk of dementia, one of the highest rates worldwide, has been identified in Aboriginal Australians aged 45 years and over (12.4% compared to 2.4%). It is not known if Torres Strait Islanders, who comprise 10% of all Indigenous Australians, share this increased risk of dementia, although high rates of vascular disease, which may increase this risk, are found in these communities. The aim of this study was to assess the prevalence of dementia in the Torres Strait.

A total of 111 Torres Strait residents (34 male) aged 41 to 91 years ($M=64.1$, $SD=11.4$) underwent a diagnostic assessment by a Geriatrician.

The prevalence of dementia was 11.7%, which was significantly higher than in the general population. All but one were diagnosed with Alzheimer's disease (AD), vascular dementia (VaD) or mixed AD/VaD. Cognitive impairment was present in 31% of the sample and 91% of those with cognitive impairment and 76% of those with normal cognition had at least one vascular risk factor.

Results highlight the need for screening for cognitive impairment and dementia in Australian Indigenous communities aged 45 and over to ensure early diagnosis and intervention for those affected by dementia. The need for a culturally appropriate model of care is also crucial to effectively address this problem and there is a role for all health professionals to actively promote healthy lifestyles across the lifespan to reduce dementia risk.

SESSION 3775 (SYMPOSIUM)

NEW APPROACHES TO SPATIAL MECHANISMS OF EXCLUSION IN OLDER AGE

Chair: A. Wanka, *Universität Wien, Austria*

Discussant: N.C. Keating, *Global Social Initiative on Ageing, Seoul, Korea (the Republic of)*

"Ageing in place" is a popular term in current ageing policy, referring to the possibility to remain in one's community across the life-course. Particularly in older age, the immediate living environment gains importance. Such environments can be age-friendly and enabling, but they can also contribute to social exclusion of older adults. In most European countries, various measures - ranging from barrier-free pavements to decentralised home care services - have been implemented to

make urban and rural environments more age-friendly. Yet, spatial mechanisms of exclusion persist to affect particularly those ageing in place. It is thus a crucial task for (critical) environmental Gerontology to analyse concepts like ageing in place and age-friendly cities, dismantling the underlying notions that might contribute to reproducing social inequalities instead of reducing them.

The symposium addresses the following questions:

How are older adults being excluded through spatial mechanisms? Which dimensions of older people's lives does this exclusion affect?

How do older adults themselves perceive these mechanisms? Which strategies of resistance do they deploy?

How can we prevent spatial exclusion and promote inclusive places? How can research and policy react to spatial mechanisms of exclusion when aiming to create inclusive places?

Four papers address these questions from different perspectives and different European countries, comprising older adults' experiences of place in Manchester, UK; the connections between life-course transitions and neighbourhood development in Ireland; older adults' place appropriation in Vienna, Austria; and multilevel-analysis of social inequalities in decentralized home care in the Netherlands.

SOCIAL EXCLUSION AND LIFE-COURSE RELATIONSHIPS WITH PLACE IN DIVERSE URBAN NEIGHBOURHOODS

K. Walsh, *Irish Centre for Social Gerontology, National University of Ireland Galway, Galway, Ireland*

There is a burgeoning literature on the impact of urban contexts on exclusion and participation in later life. Despite this, how urbanised spatial aspects of exclusion evolve over the life course for older people is poorly understood. This paper draws on a voice-led qualitative design, to explore the role of life-course relationships with place in shaping the exclusionary experiences of older adults in diverse urban neighbourhoods. Involving 70 older people in six neighbourhoods across Dublin, Limerick and Galway cities, data was collected through: participatory focus groups; life-course interviews; go-along interviews, and older adult researcher projects. Implicating the intertwined trajectories of older adults and the urban settings that they reside within, findings illustrate that the emergence and influence of exclusionary mechanisms is a function of the life and residential pathways of individuals, and the development path of the neighbourhood itself. Discussion focuses on key life-course transitions and neighbourhood developmental processes.

AGEING TAKES PLACE—A PRAXEOLOGICAL APPROACH TO SPATIAL EXCLUSION IN VIENNA, AUSTRIA

A. Wanka, *Universität Wien, Vienna, Austria*

Environmental Gerontology has shown the importance neighbourhoods for the wellbeing and quality of life of older adults in various dimensions. But it is usually when these environments fail to meet the diverse needs and wishes of older adults that the chain of research and policy responses sets in.

In this paper, however, I propose that adults do not only 'age in place', but that ageing *takes* place. Deploying a praxeological approach I focus on the practices of place

appropriation, spatial disengagement and spatial exclusion. This approach turns the older residents into actors, not mere victims of their residential environment.

Drawing upon a mixed-methods research involving two case studies in Vienna, results show that i) the doing of age differs between privileged and deprived environments and that ii) particularly those older adults living in deprived areas are actively trying to 'take their quarter back'.

SOCIAL INEQUALITIES IN THE DECENTRALIZATION OF HOME CARE IN THE NETHERLANDS

F. Thomese¹, B. Da Roit², 1. *Department of Sociology, Free University Amsterdam, Amsterdam, Netherlands*, 2. *Ca' Foscari University of Venice, Venice, Italy*

Decentralization of home care is often presented as a means of increasing efficiency and quality. Little is known about the redistributive effects of the decentralization within local contexts, and about inequalities *within* municipalities after decentralization. Based on social and cultural capital theories, we hypothesize an increase in socio-economic inequality after decentralization, the more so if care is scarce. We test these hypotheses using data on the decentralization of housekeeping care in the Netherlands in 2007. The Longitudinal Aging Survery Amsterdam (lasa-vu) is enriched with municipal data on the availability of home care. In multilevel analyses we compare the use of formal care in 5,689 cases before and after 2007, given their need, income and education, informal care, and formal personal care. Findings show that low status respondents have a higher probability of receiving household care following the decentralization.

A COMPARISON OF PROGRAMMES AND SERVICES ON MENTAL FITNESS FOR SENIORS IN AUSTRIA AND SPAIN

J. Delgado-Pea¹, M. Garcia-Martín¹, C. Romo-Parra¹, G. Lang³, 1. *Universidad de Málaga, Málaga, Spain*, 3. *Austrian Health Promotion Foundation, Wien, Austria*

Developing age-friendly programmes and services focused in Seniors' Mental Fitness are relevant actions oriented to elder well-being. This paper explores the purposes and methodologies of such implemented programmes and services in Austria and Spain nowadays.

The research investigates them in relation to the several aims, namely: 1. What kind of programmes exist which promote active ageing in the light of maintaining and improving mental fitness? 2. What goals are pursued by means of such actions? 3. What methodologies are normally used in them? 4. In which way can they be improved in the light of the previous aims?

Using a qualitative case-study design, a representative sample of these actions are analysed by Atlas.ti software from an inductive approach. A constructivist grounded theory approach was used to analyse the data. The information was collected by templates designed ad hoc. Additionally, structured in-depth interviews were held with outstanding providers from some of these actions in order to complement the general information obtained in the former step. These interviews explore aspects of the positive and negative features, as well as improvement proposals for such actions.

The results obtained can be applied in the framework of the progress of such programmes and services implementation.

SESSION 3780 (SYMPOSIUM)

EXTENDING QUALITY LIFE YEARS

Chair: E.M. Verdin, *University of California, San Francisco, San Francisco, California*

This session will focus on cutting edge research that aims to extend quality life years. The presentations will approach this topic ranging from identifying important molecular mechanisms to identifying population health strategies. Topics included in this session will focus on molecular mechanisms of lifespan expansion, modifiable risk factors to prevent cognitive decline, reasons for under treatment of hearing loss, the use of the arts to promote health, and global oral health disparities in older adults.

MODIFIABLE RISK FACTORS TO PREVENT COGNITIVE DECLINE

K. Yaffe, *University of California, San Francisco, San Francisco, California*

A compelling and robust body of research suggests that modifiable risk factor reduction could substantially impact rates of cognitive decline and neurodegeneration. The evidence is strongest for lifestyle risk factors including both physical and cognitive activity as well as for cardiovascular risk factors while promising data is also emerging for depression and sleep disorders. Prior studies have demonstrated that risk factor exposure in mid or later life affects rates of cognitive decline; however, a small but growing body of data indicates that risk factor exposure earlier in the lifecourse may also contribute to an increased risk of poor cognitive performance. Cumulatively, the data supports modifiable risk factor reduction at the population-based level, with increasing support for multi-domain interventions. These findings have critical public health implications for healthcare providers, researchers, and policy makers in the development of strategies to prevent cognitive decline.

HEARING HEALTH CARE: A PUBLIC HEALTH IMPERATIVE

M.I. Wallhagen, *University of California, San Francisco, San Francisco, California*

Hearing loss (HL) is a common problem; approximately 538 million people older >5 have disabling hearing impairment globally. In the US, approximately 48 million individuals over the age of 12 experience HL which becomes increasingly common with age; approximately 68% of persons 70–79 and >80% of those >80 are affected. Although considered non-life threatening, HL is far from benign and is associated with depression, isolation, falls, and possibly cognitive impairment. Given this, the National Academies of Science released a report in 2016 emphasizing that HL is a significant public health issue needing far greater attention and remains undertreated with only about 20–30% of persons who could benefit from amplification using it, although rates increase with age and HL severity. There are multiple reasons for the low use of services. This brief presentation reviews the work I and colleagues are doing at UCSF addressing several of these factors.

THE IMPACT OF ARTS ENGAGEMENT FOR OLDER ADULTS: WHAT'S THE EVIDENCE?

J.K. Johnson, *University of California, San Francisco, San Francisco, California*

An increasing number of studies suggest that engagement in the arts may have beneficial effects on the health and well-being of older adults. Given that the number of Americans age 65 and over is projected to double from 46 million in 2014 to 98 million in 2060, there is an urgent need to develop ways for older adults to remain active and engaged in meaningful ways. Engagement in the arts in ways that are novel, cognitively, physically, and socially engaging, and culturally relevant are increasingly being explored as a way to optimize aging. Current literature will be summarized, along with an update on a large, cluster-randomized trial of a community choir program designed for racial/ethnically diverse older adults in San Francisco (Community of Voices study).

REDUCING THE GLOBAL BURDEN OF ORAL DISEASES IN OLDER ADULTS

S. Hyde, *University of California, San Francisco, San Francisco, California*

Oral health is a fundamental component of health and physical and mental well-being, and is influenced by the individual's changing experience, perceptions, expectations and ability to adapt to circumstances. As such, prevention of oral disease and maintenance of oral health contributes to the systemic health, well-being, and quality of life of older adults. Dental caries, periodontal disease, and tooth loss in older adults are global health concerns because they are highly prevalent worldwide, socioeconomic inequalities contribute to these diseases, many of the risk factors are modifiable, and these diseases result in compromised oral health-related quality of life. Oral care must be tailored to the needs and level of dependency of older adults, and health outcomes can improve with evidence-based approaches and interprofessional collaboration.

MOLECULAR MECHANISM OF LIFESPAN EXTENSION BY CALORIC RESTRICTION

H. Li, *University of California, San Francisco, San Francisco, California*

Caloric Restriction (CR) can extend lifespan and/or confer health benefits in a wide range of species, including primates; however, the molecular mechanisms are not well understood. We investigate the mechanism by which CR extends lifespan using the single cell organism budding yeast as a model. We found that CR, implemented by glucose reduction, extends yeast replicative lifespan and induces a global change of transcriptional and translational programs. In particular, CR represses methionine biosynthetic enzymes and transporters, and adding extra methionine cancels the lifespan extension by CR without affecting the lifespan in the normal media. CR also induces a transient increase of proteasome expression by up-regulating the translation of a master regulator of proteasome genes Rpn4, and that Rpn4 deletion abolishes the lifespan extension by CR. These findings suggest that CR's longevity effect is mediated by methionine restriction, and that proteasome is a key downstream effector.

SESSION 3785 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: AGE DIFFERENCES IN DECISION MAKING: THE ROLES OF COGNITION, EMOTION, AND CONTEXT

Chair: J. Strough, *West Virginia University, Morgantown, West Virginia*

Co-Chair: C.E. Loeckenhoff, *Cornell University, Ithaca, New York*

Discussant: T.M. Hess, *North Carolina State University, Raleigh, North Carolina*

This symposium highlights strengths and vulnerabilities of the aging decision-maker. Using national samples from Sweden and the U.K., and community samples from the U.S, the presentations show that patterns of age differences in decision-making depend on task type and context. Emotional and experiential skills that improve with age can facilitate good decision making despite age-related cognitive declines. Using a Swedish population-based sample, Del Missier and Mäntylä found that age-related declines in cognitively-demanding decision-making tasks were explained by age decrements in working and episodic memory, even after accounting for deficits in sensory functioning and processing speed. Other aspects of decision-making performance were spared or improved with age. Using a national sample from the U.K., Eberhardt, Bruine de Bruin, and Strough found age-related improvements in performance on four financial decision-making tasks. These improvements were explained by older adults' increased experience and better emotion regulation. Shook, Strough, Delaney, Ford, and Barker examined whether older and younger adults' judged a patient's medical treatment decision differently depending on its success or failure. In their community-dwelling U.S. sample, older adults were less biased by treatment outcomes than younger adults because they evaluated failed treatments more positively. Loeckenhoff, Riffin, and Ratner examined age differences in decisions about joint replacement in a community sample of U.S. patients. Willingness to have surgery was negatively associated with age, and treatment expectations, time horizons, and attitudes toward risk may be contributing factors. Hess integrates these findings with existing research on aging and decision making and offers directions for future research.

AGING AND THE COGNITIVE UNDERPINNINGS OF DECISION-MAKING COMPETENCE

F. DelMissier^{1,2}, T. Mäntylä², 1. *University of Trieste, Trieste, Italy*, 2. *Stockholm University, Stockholm, Sweden*

In this talk, we will present a series of individual-differences studies mainly carried out within the Swedish Betula project on aging, memory and dementia and its recent extensions to decision making. These large-samples population-based studies investigated the relationships between aging, cognition, and a variety of aspects of decision-making competence. Their outcomes showed that different aspects of decision-making competence depend on diverse aspects of memory and cognitive functioning, highlighting specific functional roles of memory processes in decision making.

Additionally, the age-related decline in more cognitively-intensive decision-making tasks seems mainly due to age declines in working memory and episodic memory, beyond declines in sensory functioning and processing speed. On the positive side, other aspects of decision-making performance are spared or even improve with age, possibly due to knowledge, experience, and better emotion regulation.

AGING AND FINANCIAL DECISION MAKING: OLDER AND WISER?

W. Eberhardt⁴, W. Bruine de Bruin^{1,2}, J. Strough³, 1. *Centre for Decision Research, Leeds University Business School, Leeds, United Kingdom*, 2. *Carnegie Mellon University, Pittsburgh, Pennsylvania*, 3. *West Virginia University, Morgantown, West Virginia*, 4. *Maastricht University, Maastricht, Netherlands*

People of all ages face important financial decisions. The aging literature suggests that older adults experience developmental changes in numeracy, experience, emotion regulation, and motivation that may potentially affect the quality of their decisions. In a national life-span sample ($n=926$) recruited from across the United Kingdom, we therefore examined the role of these four factors in financial decision making. Participants completed established measures of the four factors as well as measures of financial decision making, including money management, credit card repayment, sunk cost bias, and financial decision outcomes. We found that performance on each of our financial decision tasks improved with age. Moreover, these age-related improvements were explained by older adults' increased experience and better emotion regulation. These patterns held in structural equation models that took into account all decision tasks, the four factors, and socio-demographic variables. Our findings have implications for theories on aging and interventions targeting financial decisions.

WEIGHING SUCCESS AND FAILURE: OLDER ADULTS SHOW LESS OUTCOME BIAS THAN YOUNGER ADULTS

N. Shook, J. Strough, R. Delaney, C. Ford, D. Barker, *Psychology, West Virginia University, Morgantown, West Virginia*

'Outcome bias' occurs when the soundness of a decision is judged based on the valence of the decision outcome (e.g., success versus failure), even though such information was not available prior to the decision. To date, age differences in outcome bias have not been investigated, but related research suggests age differences in weighting of valenced information. To investigate age differences in outcome bias, community-dwelling younger ($n = 118$; $M_{age} = 28$ years) and older ($n = 121$; $M_{age} = 68$ years) adults were presented with four vignettes that described a patient with a medical condition, treatment option statistics, and the outcome (success or failure) of the patient's treatment decision. Participants judged the patient's treatment decision. Older adults were less biased by decision outcomes than younger adults. Specifically, older adults rated decisions resulting in failure more positively than younger adults. Implications for improving health-related decisions are discussed.

EXPLORING PSYCHOLOGICAL EXPLANATIONS OF AGE DIFFERENCES IN DECISIONS ABOUT JOINT REPLACEMENT

C.E. Loeckenhoff¹, C. Riffin², S. Ratner³, 1. *Human Development, Cornell University, Ithaca, New York*, 2. *Yale University, New Haven, Connecticut*, 3. *The University of Texas Southwestern Medical Center, Dallas, Texas*

Total joint arthroplasty (TJA) is an efficacious treatment for advanced osteoarthritis, but patient acceptance is below medical recommendations, especially among older adults. The present study explored potential explanations of age effects. Participants (n = 100, aged 40–93) had chronic knee or hip pain and were considering but had not previously undergone TJA. Phone interviews assessed demographics, current pain and function, willingness to undergo TJA, and a range of explanatory variables including expected improvements after TJA, future time perspective, aging stereotypes, health locus of control, and accepted risk of death to achieve pain relief. As expected, age was associated with lower willingness to undergo TJA. Among the explanatory variables, limited time horizons, lower expected pain relief, and lower accepted risk of death were associated with both advanced age and lower willingness to undergo TJA. However, this could not fully account for the observed age differences in TJA decisions.

SESSION 3790 (SYMPOSIUM)

POSTTRANSLATIONAL MODULATION OF MACROMOLECULES DURING AGING

Chair: A. Bertolotti, *Cambridge, United Kingdom*
A. Cuervo, *Albert Einstein College of Medicine, Bronx, New York*

All intracellular proteins are subjected to exquisite quality control to assure maintenance of a healthy and functional proteome. Chaperones and proteolytic systems are integral components of the proteostasis networks, which monitor and assist proteins through the multiple steps they undergo through their cellular life (folding, trafficking, assembly, disassembly, refolding and degradation). Loss of protein homeostasis has been identified as one of the hallmarks of aging organisms and underlies the basis of severe age-related disorders such as neurodegenerative diseases. The recent better understanding of the proteostasis networks and their integration across cells, tissues and organs, has revealed them as novel possible targets for anti-aging interventions. In this session, we will review recent findings on age-related changes in the molecular components that participate in cellular homeostasis (chaperones (Frydman), the ubiquitin/proteasome system (Gonos) and autophagy (Cuervo)), the consequences of these changes (Santambrogio) and provide examples of current attempts to modulate the proteostasis networks in aging and age-related disorders (Bertolotti).

AGING-LINKED PROTEOSTASIS DECLINE: IMPLICATIONS FOR NEURODEGENERATIVE DISEASE

J. Frydman, *Stanford University, San Francisco, California*

Chaperones help proteins fold or send them to degradation, but they also regulate conformational protein cycles,

protein-protein interactions, transcriptional programs, and buffer the many mutations present in the proteomes of individuals and cells in both normal and diseased states. The emerging understanding of protein homeostasis as an extraordinarily complex, multifaceted and nuanced actor in cellular regulation, calls for a better consideration of the machinery responsible for it, how it works under normal conditions, how it is regulated and how its impairment leads to disease. This can only occur through the integration of mechanistic, cell biological and genetic data with physiological studies of disease states. It is well-established that an impairment of protein homeostasis during aging underlies the onset of a whole set of neurodegenerative misfolding diseases. In this talk, I will discuss the tremendous therapeutic promise of protein homeostasis regulation in disease and aging.

THE AGING PROTEASOME AND ITS ACTIVATION AS A NOVEL ANTI-AGING STRATEGY

S. Gonos, *Institute of Biology, Medicinal Chemistry and Biotechnology, Athens, Greece*

We have studied proteasome function in replicative senescence and cell survival and have observed reduced levels of proteasome content and activities in senescent cells due to the down-regulation of the catalytic subunits of the 20S complex. Stable over-expression of catalytic subunits or POMP resulted in enhanced proteasome assembly and activities and increased cell survival following treatments with various oxidants. Importantly, the developed “proteasome activated” human fibroblasts cell lines exhibit a delay of senescence by approximately 15%. Moreover, additional findings indicate that the recorded proteasome activation by many inducers is Nrf2-dependent. In this talk, I would share evidence from our current studies that support that proteasome activation is an evolutionary conserved mechanism, as it can delay aging in various in vivo systems.

TARGETING SELECTIVE AUTOPHAGY AGAINST PROTEOTOXICITY IN AGING AND AGE-RELATED DISEASES

A. Cuervo, *Developmental and Molecular Biology, Albert Einstein College of Medicine, Bronx, New York*

Autophagy is an important component of the proteostasis networks that assure maintenance of a healthy proteome in all our cells. Autophagy malfunction is a common feature in aging organism and in many severe age-related diseases such as neurodegenerative conditions. The several autophagic systems that co-exist in most cells are affected in a different manner by age. We have identified the molecular defect in a form of selective autophagy responsible for its diminished activity in aging. Genetic approaches to mimic this defect in young organism have revealed organ-specific changes in proteostasis and different degrees of proteotoxicity, that depend on the ability of each tissue to compensate for the autophagic failure. In this talk I will discuss our current efforts to prevent the decline or to restore normal selective autophagic activity using genetic and chemical interventions and the impact that these manipulations have in physiological aging and in neurodegenerative conditions.

ROLE OF CARBONYL MODIFICATIONS ON AGING-ASSOCIATED LOSS OF PROTEOSTASIS

L. Santambrogio, *Albert Einstein College of Medicine, Bronx, New York*

Protein aggregation is a common biological phenomenon, observed in different physiological and pathological conditions. Decreased protein solubility and a tendency to aggregate is also observed during physiological aging but the causes are currently unknown. Our group has performed a biophysical separation of aging-related high molecular weight aggregates, isolated from the bone marrow and splenic cells of aging mice and followed by biochemical and mass spectrometric analysis. We found that compared to younger mice, old mice have higher protein post-translational carbonylation. We have identified the causative role of these modifications in inducing protein misfolding and aggregation by inducing carbonyl stress in young mice, which recapitulated the increased protein aggregation observed in old mice. In this talk I will share our views on how oxidative stress-related post-translational modifications accumulate in the aging proteome and are responsible for increased protein aggregation and altered cell proteostasis.

STRATEGIES TO SURVIVE THE LOSS OF CELLULAR RESILIENCE TO PROTEIN MISFOLDING IN AGING

A. Bertolotti, *MRC Laboratory of Molecular Biology, Cambridge, United Kingdom*

A broad range of age-related human diseases, including common and devastating neurodegenerative diseases, are caused by the deposition of misfolded proteins that occurs when cells become unable to withstand the pressure of misfolded proteins. Often, proteins, which are normally soluble, eventually misfold and aggregate late in life. The fact that protein aggregates build up later in life suggests that the cellular defense systems against misfolded proteins gradually fail with age. In the past 20–30 years, many components of protein quality control systems have been identified. The challenge that remains is to use this knowledge to identify strategies to correct the broad range of diseases that arise when protein quality control is overwhelmed. In this talk I will discuss our efforts to identify unbiased approaches that can be used to rescue cells from protein quality control catastrophes, such as targeting mechanisms by which cells maintain proteasome homeostasis.

SESSION 3795 (SYMPOSIUM)

VIEWS ON AGING IN THE DYNAMICS OF HEALTH BEHAVIOR AND ADJUSTMENT

Chair: M. Wiest, *Freie Universität Berlin, Germany*

Co-Chair: V. Klusmann, *Universität Konstanz, Konstanz, Germany*

Discussant: H. Wahl, *Heidelberg University, Heidelberg, Germany*

Views on aging (VoA), i.e., individual and societal perceptions and evaluations of aging, are linked to health-related outcomes, particularly in later life. Specifically, positive VoA have been shown to be associated with being more physically active, being happier, being healthier, and living longer. However, the complex interplay of VoA and health are not

yet understood. This symposium brings together four papers that highlight the role of VoA for health behavior and adjustment using differentiated methodological approaches to reveal for whom, how and under what circumstances VoA relate to which health-related outcomes and, consequentially, how VoA can be addressed in interventions. Using ecological momentary assessment, Gabrian et al. show that daily physical activities are related to intra-individual variations of VoA and that physically active participants perceive less age-associated social losses. Finding a longitudinal influence of VoA on the healthiness of eating behavior, Klusmann et al. demonstrate that positive VoA are especially important for older and less educated individuals. Analyzing large survey data captured pre- and post-retirement, Wiest et al. show that positive VoA are associated with less retirement-related change in life satisfaction. Combining survey and experimental data, Robertson and Weiss reveal the effectivity of counter stereotypes for more positive VoA. Integrating the findings that provide strongly needed evidence to fill in existing research gaps, the discussion by Hans-Werner Wahl will direct to comprehensive model building to guide effective intervention development as well as highlight challenges and opportunities for future research linking VoA to health and quality of life in later life.

SUBJECTIVE AGE AND PHYSICAL ACTIVITY: A DAILY-DIARY STUDY WITH COMMERCIALLY AVAILABLE WEARABLES

M. Gabrian, L. Schmidt, C. Jansen, M. Sieverding, H. Wahl, *Heidelberg University, Heidelberg, Germany*

Emerging intervention studies suggest that positive self-perceptions of aging (SPA) promote physical activity (PA) in older adults. Short-term intra-individual variation in both PA and SPA calls for an investigation of the day-to-day dynamics. 40 individuals (60–74 years) wore a Fitbit™ device to assess PA and reported subjective ages for a 2-week diary period. Domain-specific SPA were assessed at the outset of this pilot-like study. Multilevel model analyses revealed that individuals felt younger on physically more active days ($\beta = -0.12$; $p < .05$). Domain-specific associations were found at the between-person level, with physically active participants tending to perceive their own aging more in terms of physical decline ($\beta = .34$; $p < .10$) and less in terms of social loss ($\beta = .42$; $p < .05$). Findings suggest that, despite making individuals more aware of age-related physical limitations, PA exertion is paralleled by a positive perception of one's own age.

HOW AND FOR WHOM DO POSITIVE VIEWS ON AGING PROMOTE HEALTHY EATING BEHAVIOR?

V. Klusmann¹, J.K. Wolff², G. Sproesser¹, B. Renner¹, 1. Psychology, *Universität Konstanz, Konstanz, Germany*, 2. German Centre of Gerontology, *Berlin, Germany*

With increasing age, people develop more negative views on aging (VoA) which has been shown to result in lower levels of exercise and functional health. We investigated whether VoA were associated with eating behavior in different age groups and tested underlying mechanisms.

One-year longitudinal data of the Konstanz Life Study with three assessments of 1321 participants, aged

18–93 years, undergoing 2-hour health check-ups were analyzed via a two-step mediation analysis with multi-group modeling.

More positive VoA (t_1) predicted more healthy eating at t_3 ($b=0.68$, $SE=0.24$, $p=.01$). Self-efficacy and intention to eat healthily (t_2) serially mediated this effect, indirect effect $b=0.04$, $p=.02$, 95%CI[0.02, 0.08]. VoA had stronger effects in older (65+ yrs) and less educated adults, indicating that fostering more positive VoA via interventions might be especially important for more vulnerable groups. Tackling VoA already in younger ages might help to establish health-promoting social-cognitive dynamics that might stabilize over the life span.

ARE SELF-PERCEPTIONS OF AGING LINKED TO RETIREMENT ADJUSTMENT?

M. Wiest¹, I. Schoellgen², M. Wetzel³, 1. *Freie Universität Berlin, Berlin, Germany*, 2. *Federal Institute for Occupational Safety and Health, Berlin, Germany*, 3. *University of Cologne, Cologne, Germany*

Although prior studies show the importance of self-perceptions of aging (SPA) on development in later life, SPA have not been studied with regard to retirement adjustment yet. However, successful adjustment might be predicted by maintaining a view on aging as a process of personal growth. The present study examines if and how SPA are linked to retirement adjustment. Pre- and post-retirement data of the German Aging Survey was used focusing on adults who retired between the age of 58–65 ($N = 472$). A latent differences score model was employed to analyze retirement-related changes in SPA and life satisfaction (LS). Preliminary analyses showed that individuals with more positive SPA prior to retirement reported higher levels of LS ($\beta = .50$, $p = .001$) and retirement-related changes in SPA and LS are positively linked ($\beta = .50$, $p = .001$). Potential mechanisms linking SPA to retirement adjustment will be discussed.

CAN COUNTER STEREOTYPES CHANGE PERCEPTIONS OF OLDER ADULTS' SOCIAL STATUS?

D. Robertson, D. Weiss, *Columbia University, New York, New York*

Negative age-related stereotypes often entail the perception that older adults have low social status, a perception that is detrimental to health and well-being. Research suggests that people infer general assumptions about group characteristics from exemplars. Thus, presenting a stereotype-inconsistent exemplar (i.e. older person in high-status position) should change people's perception of older adults. In Study 1 (60 countries, $N = 86,026$, 18–99 years) we show that in countries with an older political leader, people perceive older adults as having higher social status ($B = -0.05$, $p < .001$). In Study 2 ($N = 131$; 19–74 years) we demonstrate the causal link such that participants who are exposed to older exemplars holding a prestigious occupational position rate older adults as having a higher social status $F(1.84, 237.33) = 3.57$, $p = .03$. Furthermore, this is mediated by agency-related personality attributions. We discuss implications for interventions to change negative views of aging.

SESSION 3800 (SYMPOSIUM)

AGEING BODY AND SOCIETY: CRITICAL PERSPECTIVES, FUTURE CHALLENGES

Chair: W. Martin, *Brunel University London*

Co-Chair: J. Twigg, *University of Kent*

Discussant: L.C. Hurd Clarke, *University of British Columbia, Vancouver, British Columbia, Canada*

Over the last two decades significant theoretical, methodological and empirical developments have explored the social, biological and cultural dimensions of our bodies as we grow older. An earlier concern within social gerontology that a focus on the bodies of older people represented a return to biological determinism and an overly medical approach has been replaced by a realisation how a focus on ageing bodies offers a novel lens to examine a range of existing sociological and theoretical concerns. These include the nature of the body, self and ageing; social identities and social inequalities; lived experiences and everyday life; health and illness; and ageing across the lifecourse from midlife to deep old age. The analysis of ageing bodies has also operated as a focal point for interdisciplinary work that draws together research across the arts, humanities and social sciences.

It is over twenty years since the absent body in gerontology was highlighted. It is therefore timely to bring together academics and researchers to review the wealth of work in this area and to explore and develop key debates, enhance current and emergent theoretical perspectives, disseminate empirical research and outline future directions for research in 'Ageing, Body and Society'. The papers presented within this symposium contribute to a special issue *Ageing Body and Society: Critical Perspectives, Future Challenges* to be published in the *Journal of Aging Studies* edited by Dr Wendy Martin and Professor Julia Twigg who are also Co-Convenors of an international study group *Ageing, Body and Society* which is within the British Sociological Association (BSA).

UNACKNOWLEDGED DISTINCTIONS: CORPOREALITY AND EMBODIMENT IN LATER LIFE

P. Higgs, C.J. Gilleard, *University College London, London, United Kingdom*

The social science focus on the body has had a growing influence in ageing studies. 'Corporeality' and 'embodiment' are terms used in exploring the relationship between the body and society. In this paper, we argue for making a clear distinction between these two terms. Corporeality, we suggest, is best used to refer to the role of the body as a structure whose identity and meaning is mediated by culture and society, while embodiment might best be used to refer to the use of the body by social actors in realising distinctions, identities and lifestyles. This distinction helps sharpen the difference between studies that address self and others' reactions to physical changes in bodily function which can be attributable to ageing, age associated illness or impairment and studies that explore the 'performances' of ageing including the various realisations of identity and lifestyle in later life.

TRACKED AND FIT: FITBITS, BRAIN GAMES, AND THE QUANTIFICATION OF THE AGING BODY

S. Katz^{1,2}, B. Marshall^{1,2}, 1. *Sociology, Trent University, Toronto, Ontario, Canada*, 2. *Centre for Aging and Society, Peterborough, Ontario, Canada*

This paper explores the technical turn to new ways of quantifying and standardizing measurements of age as these intersect with discourses of anti-aging and speculative futures of 'smart' quantified aging bodies. Often couched in a metaphorical language of 'smart', 'fit', 'boosting' and 'optimizing', the aging body is emerging as a node for data collection, monitoring, and surveillance. The research is located in the current literature that links aging, bodies and technologies, with specific extended examples of wearable devices such as fitness trackers and digital exercises and games designed for memory performance. Original research data are drawn from an analysis of design, marketing and promotional materials as well as qualitative user interviews. Based on such data, conclusions suggest that new technologies around aging and quantifiable fitness create an ambiguous image of the aging body and mind as both improvable but also inevitably in decline.

VISUAL AND MATERIAL DIMENSIONS OF HEALTH, RISK, AND THE AGEING BODY IN EVERYDAY LIFE

W. Martin¹, K. Pilcher², 1. *Brunel University London, Uxbridge, United Kingdom*, 2. *Aston University, Birmingham, United Kingdom*

Health practices are performed and understood within the context of the daily lives of people as they grow older. In this paper we highlight the visual and material dimensions of health, risk and the ageing body in everyday life and the ways a focus on everyday objects and technologies evoke narratives of health and well-being. The paper draws on data from the research study *Photographing Everyday Life: Ageing, Lived Experiences, Time and Space*, funded by the ESRC, UK. This includes: (1) the role of objects and technologies associated with food practices and how participants draw on wider discourses of health and risk; (2) the embodied performance and visual representations of being 'active' signified by everyday objects e.g. shoes, clothes and sports equipment; and (3) the incorporation of objects and technologies into routine health practices of daily life - taking medication/supplements, and self-surveillance techniques around body weight and chronic conditions.

DOES GENDER GET OLD?

T.M. Calasanti, N. King, *Virginia Tech, Blacksburg, Virginia*

That men and women become more alike with age is often noted but rarely examined. We explore one aspect of this assertion, using interview data among people (N=19) aged 41–61 to ask whether masculinity and femininity become less relevant with age. Our examination of discussions of masculinity and femininity—their own and that of their peers—reveals, first, that manhood and womanhood are rooted in naturalized bodies. Second, these gender ideals are based on youthful standards. Third, respondents see masculinity and femininity shifting, for good and for ill with age as bodies change. We conclude that, while popular ideals

of gender are based on youthful bodies, older persons still see themselves as men and women. De-gendering does not occur.

SESSION 3805 (SYMPOSIUM)

ACCELERATING THE PACE OF CHANGE IN THE U.S.: ACHIEVING A HIGH PERFORMING LONG TERM CARE SYSTEM

Chair: S.C. Reinhard, *AARP*

Co-Chair: M. Abrams, *The Commonwealth Fund, New York, New York*

Discussant: M. Juring, *The Scan Foundation, Long Beach, California*

The aging of the population is not just insular to the United States. It has global implications as people, in some parts of the world, are living longer and healthier lives. In 12 years, the leading edge baby boomers will enter their 80s, the age group most likely to need long-term services and supports (LTSS) in the United States. However, the United States has no national long-term care policy or system. The current system for financing and delivering LTSS is largely uncoordinated, fragmented, hard to understand and difficult to navigate. Although many countries face similar challenges when it comes to financing and delivering LTSS, their approach to resolving these challenges are often very different.

To accelerate systematic change, two philanthropic organizations and the largest membership organization for older people in the world (AARP) developed a unique multi-dimensional approach to measure LTSS performance from the perspective of consumers and their families. This partnership also developed promising practices and tool-kits, which will provide practical insight into novel public policies and/or practices that helped states to accelerate the pace of change in the United States. The inclusion of the promising practices will address critical areas of improvement; facilitate information sharing among states, and spark international discussions and approaches to confront the needs of a global aging society.

ACCELERATING THE PACE OF CHANGE IN THE U.S.: ACHIEVING A HIGH PERFORMING LONG TERM CARE SYSTEM

S.C. Reinhard, J.C. Accius, *Public Policy Institute, AARP, Laurel, Maryland*

In a decade, the leading edge baby boomers will enter their 80s, the age group most likely to need long-term services and supports (LTSS). However, the United States has no national long-term care policy or system. To accelerate systematic change, two philanthropic organizations and the largest membership organization for older people in the world (AARP) developed a unique multi-dimensional approach to measure LTSS performance from the perspective of consumers and their families. State systems in the United States are scored across five dimensions: (1) affordability and access, (2) choice of setting and provider, (3) quality of life and quality of care, (4) support for family caregivers, and (5) effective transitions across settings of care. This paper articulates six years of progress & trends in state LTSS reform, while identifying areas of ongoing, needed improvement.

PICKING UP THE PACE OF CHANGE TO SPARK GLOBAL SOLUTIONS

J.C. Accius¹, S.C. Reinhard¹, M. Juring³, M. Abrams², 1. *Public Policy Institute, AARP, Laurel, Maryland*, 2. *The Commonwealth Fund, New York, New York*, 3. *The SCAN Foundation, Long Beach, California*

The delivery and financing of long-term services and supports (LTSS) vary across the globe. The current system in the United States is fragmented and difficult for individuals and families to navigate and access. The wide disparities across states and gaps in support can affect millions of people who encounter a fragmented, expensive LTSS system, often with little choice of setting or care. However, states are transforming their LTSS systems to meet the growing needs of an aging population. Based on the 2017 LTSS State Scorecard, this paper focus on four promising practices to accelerate the pace of change: 1) Aging and Disability Resource Centers; 2) LTSS balancing initiatives; 3) Preventing Long Nursing Home Stays; and 4) Family Caregivers. The inclusion of the promising practices will address critical areas of improvement, facilitate information sharing, and spark international discussions and approaches to confront the needs of a global aging society.

SESSION 3810 (SYMPOSIUM)

SOCIAL NETWORKS AND HEALTH AMONG DIVERSE OLDER ADULTS

Chair: K.M. Abbott, *Miami University*

Discussant: H. Green, *RAND Corporation, Santa Monica, California*

Human socialization patterns naturally change over the lifespan and the ability to maintain relationships with others is a crucial marker of wellness later in life. However, our knowledge of how characteristics such as race, gender, and health status affect relationship formation, maintenance, and dissolution among older adults is not clear. In this symposium, we explore the social networks and health of diverse older adults through five innovative studies. First, using longitudinal data from a community-based sample of 416 adults aged 60 and older, we present a study examining the differential implications of social network types for older men and women. Second, the mediating role of neighborhood gender composition between social networks and health is presented for $n=65$ Black and $n=192$ White men age 55 and older. Third, four waves of data from the Longitudinal Aging Study Amsterdam are used to predict if network composition (kin vs. non kin) impacts the receipt of informal care. Maintenance of social integration is a rapidly growing concern for older adults, as well as their caregivers. Therefore, our fourth study includes 76 spouse and adult child informal caregivers of individuals with dementia are explored for group differences on burden, depression, stress, and grief. Lastly, a study of how $n=55$ assisted living residents perceive their quality of social support are presented using social network mapping and semi-structured interviews. This sample included participants who were 47% Black with 65% having moderate to severe cognitive impairment. Dr. Hank Green will integrate findings, highlighting implications for policy and practice.

SOCIAL NETWORK TYPOLOGIES AND HEALTH IN LATE LIFE: THE MODERATING ROLE OF GENDER

K.L. Fiori¹, H.R. Fuller², 1. *Psychology, Adelphi University, Garden City, New York*, 2. *North Dakota State University, Fargo, North Dakota*

Social network typologies have been used in recent years to assess how the multidimensional confluence of older adults' social ties are linked to health and well-being. Using longitudinal data from a community-based sample of 416 adults aged 60 and older, the purpose of the present study was to examine the differential implications of social network types for older men and women. A cluster analysis using structural, functional, and qualitative network variables revealed four network types: diverse, high community involvement, low community involvement, and restricted. Overall, individuals in the restricted network types reported the highest levels of depressive symptoms and lowest self-rated health over time (controlling for age, marital status, ADLs, and baseline levels). However, interactions with gender revealed that men in restricted networks reported particularly low levels of well-being. In contrast, women in diverse networks rated their health much higher than men in these networks. Implications for targeting interventions are considered.

RACE, GENDER, AND SOCIAL NETWORKS: THE ROLE OF NEIGHBORHOOD CONTEXT AND IMPLICATIONS FOR HEALTH

N.J. Webster¹, K.J. Ajrouch², L. Tighe¹, T.C. Antonucci¹, 1. *University of Michigan, Ann Arbor, Michigan*, 2. *Eastern Michigan University, Ypsilanti, Michigan*

This study investigates the mediating role of neighborhood gender composition on links between men's social networks, race, and health. Data from the metro-Detroit based Social Relations Study (2005), include a sample of Black ($N=65$) and White ($N=192$) men age 55 and older. Black men reported a lower proportion of friends in their networks than White men. This association was mediated by neighborhood gender composition, as: 1) living in neighborhoods with a higher proportion of women was associated with lower network proportion of friends; 2) Black men were more likely than White men to live in higher proportion women neighborhoods; and 3) the race-network proportion friends link became non-significant when controlling for neighborhood gender composition. A lower proportion of friends in network was then associated with higher body mass index, often an early indicator of health problems. Findings highlight the role of socio-environmental context in shaping Black men's later life vulnerabilities.

SOCIAL NETWORK TYPE AND INFORMAL CARE USE: A COMPARISON OF THREE BIRTH COHORTS.

B. Suanet, M.I. Broese Van Groenou, T. Van Tilburg, *Sociology, VU University Amsterdam, Amsterdam, Netherlands*

Studies have extensively examined care received in kin relationships, but have often disregarded non-kin ties. Recent societal changes are likely to have increased the salience of non-kin relationships. Those in friend-focused networks might thus be equally or more likely to receive any informal care compared to those in family-focused networks in the later birth cohorts. Data from the Longitudinal Aging

Study Amsterdam (LASA) are used (75–84 years, 1908–1917, N=550 and 1918–1927, N=270, four observations 1992–2002 and 2002–2012, respectively) to study this premise. Multi-group path analysis shows that in the early birth cohort, being in a friend-focused network has a negative cross-sectional effect on receiving informal care and a positive three-year lagged effect. In the late cohort, older adults in family- and friend-focused are equally likely to receive informal care. Further studies could study whether the mechanisms that underpin informal care provision in kin and non-kin relationships are changing.

DIFFERENCES IN BURDEN SEVERITY IN ADULT-CHILD AND SPOUSAL CAREGIVERS OF PERSONS WITH DEMENTIA

G. Epstein-Lubow^{1,2}, B. Gaudiano^{1,2}, G. Tremont^{1,3}, M. Broughton^{1,2}, S. Salloway^{1,2}, I. Miller^{1,2}, 1. *Brown University, Providence, Rhode Island*, 2. *Butler Hospital, Providence, Rhode Island*, 3. *Rhode Island Hospital, Providence, Rhode Island*

Objective: There is increasing attention to the nature and sources of burden experienced by family caregivers of persons with dementia. This study aimed to test whether adult-child family caregivers of persons with dementia suffer greater perceived burden than spousal caregivers.

Methods: Family caregivers were recruited during care-recipient clinical treatment; the settings of care included an outpatient memory care program and an inpatient geriatric psychiatry service. Demographic information and screening measures for burden, depression, stress, and grief were collected. Statistical analyses were conducted to determine group differences.

Results: Seventy-six participants were recruited (42 adult-child, 34 spousal caregivers). Results showed that adult-child caregivers reported greater burden as compared with spousal caregivers. There were no group differences regarding depressive symptoms, perceived stress or grief. After controlling for demographic differences and location of care, being an adult-child caregiver remained a significant predictor of greater burden severity.

Conclusions: Being an adult-child family caregiver may place an individual at increased risk for experiencing high burden.

NATURE AND MEANING OF SOCIAL TIES AMONG ASSISTED LIVING RESIDENTS AT THE END OF LIFE

M.M. Perkins^{1,2}, S.N. Halpin¹, M. Salvador Comino¹, M.M. Ball¹, C.L. Kemp³, P.J. Doyle⁴, A.E. Vandenberg¹, T.E. Quest¹, 1. *Emory University School of Medicine, Atlanta, Georgia*, 2. *Birmingham/Atlanta VA Geriatric Research, Education, and Clinical Center (GRECC), Atlanta, Georgia*, 3. *Gerontology Institute, Georgia State University, Atlanta, Georgia*, 4. *The SHELTER Group, Baltimore, Maryland*

Social network size and quality of perceived social support are associated with overall well-being in late life. Our research on end-of-life in assisted living (AL) shows that size of residents' social support networks tends to decrease as cognitive impairment increases. Using Year 1 data from a 5-Year NIA-funded study (1R01AG047408-01A1) focusing on 55 residents with cognitive impairment from four

diverse AL communities, we investigate the nature and meaning of these shrinking networks. Residents' mean age is 87 (range=71–103); 47% are African American and 62% are female. The Montreal Cognitive Assessment shows that more than half (65%) have moderate-to-severe cognitive impairment. Thematic analysis shows that some residents draw strength through reminiscence and spiritual ties they maintain with deceased family and friends. As "comrades in illness," others report feelings of isolation related to a lack of meaningful interaction with co-residents. Findings have implications for strengthening social support at end-of-life in AL.

SESSION 3815 (SYMPOSIUM)

SIBLING RELATIONSHIPS IN THE MIDDLE AND LATER YEARS: VARIATIONS BY RACE, CULTURE, AND NATIONALITY

Chair: M. Gilligan, *Iowa State University, Ames, Iowa*

Co-Chair: V.H. Bedford, *University of Indianapolis*

Discussant: A. Lowenstein, *Max Stern Yezreel Valley College*

In this symposium, we consider the roles of siblings in the lives of adults in the middle and later years, using data collected from several nations and from Black and white families within the U.S. All four studies use within-family approaches to explore the ways in which ties within the sibship and with other family members affect adult children's relational and psychological well-being. In the first paper, Bedford and Avioli use data from the U.S. to examine how relationships with other siblings affects twins' dyadic closeness in adulthood. In the second, Rosendahl uses data from Sweden to examine how siblings' relationships with one another are shaped by whether twins are perceived as "units" by other family members. Next, Horge-Freeman uses data from Salvador, Bahia, and Brazil to investigate the role of racial features (skin color, hair, nose shape) in parents' differential treatment of their children, and the long-term consequences of such differentiation on emotional, behavioral and material well-being. Finally, Gilligan, Sutor, Rurka, and Holst use data collected in the U.S. from Black and white families to explore the consequences of sibling death on the sibling relations and psychological well-being of surviving adult children, with particular focus on variations by race and timing of the loss. Taken together, these studies show that the family dynamics that shape both sibling relationship quality and the consequences of sibling relations on well-being are far more similar than different across races, cultures and nationalities.

INFLUENCES ON THE QUALITY AND DYNAMICS OF TWIN RELATIONSHIPS: FOCUSING ON NONTWIN SIBLING INFLUENCES

V.H. Bedford¹, P.S. Avioli², 1. *University of Indianapolis, Indianapolis, Indiana*, 2. *Kean University, Union, New Jersey*

Relationships weigh in powerfully, both positively and negatively, on the well being of adults. We explore a potential contributor to better and worse relationships in the case of twins, potentially the longest relationship of all. Specifically, we ask how other relationships impact on the dynamics and quality of the twinship, with a focus on nontwin sibling

influences. Exploring effects of family and friends in a broader study, we elicited narrative descriptions, thereby generating multiple case studies of twins, aged 33 to 76. Using thematic qualitative analyses, results indicated that (1) the relationship most influential varied widely across twinships, (2) dominant effects of the nontwin sibling on dynamics were potential triangulating and boundary intrusion, both of which the twin respondent recognized and actively fought to avoid (usually successfully), and (3) on twinship quality were primarily the enhancement of closeness and bonding, often resulting from negative nontwin experiences. Implications are discussed.

TWINSHIP FROM A FAMILY PERSPECTIVE—EXPERIENCES OF ADULT TWINS, THEIR NON-TWIN SIBLINGS AND PARENTS

S. PietiRosendahl, *Malardalen, Eskilstuna, Sweden*

Twins do not exist apart from a family and, for a more comprehensive understanding, twinship needs to be seen in its family context. The **objective** of this study was to explore twinship from the perspectives of adult twins, their non-twin siblings and parents. **Methods:** Qualitative methodology based on semi-structured interviews of middle-aged twins, their non-twin siblings and parents within their families. The data were analyzed using qualitative content analysis. **Findings:** Twinship was described by the twins as an emotionally close relationship with the co-twin but also feeling unnoticed as individuals when treated as a 'unit' by family members. Likewise, the older non-twin siblings could feel unnoticed, due to the parental attention given to the twins and, to compensate, take on a 'caregiving role' for the twins. Depending on the parents' insights on twinship, they could facilitate or limit the development of the sibling relationships within the family.

THE CONSEQUENCES OF DIFFERENTIAL TREATMENT BASED ON RACIAL FEATURES FROM CHILDHOOD TO ADULTHOOD

E. Hordge-Freeman, *University of South Florida, Tampa, Florida*

This presentation examines how differential treatment based on racial features (skin color, hair texture and nose shape) in one's family may have enduring consequences. Relying on research conducted through 116 semi-structured interviews and ethnography in fifteen phenotypically diverse Afro-Brazilian families conducted in Salvador, Bahia, Brazil, I explore the ways that racial socialization (discursive strategies, concrete practices and affective exchanges) often stigmatizes people who possess black racial features and leads to differential treatment among people in the same family. Capturing the lifelong consequences of differential treatment based on racial appearance, interviews with adults (siblings and parents) illustrate how differential treatment translates into differences in one's access "affective capital." These differences in affective capital give rise to unique emotional, behavioral, and material consequences that continue to have an impact throughout people's lives. I end by discussing the relevance of this international study for families and adults in the United States.

CONSEQUENCES OF SIBLING DEATH ON PSYCHOLOGICAL AND RELATIONAL WELL-BEING IN ADULTHOOD

M. Gilligan¹, J. Suitor², M. Rurka², M. Holst¹, 1. *Human Development and Family Studies, Iowa State University, Ames, Iowa*, 2. *Purdue University, West Lafayette, Indiana*

In the present paper, we explore the consequences of sibling death on surviving adult children's psychological well-being and the quality of their relationships with their remaining siblings. Data were collected from ~800 adult siblings nested with ~400 families as part of the second wave of the Within-Family Differences Study. Nearly a quarter of the adult children in the WFDS panel experienced the loss of a sibling at some point in their lives. Using the combination of quantitative and qualitative data collected from surviving siblings, we examine how sibling loss affects relational and psychological well-being, as well as how these outcomes differ by timing of the death and race. Preliminary findings reveal that sibling death predicts depressive symptoms regardless of the timing, whereas the effects on sibling relations occur only for more recent losses. Further, the consequences of sibling loss on both outcomes are greater in Black than white families.

SESSION 3820 (SYMPOSIUM)

NEW DIRECTIONS IN SPIRITUALITY, RELIGION, AND AGEING

Chair: M.L. Johnson, *University of Bristol, Bristol, United Kingdom*

Co-Chair: V.L. Bengtson, *University of Southern California, Los Angeles, California*

There has been a resurgence of research in spiritual dimensions of aging in recent years. In part this has been driven by increasingly robust findings linking health and religiosity, and in part the impetus has come from an awareness of benefits to elders of spiritual practices ranging from contemplative prayer to yoga. In this symposium an international group of scholars present findings from their own research related to these topics. First, Merrill Silverstein and Vern Bengtson use data from the 45-year Longitudinal Study of Generations to examine the relationship between health and religious orientations, finding interesting patterns of self-reported change in spirituality and religion in later life. Malcolm Johnson explores data about the changing relationships between old age and spirituality, their implications for 'biographical pain' in the context of life review in old age and for end of life care in late old age. Neal Krause presents data on the biological correlates of three different types of religiously-oriented forms of helping behavior: giving spiritual support to others; drawn from the Landmark Spirituality and Health Survey. Then Biggs will critically analyze the role of spirituality and belief as a road-map for a long life. He will seek to locate the roles attributed to religiosity in later life and compare it to alternative versions of meaning and purpose currently associated with adult ageing.

SPIRITUALITY AND LIFE REVIEW AT THE END OF LIFE IN OLD AGE

M.L. Johnson, *School for Policy Studies, University of Bristol, Bristol, United Kingdom*

The Third and Fourth ages of life bring an increasing preoccupation with our inner selves, our capacity to live with our own pasts and the increasing losses of the present. These spiritual matters are central to the wellbeing of the newly expanded numbers of the very old and in turn of the health of the societies in which they live. Learning to live with ourselves and our past and future as we approach the end of life, is not simply a matter of private reflection. Nor is spirituality confined to those in faith communities. This presentation will explore the dimensions of our spiritual selves as explored through life review to enhance later life. It will consider the unseen 'iceberg' of 'biographical pain'. The earlier findings will be incorporated into findings from current research on end of life care in care homes, commissioned by Public Health England.

HELPING OTHER PEOPLE AND HEALTH

N.M. Krause, *University of Michigan, Ann Arbor, Michigan*

The purpose of this presentation is see if other people bolsters the health of the support provider. Evidence in favor of this proposition comes from three papers that assess three different types of religious helping behavior: giving spiritual support (spiritual support is assistance that is given in order to enhance the religious beliefs and behaviors of the recipient), praying for others, and performing volunteer work. Health is measured with three biological outcomes: cholesterol, C-reactive protein, and resting pulse rates. The data for all three papers comes from the Landmark Spirituality and Health Survey. The findings suggest that providing each type of religiously-oriented support is associated with more favorable health (i.e., lower levels of cholesterol, lower levels of C-reactive protein, and lower resting pulse rates). A theoretical rationale for why helping others conveys health benefits will be provided.

SPIRIT AND BELIEF AS A ROADMAP FOR A LONG LIFE?

S. Biggs, *Melbourne University, Melbourne, Victoria, Australia*

Life in a time of flux concerning the purpose and legitimizing identities associated with longevity, has led to a series of proposals for filling these extra years. While a policy consensus has emerged that extra years of work might be the answer, this leaves open questions about the role of intergenerational relations, vulnerability and engaging with finitude. An alternative discourse based on belief proffers answers to these questions which may require closer engagement by critical forms of gerontology. The degree to which these competing narratives offer a roadmap for a long life will be discussed.

SPIRITUAL DEVELOPMENT IN LATER LIFE: PERSPECTIVES FROM A 45-YEAR LONGITUDINAL STUDY

V.L. Bengtson^{1,2}, M. Silverstein³, 1. *Roybal Institute on Aging, University of Southern California, Santa Barbara, California*, 2. *University of Southern California, Los Angeles, California*, 3. *Syracuse University, Syracuse, New York*

How does spiritual engagement or religious involvement change with age? An accumulating body of evidence says there is spiritual development in later life, supporting psychosocial developmental theories of James, Jung, and Erickson. This study examines such change with data from both survey and in-depth interview responses from the Longitudinal Study of Generations, a study that began in 1970–1 with 2044 family members from 364 three-generation families. Data for this analysis come from the Wave-9 surveys in 2016, along with intensive interviews with 70 individuals 65–95 from a variety of religious and non-religious backgrounds. Results indicate complex trajectories of both change and continuity as individuals reflect on their religious and spiritual biographies following retirement. In the qualitative data we find three patterns of spiritual and religious change reported by respondents: (1) increase over the past 10 years (the most common pattern); (2) stability—maintaining the same level of spiritual and religious involvement as in mid-life; (3) decrease—declining or dropping out of religious engagement. We discuss these findings in terms of both life-course personality theories and social integration/support theories.

SESSION 3825 (SYMPOSIUM)

SUCCESSFUL AGING IN VERY OLD AGE: THE ROLE OF ACTIVITIES

Chair: D.S. Jopp, *University of Lausanne, Lausanne, SCHWEIZ, Switzerland*

Discussant: I. Skoog, *University of Gothenburg*
D. Spini, *Universite de Lausanne*

Since the beginning of the investigation of successful aging activity engagement has been discussed as a key factor. While empirical evidence suggests positive effects of activity engagement in younger old age, less is known about the role of activities in very old age. This symposium tries to close this gap by presenting findings on the importance of activities for successful aging from four international samples with very old individuals. Studies consider different types of activities (e.g., current vs prior leisure activities) as well as different successful aging outcomes including cognitive functioning, functional ability, and well-being. Specifically, Falk and Skoog investigated functional (dis)ability in two cohorts of Swedish 85-year old individuals and the impact of leisure activities. While disability in basic activities of daily living decreased, disability in instrumental activities increased over cohorts; reduced social involvement in the latter cohort may be associated with less IADL capacity. Jopp et al. examined the effect of prior activities on cognitive functioning in two cohorts of the Heidelberg Centenarian Study. Cognitive functioning was higher in the more recent centenarian cohort; prior activities were linked with higher cognitive functioning. Lampraki and Jopp investigated current leisure activities in the Fordham Centenarian Study. Religious and social-public activities were associated with lower depression; social-private activities and technology use were associated with better cognition. Araujo et al. examined leisure activities in the Oporto Centenarian Study. Findings indicated associations between religious activities and well-being. In sum, findings confirm the importance of activity engagement for successful aging in very old age.

FUNCTIONAL DISABILITY AND ABILITY IN SWEDISH 85-YEAR-OLDS — A COMPARISON OF THREE COHORTS BORN 20 YEARS APART

H. Falk^{1,2}, I. Skoog^{1,2}, 1. *Institute of Neuroscience and Physiology, Sahlgrenska Academy at the University of Gothenburg, Gothenburg, Sweden*, 2. *Centre for Ageing and Health (AgeCap) at the University of Gothenburg, Gothenburg, Sweden*

Functional disability is an important issue in very old age. There is some evidence that more recently born individuals have a higher capacity regarding instrumental and basic activities of daily living (IADL, ADL) and that activity involvement may have preventive effects. This study investigated ADL and IADL and leisure activities in two population-based samples of 85-year-olds. Using identical methods, 494 85-year olds were assessed in 1986–87, and 571 85-year olds were assessed 2008–09. Findings indicate that ADL disability decreased across cohorts ($P < 0.001$), but IADL disability increased ($P < 0.05$). Involvement in seniors associations and other associations decreased for women ($P < 0.05$), while reading books regularly was reported more often ($P < 0.001$). In sum, results indicate that although later born cohorts are better equipped to maintain independence in terms of ADL, increased IADL disability and decreased social participation require action to adapt structures and services to the needs of ageing populations.

THE ROLE OF ACTIVITIES FOR COGNITIVE FUNCTIONING: FINDINGS FROM THE HEIDELBERG CENTENARIAN STUDIES

D.S. Jopp¹, K. Boerner², C. Rott³, 1. *Institute of Psychology, University of Lausanne, Lausanne, SCHWEIZ, Switzerland*, 2. *University of Massachusetts, Boston, Massachusetts*, 3. *Heidelberg University, Heidelberg, Germany*

Cognitive functioning is essential for maintaining independence in very old age. With more individuals reaching very old age, factors that could prevent age-associated loss in cognition are increasingly important. The present study compared levels of cognitive functioning in two cohorts of centenarians and investigated the role of prior activities in the total sample as well as by cohorts, comparing the population-based First ($n = 91$, born 1900/1, Mage = 100.22 years) and Second ($n = 95$, born 1910/1, Mage = 100.48 years) Heidelberg Centenarian Studies. Cognitive functioning (measured by a shortened Mini-Mental State Examination) was higher in the more recent centenarian cohort. Regression findings indicated that living in a care facility was negatively associated with cognition whereas activities and health were positively associated. However, cohort-differential patterns were found for health and activities. Findings indicate better functioning in more recent centenarian cohorts and suggest greater importance of lifestyle in today's centenarians.

ACTIVITIES ENABLE SUCCESSFUL AGING IN VERY OLD AGE: FINDINGS FROM THE FORDHAM CENTENARIAN STUDY

C. Lampraki^{1,2}, D.S. Jopp^{1,2}, 1. *University of Lausanne, Lausanne, Switzerland*, 2. *Swiss National Centre of Competence in Research LIVES, Lausanne, Switzerland*

Engaging in leisure activities in older adulthood is assumed to be a critical factor for successful aging. This paper

investigated activity patterns in the Fordham Centenarian Study ($N = 119$; Mage = 99.25, 95–107 years). Activity categories were identified based on Jopp and Hertzog (2010): social-private, social-public, religious, and experiential activities, crafts, games, sports, and mentally stimulating activities/technology use. Social-private activities were reported most often (68%), followed by mentally stimulating activities (60%). The total number of activities was strongly positively correlated with cognitive functioning, and negatively correlated with depression. Regression analyses revealed that more health-related restrictions and less engagement in religious and social-public activities were associated with higher depression, while higher engagement in social-private activities and technology use were linked with higher cognitive functioning. In sum, despite their advanced age, centenarians stay engaged in various activities, with higher engagement being associated with better well-being and cognitive functioning.

RELIGIOUS SOCIAL ENGAGEMENT AND VALUATION OF LIFE IN PORTUGUESE CENTENARIANS

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In very advanced age, successful aging becomes more and more difficult, for instance because age-related losses challenge the possibility to remaining socially engaged. This study analyzes the activity engagement patterns of Portuguese centenarians and its relation with well-being. A sample of 89 centenarians (Mage = 101.1 years, SD = 1.4, range: 100–105) from the PT100 Oporto Centenarian Study was considered. Results demonstrated that the majority of the centenarians performed religious activities (94.4%), with 80 individuals (89.9%) praying and 34 (38.2%) going to the church. Regression analyses indicated that religious social engagement was related to Valuation of Life, even when the contribution of health (i.e., diagnosis and ADL) was considered. In sum, findings point to the salience of spirituality in well-being in centenarians and to further explore the contribution of transcendence for capturing social successful aging phenomena in centenarians.

SESSION 3830 (PAPER)

REHABILITATION AND QUALITY OF LIFE

EFFECTS OF A HOME-BASED REHABILITATION PROGRAM ON HEALTH-RELATED QUALITY OF LIFE

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Health-Related Quality of life (HRQoL) decreases after a hip fracture (HF) and may remain low for a long time. Knowledge is needed on effective rehabilitation strategies after HF. Purpose of this study was to investigate the effects of individualized home-based rehabilitation on HRQoL among community-dwelling older people after HF.

Population-based clinical sample of over 60-year-old men and women operated for HF (n=81, mean age 80 years, 78 % women) were randomly assigned into control (standard care) and intervention groups on average 70 (SD 28) days after discharged to home. The year-long intervention included an evaluation and modification of environmental hazards, guidance for safe walking, non-pharmacological pain management, progressive home exercise program, physical activity counseling and standard care. HRQoL was assessed by RAND-36 questionnaire at baseline and 3, 6, 12, 18 and 24 months thereafter. GEE models were constructed.

No significant differences were observed between the study groups in health, cognitive or physical characteristics or HRQoL at baseline. The intervention had significant effect over standard care in energy-fatigue dimension of HRQoL (group*time interaction $p=0.026$). Baseline score for energy-fatigue dimension was 53.0 (SD=22.5) for the intervention (IG) and 56.8 (23.4) for control group (CG). Respectively, scores at 12 months were 64.3 (21.3) and 61.4 (26.5). Additionally, emotional well-being dimension improved significantly during the 24-month follow-up ($p=0.047$).

Individualized home-based rehabilitation improved energy-fatigue dimension of HRQoL among community-dwelling older people after HF. Additionally, emotional well-being dimension improved during the follow-up. Further research is needed to define the optimal intervention to improve post fracture HRQoL.

IS HIP FRACTURE REHABILITATION FOR NURSING HOME RESIDENTS COST-EFFECTIVE? RESULTS FROM AN RCT

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Organised multidisciplinary rehabilitation after hip fracture is costly but likely to improve outcomes for nursing home patients who frequently suffer with dementia. Cost-effectiveness evidence of such rehabilitation is however lacking. Using data from nursing home residents who were walking (independently, with aids or with assistance) prior to fracture, we examined the relative cost-effectiveness of post-operative outreach rehabilitation compared to usual nursing home care. An economic evaluation was conducted alongside a randomised controlled trial with 240 patients: intervention (post-operative rehabilitation) (n = 121) or usual care (n = 119) with 4 weeks and 12 month follow-up (at this stage, only 4-week results are reported in the paper). The primary and secondary outcomes were incremental costs per unit improvement in mobility (measured using the Nursing Home Life-Space Diameter - NHLSD) and incremental costs per quality adjusted year (QALY) based on the DemQoL-Proxy,

respectively. Mean Australian total healthcare costs were higher in the intervention compared to usual care by \$1,750/patient. Mean NHLSD scores and QALYs were also higher in the intervention (by 2.71 and 0.0023/patient, respectively) resulting in incremental cost-effectiveness ratios of \$645/unit improvement in the NHLSD and \$760,870/QALY gain. At a willingness-to-pay (WTP) threshold of \$3,000 per unit improvement in the NHLSD, there was an 80% chance that the intervention was the cost-effective option. Compared to usual care, post-operative rehabilitation leads to increased mobility at a low WTP threshold and is also associated with higher QALYs. Further research should consider the cost-effectiveness of an extended post-operative rehabilitation intervention in this population.

OUTPATIENT PHYSICAL THERAPY IN ICELAND: ARE WE FACING THE POPULATION AGING?

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The purpose of this research was to explore if outpatient physical therapy (OPT) is facing the expanding population of older adults (65 years and older). The research was based on total population data from a national registry with information on all OPT clients reimbursed by Icelandic Health Insurances from 1999 to 2015 (N=172071); and general population data from the Statistics Iceland registry. Fisher's exact or Chi-square tests were used to evaluate statistical significance. Results show that in 1999, older adults accounted for 18.9% of all OPT clients in Iceland while in 2015 they had increased to 24.6% (OR =1.40, 95%CI=1.34–1.45). This increase cannot be fully explained by aging of the Icelandic population, as the proportion of older adults increased from 11.6% to 13.9% from 1999 to 2015. In 1999, 62.4%, 32.4%, and 5.2% of older adults receiving OPT were 65–74, 75–84, and 85+ years, respectively, and 35.5% were men (population proportions in 1999 for same age-groups were: 56.3%, 33.2%, and 10.5%; and 45% were men). In 2015, 53.7%, 34.4%, and 11.9% of older adults receiving OPT were 65–74, 75–84, and 85+ years, respectively, and 37.8% were men (population proportions in 2015 for same age-groups were: 56.8%, 30.1%, and 13.1%; and 47.4% were men). Comparing older adults receiving OPT in 1999 to 2015 reveals, increasing proportion of clients being in older age-groups ($p<.001$) and rising proportion of men ($p=.007$). This case of Iceland presents a growth in older adults seeking OPT service and increased need for geriatric expertise in the field.

WALKING ADAPTABILITY TREADMILL TRAINING IN OLDER ADULTS WITH A FALL-RELATED HIP FRACTURE

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The ability to adjust walking to environmental context is often reduced in older adults and falls are common in this population. Adaptability treadmill training (ATT) was developed to practice step adjustments relative to context

projected on the belt (e.g., obstacles and targets), while concurrently exploiting the great amounts of walking practice associated with conventional treadmill training (CTT). In an open RCT with 70 older adults rehabilitating from a fall-related hip fracture, we compared the feasibility, amount of walking practice and efficacy for improving walking ability and reducing fear of falling and fall incidence of six weeks inpatient ATT (n=24), CTT (n=23) and usual physical therapy (UPT, n=23). ATT, CTT and UPT were all well-received by our heterogeneous, frail and multi-morbid sample of older adults (83.3 ± 6.7 years). ATT and CTT groups performed significantly more steps per training session (803 and 847, respectively) than participants receiving UPT (343). All groups showed similar improvements in walking ability, fear of falling and general health. Fall incidence was lower in CTT and ATT than in UPT (albeit non-significant). CTT showed stronger improvements in Functional Ambulation Category while ATT showed lower dual-task interference on walking speed. Subgroup analyses revealed several intervention effects favoring ATT and CTT, indicating superiority over UPT for those with low tolerated walking distance (pre-fracture) and low executive function. Future well-powered studies should identify characteristics of individuals who are likely to respond well to CTT and ATT. Such studies are advised to provide sufficient training contrast among interventions and to clinically assess walking adaptability.

HIP FRACTURE REHABILITATION FOR PEOPLE LIVING IN NURSING HOMES: RESULTS OF A RCT

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Background: It is unclear whether people living in nursing homes benefit from post acute rehabilitation and few trials are done with this group who often suffer dementia. In a group of nursing home residents who were managing to walk (independently, with aids or with assistance) prior to fracture, our aim was to determine whether post-operative rehabilitation (which included a comprehensive geriatric assessment and interdisciplinary rehabilitation program) delivered in nursing homes would improve mobility compared to receiving usual nursing home care.

Methods/Design: Post operatively people admitted from nursing homes with hip fractures were randomly allocated to receive a 4 week geriatric rehabilitation program (minimum 3 visits per week) or usual care. The primary outcome was mobility. Outcomes were measured at 4 and 12 months.

Results: 240 patients were randomly allocated to treatment (n=121) and control (n=119) groups. All measurements were balanced by the randomization at baseline. The average age was 88.6 years (SD 5.6, Range 70–101) with 10% (24) of participants aged over 95 years. At 4 weeks those in the treatment group walked better than those in the control group (mean difference 1.9, 95% CI: 0.6–3.3, p=0.0055). At 12 months outcomes did not differ between treatment and control groups.

Discussion: Even in frail older people post operative comprehensive geriatric assessment and a 4 week program of multidisciplinary rehabilitation can be tolerated and will produce benefits.

SESSION 3835 (PAPER)

QUANTITATIVE RESEARCH METHODS: SAMPLING AND DATA INTERPRETATION

OPTIMIZING DETECTION OF WITHIN-PERSON EFFECTS ON AGING-RELATED OUTCOMES: BENEFITS OF MULTILEVEL SEM

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Intensive repeated measurement research designs (e.g., daily diary) are frequently used to investigate within-person variation in aging-related outcomes over relatively brief intervals of time (e.g., days, weeks). These designs allow variance to be partitioned into within-person (WP) and between-person (BP) sources of variability, enabling differential effects to be observed at the WP and BP level of analysis. With the increased use of these designs, attention to the optimization of measurement and design features for capturing and predicting systematic WP variation is required. The majority of research on aging utilizing intensive measurement designs rely on composite scale scores, which assumes that the constructs are measured without error. As variance is partitioned into WP and BP variance, measurement error (i.e., unsystematic WP deviations) is confounded with systematic WP variance. Failing to account for such error inflates the amount of WP variance and has the potential to bias WP estimates. An alternative approach makes use of multilevel structural equation modeling (SEM), which permits the specification of latent variables at both WP and BP levels. These models disattenuate measurement error from systematic variance and should produce less biased WP estimates and larger effects. Multilevel composite scores and SEM models were compared through a series of Monte Carlo simulations. Data were generated to examine the models under varying conditions (i.e., scale reliability, occasions, and cluster size). Differences in power, precision, and bias were examined with results revealing that bias was greater in the composite score model than the SEM model, particularly when reliability was low. Implications for the trade-offs between these two approaches will be discussed in terms of aging and health outcomes.

RECRUITMENT OF MIDLIFE AND OLDER ADULTS FOR MENTAL HEALTH AND PHYSIOLOGICAL MEASURES

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Community and academic partners in rural West Alabama collaborated to increase healthcare access among rural mid-life and older adults. This interdisciplinary healthcare team utilized a mobile unit to provide health screenings and behavioral assessments. The establishment of trust and respect early in the partnership provided a foundation for community engagement and played an intricate part in effectively mobilizing the unit. Providing services via the mobile unit served as an effective way to address issues related to access to care and availability of healthcare providers. It also presented an opportunity for the detection and prevention of mental and medical illness that can be easily assessed by screening measures. Furthermore, when the medical issues were linked to health outcomes, such as metabolic syndrome (MSX) and cognitive impairment, the mobile unit helped promote both physical and mental well-being among rural mid-life and older adults. Descriptive analyses and analysis of variances (ANOVA) were performed to assess the effect of gender, race, and community on the number of MSX risk factors. Results of a three-way ANOVA revealed a significant interaction between gender, age and community on the number of risk factors; post hoc analyses indicated rural communities with lower social economic status (SES) and predominantly African American residents were at greater risk for developing MSX compared to communities with higher SES. The mobile unit provided a great way to engage mid-life and older adults while offering preventive health screenings in rural communities.

CONTEXTUALIZATION OF SURVEY DATA: WHAT DO WE GAIN AND DOES IT MATTER?

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Survey research designs that integrate contextual data have become more prevalent in recent decades, presumably to enable a more refined focus on the person as the unit of analysis and a greater emphasis on inter-individual differences due to social forces and contextual conditions. This article reviews varied approaches to contextualizing survey data and demonstrates the value of two integrative approaches for the study of human development and aging—the use of interviewer ratings and neighborhood information (measured via census tracts). The utility of an integrative approach is illustrated with data from the Health and Retirement Study, revealing what is gained by using a contextualized approach and how substantive conclusions may be misdirected when contextual factors are neglected. Neighborhood disorder, measured by respondent and interviewer ratings, as well as geocoded neighborhood socioeconomic data were used to predict disability and depressive symptoms among older adults. Results indicate that racial and ethnic differences in functional limitations and depressive symptoms may be overestimated when failing to include contextual neighborhood characteristics. To enhance the predictive validity of

survey data, investigators should consider meaningful contextual data for specific research questions.

PATTERNS OF MISSING DATA AT THE END-OF-LIFE: USING LINKED MORTALITY DATA TO EXAMINE BIAS IN PANEL DATA

R. Luff, A. Channon, *National Centre for Research Methods, University of Southampton, Southampton, United Kingdom*

Panel surveys for older adults would ideally contain data up to the end of participants' lives. This allows analysis of key changes, including increasing health and social care use, that more commonly occur in the final years of life. However, all panel surveys suffer from attrition across waves, including non-response. Missing data analysis tends to categorise participants as either participating, missing or dead. Using linked mortality data within the English Longitudinal Study of Ageing (ELSA) a person's death is recorded even if they have missed several waves of data collection. This enables us to determine not just if data is missing but how much data is missing before end-of-life. Three research questions are addressed: 1) For those who have died between waves 1 and 5 of ELSA, how many waves were missing prior to death? 2) What is the average amount of missing data at end-of-life? 3) Is the amount of missing data randomly distributed? Specifically does cause of death relate to how much data is missing? Analysis indicates that almost 30% of those who have died have 1, 2 or 3 waves missing prior to death and the amount of missing data is not random. Using multistate life tables, it is demonstrated that cause of death relates to the chances of having more waves missing. In conclusion, those with declining function over a long period of time are more likely to have more waves missing. These patterns of missingness should be considered when analysing data from older populations.

RETENTION OF PARTICIPANTS IN LONGITUDINAL ALZHEIMER'S DISEASE STUDIES: WHO STAYS?

Y. Hu, H. Iqbal, L.M. DeLaney, P. Hidalgo, S.L. Stark, *Washington University in St. Louis, St. Louis, Missouri*

A high attrition rate is a major barrier in conducting longitudinal studies. The aim of this retrospective cohort study is to explore the traits of participants in longitudinal Alzheimer Disease (AD) studies in order to investigate retention barriers and facilitators. To determine the relationships of baseline demographics, cognitive status (The mini-mental state examination), AD biomarkers (elevated cerebral amyloid-beta (A β) burden measured by positron emission tomography), and the retention rate in an AD research, Pearson correlation, Welch's t test and chi-square were conducted. A retention score was calculated by dividing the number of missed appointments by the number of scheduled appointments. There were 660 participants (age mean = 74.9 $\pm$ 9.2; 60.2% female; 85% Caucasian) who have records of clinical assessments in our study; 71 participants (89.24%) who have a retention score lower than 70% were selected in low retention group for comparison. The results showed that older age ($r=.599$, $p<.01$), being male ($\chi^2 = 4.53$, $p=0.03$), lower cognitive status ($t=6.60$, $p=0.01$), and higher A β burden are significantly related to higher retention rate. The result of this study provided an initial exploration of

characteristics of participants who enrolled and remained in longitudinal studies. Future investigators should be cautious of research design, research generalization, and feasible plans for attrition.

SESSION 3840 (SYMPOSIUM)

DECISION MAKING AND FINANCIAL EXPLOITATION

Chair: M.L. Gilhooly, *Brunel University London, Uxbridge, England, United Kingdom*

Co-Chair: P.A. Lichtenberg, *Wayne State University, Detroit, Michigan*

Discussant: K.A. Roberto, *Virginia Polytechnic Institute & State University*

This is the first of three symposia about older adults and financial exploitation organized by the GSA Lifelong Financial Health Workgroup. Symposium 1 is focussed on what is known about decision-making and financial exploitation. Although it is well established that cognitive abilities such as fluid intelligence declines markedly with age, until recently little was known about the extent to which our abilities to manage complex financial tasks change with age. The first paper by Lichtenberg will set the context and consider decisional abilities and current measures of financial capacity. In paper 2 Boyle will delve more deeply into the implications of findings from research on cognition, dementia and decision-making for the potential for financial exploitation. Dr Marson will consider brain ageing and the implications for financial services in Paper 3. Paper 4 by Price is concerned with household money over the life course and how family dynamics have the potential for financial exploitation. Finally, in Paper 5 Gilhooly explores the potential of the bystander intervention model to help us understand the decision-making that leads to a failure to intervene when financial exploitation is suspected.

CONTEXT, DECISIONAL ABILITIES, AND MEASURES OF FINANCIAL CAPACITY

P.A. Lichtenberg, *Wayne State University, Detroit, Michigan*

Although financial decision making deficits often lead to financial exploitation and, perhaps more importantly, repeat exploitation, there has been little work linking the two together. My presentation will focus on our efforts and empirical work to date to link these two together. We will review the conceptual framework for the Lichtenberg Financial Decision Rating and Screening Scales (LFDRS and LFDSS, (Lichtenberg et al, 2015), and the empirical findings to date (Lichtenberg, 2016) and continuing to emerge. Two hundred rating scales were collected along with neurocognitive and everyday financial skill measures. Whereas 56% of those with financial decisional ability deficits experienced exploitation less than 10% of the remainder of the sample did so. The combination of cognitive impairment and decisional ability deficits rendered participants particularly vulnerable to exploitation. In a separate study of 213 screening scales, decisional deficits were highly related to financial exploitation case substantiation by Adult Protective Service workers

THE CAUSES AND CONSEQUENCES OF FINANCIAL FRAUD AMONG OLDER AMERICANS

P. Boyle, *Rush University Medical School, Chicago, Illinois*

Financial fraud of older adults is a major threat to well-being. This problem is expected to grow as the baby boomer generation retires and more retirees manage their own retirement accounts. This paper presents findings from a unique dataset which allowed us to examine the causes and consequence of financial fraud. We found that decreasing cognitive capacity is associated with higher scam susceptibility scores and was predictive of fraud victimization. In addition, we found that overconfidence in one's financial abilities and knowledge was associated with fraud victimization. Finally, victims of fraud were found to increase their willingness to take financial risks compared to propensity-matched non-victims.

DIMINISHED FINANCIAL CAPACITY AND FINANCIAL EXPLOITATION OF OLDER ADULTS

D.C. Marson, *University of Alabama at Birmingham, Birmingham, Alabama*

The ability independently to manage one's financial affairs, known as financial capacity, is an everyday life skill of critical importance. Financial capacity is closely tied to personal independence and successful community function, and has been equated to "diet, exercise, and sleep" as a key indicator of health status in adults. Impairment of financial capacity is also closely linked to risk of financial exploitation and financial elder abuse. This paper discusses how normal cognitive aging and dementias of aging diminish financial capacity in the elderly and create vulnerability to financial exploitation. It also discusses recent research into very early financial declines in older adults, and their implications for impaired financial decision-making and financial exploitation by others. The paper concludes by discussing neuroimaging studies of financial skill decline in patients with MCI and AD dementia, and the promise they hold for early identification and protection of at-risk elderly.

AUTONOMY, IDENTITY, AND AGEING: HOUSEHOLD MONEY AND LATER LIFE

D. Price, *University of Manchester, Manchester, England, United Kingdom*

Research among younger couples shows that daily money practices require complex navigation and are highly gendered. Very little research has examined these issues for older couples despite gender identities being threatened by biological and social ageing and power relations potentially changing in transitions to retirement. In this paper results from an in-depth qualitative study are reported including ten focus groups and interviews with 45 older couples from across the socio-economic spectrum. We find contrary to expectation that retirement was not a time to reorganize money practices, with maintenance of the status quo and gender hierarchies and couple identities preserved. Women engaged in complex emotional work to maintain breadwinner role identities in their partners and in a number of cases, financial behaviours that could be interpreted as controlling and abusive of women were reported. Our findings pose important

questions for feminism, sociology and gerontology in understanding the experience of daily life.

FINANCIAL EXPLOITATION THROUGH THE LENS OF THE BYSTANDER INTERVENTION MODEL

M.L. Gilhooly¹, G. Dalley¹, K.J. Gilhooly¹, P. Harries¹, D. Kinnear², 1. *Brunel University London, Uxbridge, England, United Kingdom*, 2. *University of Glasgow, Glasgow, Scotland, United Kingdom*

Although developed to explain why people fail to act in emergencies, the bystander intervention model has considerable potential to help us understand decision-making in relation to the detection and prevention of elder financial abuse. There are five stages to our modified 'professional bystander intervention model'. (1) noticing relevant cues to financial abuse, (2) construing the situation as financial abuse, (3) deciding the situation is a personal responsibility, (4) knowing how to deal with the situation, and (5) deciding to intervene. In the same way that a number of stages must be negotiated in cases of bystander intervention in emergencies, in non-emergencies such as elder financial abuse, the same stages must also be negotiated. Although policies and guidelines might indicate what should be done and who should take responsibility once elder financial abuse is identified, the identification of elder financial abuse itself involves complex judgements which are also part of the decision-making process. This paper will present findings from a two-year UK study on decision-making by health, social care, and banking professionals in detecting and preventing financial elder abuse.

SESSION 3845 (SYMPOSIUM)

EXTENDING WORKING LIFE—POSSIBLE FOR EVERYONE?

Chair: C. Jagger, *Newcastle University*

Co-Chair: B. Beach, *International Longevity Centre - UK, London, United Kingdom*

Discussant: A. Börsch-Supan, *Max Planck Institute for Social Law and Social Policy, München, Germany*

Although increasing life expectancy worldwide is a major achievement, it brings considerable challenges, especially for the long term sustainability of health care, pensions, and other retirement benefits. The policy response in many countries has been to extend the typical retirement age. However, socio-economic inequalities and racial/ethnic health disparities in many countries raise doubts about the fairness of 'one size fits all' approaches, doubts that could reduce public support for programs serving older persons and add to the fracturing of social cohesion that is occurring in many developed countries. There is strong evidence that older adults with less education or lower socio-economic status cannot work as long as those with more education and more resources. This session examines how inequalities play out when work extends later into the life course, and the lessons that extension may bring for policy and business practice. The first presentation uses mixed methods to assess how socio-economic characteristics over the life course influence retirement decisions in a UK 'baby-boomer' cohort whilst the second focuses on how working conditions and mental health affect continued employment in later life. The third presentation contrasts African American and white older people in

the United States on the role of disability as working life is extended. The final presentation explores, through two qualitative studies, the challenges that older migrant groups in the United States and UK face in extending working life.

SOCIO-ECONOMIC INEQUALITIES AND EXTENDED WORKING IN A BABY-BOOM COHORT: A MIXED METHODS STUDY

S. Moffatt, J. Wildman, M. Pearce, *University of Newcastle upon Tyne, Newcastle upon Tyne, United Kingdom*

The 'baby boomers' are ideal candidates for extended working due to better health and less physically-demanding employment than previous cohorts. This study investigated how circumstances across the life course influence retirement decisions and what it means to have an extended working life in a UK 'baby boom' birth cohort, born in 1947 (n=1142). Mixed-methods were used: prospective quantitative survey data provides evidence on earlier-life predictors of employment at ages 62–64; qualitative data from in-depth interviews (n=28) with a cohort sub-sample explore the 'messy realities' of the decision to retire or remain in employment. We found that socio-economic characteristics throughout the life course influenced retirement decisions and our interviews shed light on inequalities arising from freely-chosen extended employment as part of active ageing and involuntary extended employment (or unemployment) among those without the means to choose. The extending working lives agenda risks amplifying inequalities in later life.

MIDLIFE PSYCHOSOCIAL WORKING CONDITIONS AND MENTAL HEALTH AS PREDICTORS OF EXIT FROM PAID WORK

J. Head¹, E. Carr¹, M. Stafford¹, M. Kivimäki¹, S. Stansfeld², 1. *University College London, London, United Kingdom*, 2. *Queen Mary University of London, London, United Kingdom*

This study investigated associations of cumulative mid-life working conditions and mental health with transitions out of paid employment. Participants were 7587 men and women with work measures on at least 2 out of 3 occasions from phases 1 to 3 of the Whitehall II study (mean age 50). Mid-life cumulative working conditions were defined as the number of times a person experienced adverse working conditions. After adjustment for socio-demographic factors, increased likelihood of exiting paid employment between ages 40 and 75 was associated with poor mental health, low decision latitude and low social support at work. Working conditions did not modify the influence of poor mental health on transition out of work in either younger or older workers. Our findings suggest that both work environment and promotion of good mental health are key factors that may contribute to extending working life.

DISPARITIES IN DISABILITY AND THE ABILITY TO WORK: IMPLICATIONS FOR INCREASING THE RETIREMENT AGE

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Employment and health affect one another and mortality. Using the Panel Study of Income Dynamics (1968–2013; $n=16,115$; 261,804 person-years), we studied life-course dynamics of work, health, and mortality for African American and white women and men. We measured: (1) work limitations due to health; (2) difficulty doing activities of daily living; and (3) permanent disability. Using multinomial logistic Markov models and microsimulation, we created large populations, measuring work and disability status each month for each person, age 20 through death. The average age when African American (white) women with high school education last worked was 60.4 (63.6), when 21.1% (24.9%) were disabled. Analogous results with less education were 58.3 (61.6), and 28.0% (34.1%) (all $p<0.001$; similar results for men). Disability disparities increased following retirement, a result that questions the fairness of addressing Social Security's financial challenges by raising the retirement age without considering work patterns and ability to work.

OLDER MIGRANT WORKERS—AN OVERLOOKED COMMUNITY WITHIN THE EXTENDED WORKING LIFE DEBATE

M. Rhee¹, M. Flynn², 1. *University of Southern California, Los Angeles, California*, 2. *University of Newcastle upon Tyne, Newcastle upon Tyne, United Kingdom*

This paper will explore the experiences of older migrants in work and the challenges they face in extending working life. It is based on two qualitative studies involving older Korean people in the USA and older Chinese in the UK. Older migrants face significant barriers in maintaining employment: multiple discrimination; language barrier; and the lack of formal and transferable skills to name a few. Further, migrant workers are more likely to be in either contingent work or self employment than their native equivalents, and extended working life for many means a longer period of financial insecurity. Because migrant people tend to find work within their communities (neighbourhood enclaves) we argue that if they need to work longer, social support to help them to do so such as training can most effectively be channeled through community organizations.

SESSION 3850 (PAPER)

LONG-TERM CARE II

WHAT PREDICTS TRANSITIONS IN CARE FOR OLDER ADULTS NEW TO LONG-TERM SERVICES AND SUPPORTS?

K.B. Hirschman^{1,2}, M. Toles^{3,2}, A. Hanlon^{1,2}, B.K. Daly¹, M.D. Naylor^{1,2}, 1. *University of Pennsylvania School of Nursing, Philadelphia, Pennsylvania*, 2. *NewCourtland Center for Transitions and Health, Philadelphia, Pennsylvania*, 3. *University of North Carolina at Chapel Hill, Chapel Hill, North Carolina*

Long-term services and supports (LTSS), delivered by home and community-based services [HCBS], assisted living facilities [ALF] and nursing homes [NH], are provided to nearly six million frail older adults in the US. Physical and cognitive decline are common among LTSS recipients. However, predictors of health care transitions (i.e., to

hospitals, emergency departments, skilled nursing facilities or rehabilitation centers) among this population are poorly understood. The purpose of this study was to examine predictors of health care transitions among a cohort of 470 new LTSS recipients using data collected quarterly over two years. Using multivariable Poisson regression modeling within a generalized estimating equation framework, the mean number of care transitions over the two year period was 3.1 (median=2). New NH and ALF recipients experienced fewer transitions over time, while the transitions' profile for new HCBS recipients remained stable over time ($p<0.001$, time-LTSS interaction). High baseline quality of life (QoL) ratings were associated with a more rapid decline in transitions over time ($p=0.013$, time-QOL interaction). For every five additional medications at baseline, the rate of transitions increased by 11.5% ($p=0.036$) and for older adults requiring ambulation devices at baseline, there was a 31.4% increase in the rate of care transitions compared to those not requiring ambulation devices ($p=0.034$). These findings add to our understanding of both the predictors of health transitions among LTSS recipients and the effect of three types of LTSS on these predictors. Over time, new LTSS recipients' rates of care transitions look similar regardless of type of LTSS type.

ACTUAL VS. INTENDED USE OF THE PHYSICAL ENVIRONMENT IN DEMENTIA CARE SETTINGS: STAFF PERSPECTIVES

H. Cooke², H. Chaudhury², 2. *University of British Columbia, Vancouver, British Columbia, Canada*, 2. *Simon Fraser University, Vancouver, British Columbia, Canada*

While person-centred care is increasingly viewed as synonymous with good quality dementia care, its widespread adoption and integration remains elusive. Consequently, there is a need for greater examination of the organizational structure of care provision and the experiences of Residential Care Aides (RCAs), who provide the majority of hands-on care. To date, the role of the physical environment in RCAs' care practice has been overlooked in the empirical literature. As part of a larger ethnographic study exploring the influence of the physical and organizational care environment on care provision, in-depth interviews with 29 staff (21 RCAs, 3 LPNs, 5 managers) and more than 230 hours of participant observation were conducted in two Canadian nursing homes with specialized dementia units. Thematic analyses revealed a key disconnect between the physical environment *as designed* and *as used* by RCAs in their daily care practice. The first theme, 'it's more for looks', illustrates how despite the presence of features considered central to care quality (e.g., small-scale, home-like environments, well-remunerated and trained staff, and high staffing ratios), opportunities for residents' continuity of self, meaningful engagement, and support for functional abilities were limited. The second theme, 'environment as control', highlights how certain aspects of the physical environment were used to control behaviours of residents and staff and, in turn, limit their choice and autonomy. Findings highlight the importance of recognizing the interrelation between environmental design, supportive organizational policy, and institutional culture in effectively implementing a person-centred approach to dementia care.

FAMILY MEMBERS' PERSPECTIVES ON NEGOTIATING A CULTURE OF SAFETY IN RESIDENTIAL LONG-TERM CARE

G. Puurveen¹, J. Baumbusch¹, D. Beaton¹, M. Leblanc¹, A. Phinney¹, D. O'Connor¹, C. Ward-Griffin², 1. *School of Nursing, University of British Columbia, Vancouver, British Columbia, Canada*, 2. *University of Western Ontario, London, Ontario, Canada*

Responsive behaviours between residents (RBBR) are negative and aggressive physical, sexual, or verbal interactions that occur between some older adults living in Residential Long-Term Care (RLTC). Despite the growing understanding of RBBR, to date research has focused on residents and staff, yet, families, many of whom spend a significant amount of time on-site, have largely been excluded from this research.

The purpose of this presentation is to describe family members' perspectives on responsive behaviours between residents in RLTC. The methodology for the study was critical ethnography comprising semi-structured interviews with 12 family members and over 100 hours of participant observations. A thematic analysis was undertaken using constant comparative methods. Under the over-arching theme of *Negotiating Safety*, family members discussed activities *Promoting Safety* of themselves and the safety of residents. However, *Role Ambiguity* impacted family members' actions in relation to witnessed events of responsive behaviours between residents. *Contextual Features* such as the physical environment and organizational context (e.g., staffing levels) contributed to how safety was perceived and negotiated. These findings highlight family members' perspectives of safety based on experiences of their relatives' being victims or perpetrators of RBBR, their witnessing and active attempts to diffuse situations even where their relative was not involved, and the lack of information and disclosure of RBBR by staff. Study findings have important implications for workplace policy and practice, underscoring the integral need for families to be offered education and support around their unavoidable role in managing RBBR.

THE "WOODWORK EFFECT" IN LTSS, HORSE OR UNICORN? 22-YEARS OF EVIDENCE IN OHIO'S LTC INDUSTRY

I.M. Nelson^{2,1}, D. Berish¹, R.A. Applebaum^{2,1}, 1. *Miami University, Oxford, Ohio*, 2. *Scripps Gerontology Center, Oxford, Ohio*

The "woodwork effect", the concern that increasing access to home and community based options (HCBS), seen as more desirable than institutional care, may result in significantly more eligible individuals seeking access to tax payer supported long-term services and supports (LTSS), has long been a concern for those interested in LTSS policy (Kemper, Applebaum & Harrigan, 1987). One aspect of LTSS policy where there is concern over a potential woodwork effect is re-balancing efforts between institutional long-term care and HCBS. If a significant woodwork effect does occur, any cost savings pursued through diverting consumers from costlier institutional care to less costly HCBS care may go unrealized or payer expenses may even grow. Evidence to support a woodwork effect has been mixed (Kaye, LaPlante, & Harrington, 2009; Eiken, Burwell & Sredl, 2013; Grabowski, 2006; Weissert & Frederick, 2013). As documented over a

22-year, longitudinal, statewide survey of long-term care, Ohio has made considerable progress toward balancing its long-term care system, going from 91% of older Ohioans receiving Medicaid LTSS services in institutional settings and 9% HCBS in 1993 to 50% institutional and 50% HCBS by 2011 (Mehdizadeh & Applebaum, 2013). The data, however, has not shown evidence of a woodwork effect. Analysis of this longitudinal data set has shown that detecting the presence, absence or opposite of a woodwork effect depends on the measurement technique and time interval used. Implications of the presence or absence of a woodwork effect for US and international policy on LTSS are also examined.

SESSION 3855 (SYMPOSIUM)

TACKLING LONELINESS IN LATER LIFE: WHEN, HOW, AND AT WHAT COST? AN INTERDISCIPLINARY SYMPOSIUM

Chair: B. Hanratty, *Newcastle University, Newcastle upon Tyne, United Kingdom*

Discussant: T. Scharf, *Newcastle University, United Kingdom*

Researchers, practitioners and policymakers identify social relationships as a determinant of wellbeing and health in later life. We know that lonely or socially isolated older adults have a greater risk of premature mortality, cardiovascular disease, cognitive decline and dementia. We also know that poor social relationships can affect health through a variety of mechanisms, including shaping health-related behaviours, influencing psychological states and interfering with biological and physiological processes. What is less clear is how we can intervene to tackle loneliness and the adverse health effects associated with it. This symposium aims to inform the design of effective interventions, drawing on findings from complementary studies in three different disciplines: social epidemiology, gerontology and economics. Results from a longitudinal observational study will shed light on how dynamic experiences of loneliness and isolation influence cardiovascular disease risk, highlighting implications for the timing and focus of successful interventions. A qualitative study exploring experiences of loneliness will provide insight into how older adults experience and manage their feelings, inviting a reflection on how these strategies might be incorporated into future interventions. Finally, insights will be presented from the evaluation of a population level payment-by-results programme to tackle loneliness.

LONELINESS, SOCIAL ISOLATION AND CARDIOVASCULAR DISEASE: EFFECTS OVER TIME IN ENGLISH OLDER ADULTS

N. Valtorta¹, M. Kanaan¹, S. Gilbody¹, B. Hanratty², 1. *University of York, York, North Yorkshire, United Kingdom*, 2. *Newcastle University, Newcastle upon Tyne, United Kingdom*

Research suggests that lonely and socially isolated individuals are at increased risk of cardiovascular disease (CVD), but the cumulative effects of poor relationships on health are unknown. We investigated how repeated exposure to loneliness and social isolation (and changes in exposure over time) affects CVD risk, using data from the English Longitudinal

Study of Ageing (7,096 men and women aged 50+, 2004–2012). Analyses were conducted using discrete-time survival models and established CVD risk factors. Across the 8-year follow-up, loneliness, but not social isolation, predicted increased risk of coronary heart disease. We found no evidence of a cumulative effect on CVD risk of loneliness and social isolation over time. Our findings suggest that primary prevention is likely to be most effective for tackling the adverse health effects of loneliness.

HOW DO OLDER PEOPLE MANAGE LONELINESS FOR THEMSELVES? A QUALITATIVE STUDY IN ENGLAND

K. Kharicha¹, S. Iliffe¹, J.T. Manthorpe², C. Chew-Graham³, M. Cattan⁴, M. Kirby-Barr¹, C. Goodman⁵, K. Walters¹,
1. *Centre for Ageing Population Studies, Department of Primary Care and Population Health, University College London, London, United Kingdom*, 2. *King's College London, London, United Kingdom*, 3. *Keele University, Keele, United Kingdom*, 4. *Northumbria University, Newcastle upon Tyne, United Kingdom*, 5. *University of Hertfordshire, Hertfordshire, United Kingdom*

Little is known about self-management approaches to loneliness. We conducted in-depth interviews with 28 community-dwelling people in two diverse English areas, aged 65+, with self-declared or risk of loneliness. Experiences, self-management and support-seeking for loneliness were explored. Data were analysed thematically by a multi-disciplinary team, including lay older people.

Participants articulated a breadth of loneliness experiences and their considerations in self-managing these negative emotions. Loneliness seemed complex, often inseparable from life events and circumstances, and characterised by terms of severity/frequency across the life-course. For many loneliness was a private matter for which they were reluctant to seek external support. Management strategies included getting outdoors regularly, planning/engaging in meaningful activity and cognitive coping strategies, including developing acceptance/feelings of control of one's situation, adopting a positive attitude/focus, focussing on the present not future, and relative comparisons with others. New approaches to alleviate loneliness should consider how these coping strategies can be optimised.

MAKING AN ECONOMIC CASE FOR TACKLING LONELINESS IN LATER LIFE

D. McDaid, A. Park, *London School of Economics and Political Science, London, United Kingdom*

Little research has been conducted on the economic case for tackling loneliness. We have developed an economic model documenting the long term costs and benefits of a program to tackle loneliness in older people in rural England. The program provides tailored, one to one volunteer-delivered time-limited support over six months to reconnect participants with interests and activities in their local community. The economic model synthesises published literature on potential avoidable health related costs of loneliness, with insights from interviews with participants and volunteers on rates of uptake and continued engagement with the program, as well as changes in levels of loneliness measured using the UCLA Loneliness Scale. Baseline findings indicate that there

is likely to be a positive return on investment, but that this is highly dependent on the quality of volunteer – participant relationship and on the sustainability of new social connections beyond the duration of the program.

SESSION 3860 (SYMPOSIUM)

PRECARIOUSNESS, THE PRECARIAT, AND AGING: NEW DIRECTIONS IN CRITICAL GERONTOLOGY

Chair: C.L. Estes, *University of California, San Francisco, Healdsburg, California*

Co-Chair: C. Phillipson, *The University of Manchester*

Risk, insecurity, globalization, and the destabilization of the everyday lives of millions of peoples across many nation-states signals the need for a re-framing of old age and aging. With growing economic and health insecurities and inequalities in life expectancy, precarity differs by and across age, class, gender, race, ethnicity, (dis)ability, and nation/citizenship, along with intersectional dimensions. European, Canadian, and North American scholars apply the concept of 'precariousness' and 'precarity', as developed by Butler (2009) and Standing (2010) to research, policy and practice in social gerontology. Portacolone reports on ethnographic research on precariousness in US older adults living alone with Alzheimer's Disease or mild cognitive impairment, applying micro, meso and macro theoretical and policy perspectives. Craciun's qualitative study examines precariousness in the case of older immigrants in Germany, as they confront insecurity and exclusion from main-stream society in old age, whilst demonstrating the possibility of a positive old age. Estes and DiCarlo focus on precarity in old age austerity politics and policy, examining US social movements that are catalyzing political advocacy and digital spaces in pitched battles aimed at preserving the Welfare State *versus* the 'Precariate State'. Phillipson and Grenier illuminate the disjuncture between (a) theories and policies emphasizing productivity/participation, and (b) the rise of a global political economy promoting risk/instability. All of the presentations will explore the extent to which the 'reconstruction of the life course calls for new directions in gerontology and critical perspectives in particular.

THE COMPOUNDED PRECARIETY OF OLDER ADULTS LIVING ALONE WITH COGNITIVE IMPAIRMENT IN THE U.S.

E. Portacolone, 1. *University of California, San Francisco, California*, 2. *Institute for the Study of Societal Issues, Berkeley, California*

Previous investigations have indicated that older adults living alone (OALA) are likely to experience precariousness. Their precariousness derives from their need to prove that they can "make" it alone, at a time in their life when they may need services that are either too expensive, limited, or difficult to access. At the same time, they may also experience a decline in their economic and social resources and physical abilities.

A recent in-depth qualitative investigation of 20 OALA with Alzheimer's disease (AD) or mild cognitive impairment (often a precursor to AD), suggests that having a cognitive impairment often exacerbates the precariousness of living

alone in older age. This paper examines the factors that further exacerbate this precariousness, including distress; need to hide the impairment; managing the impairment alone; little follow-ups post-diagnosis; and lack of appropriate services. Recommendations for specific policies and programs alleviating this precariousness will conclude the paper.

FROM PRECARIOUSNESS TO OTHERNESS: THE CASE OF OLDER IMMIGRANTS IN GERMANY

I. Craciun, 1. *Qualitative Educational and Social Research, Freie Universität Berlin, Berlin, Germany*, 2. *Babes Bolyai University, Cluj Napoca, Romania*

Active aging and ideas concerning integration are generally intertwined in public-policy discourse regarding older immigrants in Germany. Work is considered both a means to reach a happy old age and the key to social integration. However, many older immigrants work in precarious jobs and the media often construes them as a burden or threat to German society. Examining tensions between the model of active aging and challenges posed by “foreigner” status, this paper explores the Turkish and Russian communities, who account for the highest percentage of aging immigrants in Germany. Based on 24 interviews with older immigrants (12 Turkish, 12 Russian), it argues that these are further from the positive aging ideal compared to their German counterparts. Findings reflect how precarious aging immigrants become “the other”, facing insecurity and exclusion from main-stream society, and help explore implications for policy and practice.

POLITICS OF AGING: THE WELFARE STATE VERSUS THE PRECARIAT STATE

C.L. Estes, N. DiCarlo, *University of California, San Francisco, Healdsburg, California*

This paper explores the notion of the precariat as a phenomenon in decoding old age politics and policy. Precarity differs across age, race, ethnicity, gender and culture/citizenship, as observed in diverse life conditions, opportunities, and outcomes via SES, jobs, education, health care, and unpaid/underpaid carework. US social insurance is contingent on age, work history, citizenship, marital and health/disability status. Means-tested safety net programs address pockets of marginalized people. Ideologues contest the responsibility of the nation-state vs the individual, and more recently the responsibility of corporations. Austerity threatens bedrock Social Security and Medicare through privatization and cutbacks. Examining movements coalescing around Social Security, the authors’ analysis is grounded in critical political discourse, networks, interaction rituals, and digital sharing. Social media “trending” is a proposed catalyzing display of success in combating the risk shift from the Welfare State to the Precariat State.

FROM ‘ACTIVE’ TO ‘PRECARIOUS’ AGEING: GLOBALIZATION AND THE RECONSTRUCTION OF THE LIFE COURSE

C. Phillipson¹, A.M. Grenier², 1. *School of Social Sciences, The University of Manchester, Manchester, United Kingdom*, 2. *McMaster University, Hamilton, Ontario, Canada*

Ideas relating to ‘successful’ and ‘active’ ageing have become firmly embedded in research and policy over the

past decade. The idea of ‘active ageing’ has been especially prominent in shaping policies towards older people, with a strong emphasis on the link between activity, labor force participation and health and well-being. However, this approach has run alongside the impact of declining social protection and rising levels of social inequality. This paper examines the tension between theories that emphasise productivity and participation on the one side, and a political economy promoting new forms of risk on the other. The paper explores the extent to which the concept of ‘precariousness’ can provide a framework to address the reality of unequal access to the ideals of ‘successful aging’ and the benefits of longevity. The paper provides an assessment of the policy implications of re-framing ageing from ‘active’ and ‘successful’ to ‘precarious’ and ‘insecure’.

SESSION 3865 (SYMPOSIUM)

PSYCHOSOCIAL INTERVENTIONS FOR LATE-LIFE DEPRESSION AND ANXIETY: OUTCOMES AND IMPLEMENTATION

Chair: M.P. Aranda, *University of Southern California, Hacienda Heights, California*

Discussant: L. Hinton, *University of California, Davis, Davis, California*

Depression and anxiety are two of the most prevalent late-life psychiatric disorders and are associated with negative outcomes. Although effective psychosocial treatments exist, depression and anxiety typically go unrecognized and under-treated especially in low-income minority groups and persons living with comorbid medical conditions. The purpose of the symposium is to present treatment outcomes across distinct effectiveness trials testing interventions for depression (Problem Solving Treatment), anxiety (Calmer Life), and living with advanced illness and depression (Dignity Therapy). Based on primarily minority samples (Latinos; African Americans), the effectiveness trials administer structured individual behavioral sessions based on skill-building, culturally tailored interventions and pleasant activities. Initial results indicate significant reductions in primary depression and anxiety outcomes as well as health-related indicators. Based on a case study of a promising approach promoting sense of purpose and dignity as well as family involvement in the face of life-threatening illnesses, the last presentation will illustrate how the approach can be tailored to significant physical and sensory changes experienced by patients. Implications for intervention modification, workforce training, and sustainability of evidenced-based interventions in health and community-based services will be covered.

PRIMARY OUTCOMES OF COMMUNITY-BASED INTERVENTION FOR LATE-LIFE ANXIETY IN UNDERSERVED COMMUNITIES

S. Shrestha^{5,1,2}, N.L. Wilson^{1,2}, A. Amspoker^{1,2}, J. Freshour^{2,1}, M. Kunik^{2,1}, J. Baveineau⁴, M. Turner³, M. Stanley^{1,2}, 1. *Baylor College of Medicine, Houston, Texas*, 2. *Michael E. DeBakey VA Medical Center, Houston, Texas*, 3. *Catholic Charities, Houston, Texas*, 4. *Neighborhood Centers, Houston, Texas*, 5. *University of St. Thomas, Houston, Texas*

Anxiety among older adults is associated with multiple negative outcomes but is usually unrecognized and under-treated, although psychosocial treatments are effective. Most studies, however, are conducted with homogeneous samples. Calmer Life (CL) is a skills-based, person-centered, culturally-tailored intervention for late-life anxiety with options to integrate religion/spirituality and resource counseling. In a community-based, hybrid effectiveness-implementation trial, we compare outcomes following CL and Enhanced Community Care (ECC), which mirrors information and referral assistance in the community, in 150 older, mostly minority adults (75% African Americans) with clinically significant worry. Exclusion criteria include severe depression, active suicidal intent, mania, psychosis, cognitive impairment, and substance abuse. The proposed paper will present primary outcomes (changes in worry and anxiety) from baseline to 6 months for the total included sample. Study outcomes will aid expansion of psychosocial approaches for late-life anxiety to underserved communities.

TESTING THE EFFICACY OF PROBLEM SOLVING TREATMENT FOR LATINOS WITH LATE-LIFE DEPRESSION

M.P. Aranda¹, K. Ell¹, P. Lee¹, D. Camacho², 1. *University of Southern California, Los Angeles, California*, 2. *Columbia University School of Social Work, New York, New York*

Depression is a significant source of late-life disability and mortality. We describe the trial outcomes of a geriatric depression treatment pilot for older Spanish-speaking Latinos with major depression. Based on a randomized trial of 100 primarily Spanish-speaking geriatric patients, we test the feasibility, acceptability, and efficacy of adding individual counseling--Problem Solving Treatment (PST)--to enhanced usual care as an approach for treating depression in low-income Latinos with significant comorbid medical illnesses. Our results show high feasibility, initial screening/identification, and depression care sessions, as well as significant improvements in mental health status as well as HDRS depression severity scores at the 8-week follow-up. Clinical improvements were observed in both treatment groups. Implications for sociocultural adaptations to depression care will be addressed.

TAILORING INTERVENTIONS TO PROMOTE DIGNITY AND WELL-BEING FOR PATIENTS WITH LIFE-THREATENING ILLNESS

K. Ramos, J. Fulton, *GRECC/Aging Center, Durham VA Medical Center/Duke University, Raleigh, North Carolina*

More than 117 million individuals in the U.S. face one or more life-limiting health conditions. These conditions are associated with higher prevalence rates of depression, illness burden, decreased quality of life, and mortality. Life-limiting illness co-morbid with depression, in particular, has been linked to increased illness progression and poorer prognosis. To grow the currently sparse literature of psychological interventions aimed for patients with life-threatening disease, the treatment of depression via novel use of Dignity and Family Therapy (in a long-term care setting) is described and illustrated with a case study. Special emphasis is given to contributing factors

leading to the success of this treatment delivery (e.g., interdisciplinary team collaboration; treatment adaptations to accommodate impaired functioning). Treatment results via improvements in symptom outcomes (e.g., life-satisfaction, meaning, and care-recipient burden) are reviewed. Additional clinical examples of assistive technology utilization to improve both mental health access and coordination of care is offered.

A RANDOMIZED EFFECTIVENESS TRIAL FOR LATE-LIFE DEPRESSION IN SPANISH-SPEAKING LATINOS

M.P. Aranda¹, W. Mack², W. Vega¹, M. Hochman^{1,2}, A. Escaron², 1. *University of Southern California, Los Angeles, California*, 2. *AltaMed Health Services, Los Angeles, California*

The study tests the comparative effectiveness of a brief individual psychosocial intervention for Latino patients 55 years of age or older with depression and multiple medical conditions in a patient-centered medical home treatment setting. We examine mental health (SCL20; PHQ9; dysthymia; anxiety) and physical health (disability; physical function) outcomes at baseline, 3-, 6- and 12-months. A secondary aim is to test the feasibility of training and monitoring the fidelity of the interventionists with non-clinical training. Barriers and facilitators for implementation and sustainability of depression reduction treatments in real-world, community-based settings will be discussed.

SESSION 3870 (PAPER)

TECHNOLOGY AND HOME CARE

THE ROLE OF EHEALTH FOR STRENGTHENING CARE FOR OLDER PEOPLE WITH MULTIMORBIDITY IN EUROPE

F. Barbabella^{2,1}, M. Melchiorre², S. Quattrini², R. Papa², G. Lamura², 1. *Department of Health and Caring Sciences, Linnaeus University, Kalmar, Sweden*, 2. *National Institute of Health and Science on Ageing (INRCA), Ancona, Italy*

eHealth tools in integrated care programmes addressing multimorbidity can support people with chronic diseases, especially older people living in the community. In last decades, different types of eHealth solutions for people with multimorbidity have been fostered and tested in Europe, also with the support of international initiatives, but a wide overview of their potential was missing. Our study aimed at exploring which eHealth tools are implemented in integrated care programmes for older people with multimorbidity across Europe and to develop policy recommendations for further improvement. Within the framework of the ICARE4EU project, co-funded by the Public Health Programme of the European Union, 101 programmes of integrated care were mapped in 31 European countries. Out of them, 85 included at least one eHealth solution, in most cases concerning electronic health records (EHRs) and tools for digital communication between care providers. In-depth analysis by means of 5 case studies of promising programmes suggested that eHealth solutions for people with multimorbidity could differ widely but can have various outcome benefits in terms

of: widening access to healthcare services; enhancing care coordination and integration; enabling patients' self-management; and improving proactive and prevention strategies. Despite this potential, policy interventions in Europe lacked a comprehensive action for successful implementation so far, due to inadequate technical and financial support, lacks in legislative frameworks and in training users and health professionals. A set of policy recommendations was developed for fostering different types of eHealth solutions for multimorbidity care.

OLDER ADULTS AND LEARNING TECHNOLOGY: INNOVATIONS IN ADULTS' AND SENIORS' EDUCATION

A. Lipphardt, E. Leen-Thomele, E. Coroian, P. Held, FAU Erlangen-Nuremberg, Fürth, Germany

This paper discusses the results of an empirical survey with 187 people above the age of 50 years (mean age 68,4 yrs) on their digital behaviors, motivation as well as interests, and barriers against the use of new technologies and presents innovative learning approaches for older adults. The interviews were conducted in five European countries (Finland, France, Germany, Ireland, Spain) as part of the research project EHLSSA. The findings show that more than half of older adults are computer users and have Internet access at home. Reasons why they deal with digital technologies are mainly because they want to participate in the information society and keep pace with the younger generation. Main obstacles are physical challenges, fears and reservations to technology and the Internet, insecurity on how to work with digital devices and with regards to possibilities for support in case something goes wrong or questions arise. According to the interviewees, successful learning concepts focus on experimental and active learning, including a more diverse media use, a series of real life examples, and the connection with the daily life of older adults. Responses of ICT-beginners and experienced ICT-users were analyzed separately and compared. The results have been used as the basis for the adaptation of learning approaches for third level education and the development of online course modules in the field of digital literacy and humanities-related topics. The implementation of these courses started in May 2016 and will be completed in June 2017 with at least 800 participants.

AN ANALYSIS OF INTERNET USE BEHAVIORS AMONG THE LONG-TERM CARE INFORMATION SEEKERS

D. Liu, T. Yamashita, C. Lu, B. Burston, HCAP, University of Nevada-Las Vegas, Las Vegas, Nevada

The Internet has become a primary source of long-term care (LTC) information. Yet, user characteristics as well as related Internet use behaviors among LTC information seekers are yet to be investigated. Previous studies using a variable-centered approach can only focus on one specific Internet user behavior or one outcome variable at a time. In this study, we employed the person-centered approach (i.e., Latent Class Analysis or LCA) that simultaneously examines multiple Internet use behaviors. Data were derived from the 2010 Pew Internet and American Life Project that consist of fifteen

online Internet use behaviors including LTC and others such as a specific medical problem(s), treatment and procedure. The final sample size is $N = 2,018$ (excluding none internet users and incomplete data). The LCA identified two underlying groups (i.e., latent classes). In one group ($n = 1,120$), 25% of members sought online LTC information, and over 90% also looked for online information on other specific medical problem(s), treatment and procedure. While in another group ($n = 898$), only 2% sought LTC information online, and less than half of them also looked for any health and medical information. Results from the binary logistic regression showed that the odds of more active online seeking for LTC information was associated with younger age, women, higher educational attainment, higher income, greater number of chronic diseases and being caregivers ($OR = 1.02$ to 1.94), and were statistically significant ($p < 0.05$). Theoretical explanations of findings and strategies to improve accessibility of online LTC information will be discussed.

UNDERSTANDING RACIAL AND ETHNIC DISPARITIES IN HOME HEALTH CARE: PRACTICE AND POLICY FACTORS

J.K. Davitt¹, J. Bourjolly², R. Frasso², S. Chan³, 1. School of Social Work, University of Maryland, Baltimore, Maryland, 2. University of Pennsylvania, Philadelphia, Pennsylvania, 3. Independent Statistics Consultant, Philadelphia, Pennsylvania

Understanding racial/ethnic disparities in home health is essential both ethically and for advancing the overall health of the population, thereby reducing costs from morbidity and mortality. Equitable distribution of home health services is also critical to aging in place.

A mixed methods study was conducted to understand the contributing factors to home care outcome disparities. Utilizing existing Medicare data from the Outcome Assessment Information Set (OASIS), and Provider of Services file, we tested the hypothesis that minority home care patients would have lower functional status at discharge compared to white patients. Multivariate regression procedures were used on composite measures of activities and instrumental activities of daily living. We also conducted focus group interviews with a convenience sample of 23 home health agency staff recruited from a tri-state region. The focus groups explored staff's intimate perspectives on caring for the elderly in their homes and the complex practice factors that contribute to disparate health outcomes.

Quantitative analyses demonstrated that minority home health recipients experienced greater deterioration in functional status during their home health episode relative to white patients. In focus groups, staff reported patient (e.g. health literacy, income), staff (e.g. staff discretion, bias), agency (e.g. lack of staff diversity, cost control practices), and system factors (e.g. insurance coverage, reimbursement cuts,) which influence the relationship between race/ethnicity and outcomes.

Results highlight the relationship between access to care, quality care and outcomes. Staff discretion, bias and institutional forms of racism may contribute to disparities in functional status for minority home health care recipients.

FACTORS ASSOCIATED WITH QUALITY IMPROVEMENT IN LIGHT OF CHANGING PAYMENT SOURCES IN NURSING HOMES

J. Gaudet Hefe¹, J. Wang¹, A. Barooah¹, C.E. Bishop², 1. *UMass Boston, Melrose, Massachusetts*, 2. *Heller School for Social Policy and Management, Brandeis University, Waltham, Massachusetts*

Attractive Medicare payments and new Medicare payment reforms create strong incentives for nursing homes (NHs) to increase their Medicare resident census, but little is known about the possible impact these increases have on quality. While higher Medicare payments might be used for quality improvement, multitasking theory suggests increased attention to one area of care (short-stay care for Medicare patients) can have negative effects on other, unrewarded areas (care for long stay residents). Using data from 2005–2010 (LTCFoucUS.org, Nursing Home Compare, and the Area Health Resources File; approximately 14,500 NHs in each year), we sought to determine whether increased Medicare census was associated with a decrease in quality. Our study found that on average, increased Medicare census in the previous year was associated with modest quality improvement in the next year for a number long-stay care quality indicators. However, this pattern was not universal and preliminary findings suggest it may vary systematically across different types of nursing homes, such as ownership type. Our next phase of analysis will identify which nursing home characteristics are associated with being more likely to maintain or improve quality in response to increased Medicare census, and identify other characteristics associated with being more likely to experience a decline in quality.

SESSION 3875 (SYMPOSIUM)

CO-HOST ASA: NUTRITION FOR HEALTHY AGING—POLICY AND PRACTICE

Chair: B. Blancato, *American Society on Aging, San Francisco, California*

Co-Chair: M. Ponder, Matz, Blancato and Associates, *Washington, District of Columbia*

Food and nutrition become ever more important to humans as we age as a social and health support for all our ailments. Aging services can provide food as socialization; programs like congregate dining and home-delivered meals constitute wellness checks and stave off depression. Therapeutic nutrition through healthcare providers and increasingly through aging services programs can provide food as medicine to treat and prevent various conditions. This symposium will examine U.S. society's policies and practices around these social and medical nutrition supports. Where are the gaps in these supports? What challenges do nutrition aging services providers face, both in the field and from their for-profit competitors? Why are seniors in the United States food insecure and/or malnourished? What policies can lawmakers support in order to ensure that no older adult in the United States is hungry or malnourished? These questions and more will be discussed during this symposium.

MAINTAINING SERVICE PROVISION IN AN AGE OF AUSTERITY

P. Downey, *Serving Seniors, San Diego, California*

Many aging services providers in the United States today provide an array of services to the community beyond nutrition, including housing, oral health, physical and mental healthcare, legal aid, and education. However, providing this universe of services in an age of lowered federal funding and competition from for-profit healthcare and other services providers can mean that these not-for-profit aging services providers find it difficult to maintain full funding for even their core missions of nutrition and other basic services provision. This presentation will focus on this challenge and will discuss solutions from the field and from local, state and federal policy.

A NEW MULTIDISCIPLINARY COALITION TO COMBAT OLDER ADULT MALNUTRITION

M. Ponder, B. Blancato, Matz, *Blancato and Associates, Washington, District of Columbia*

Malnutrition is a nutrition imbalance that affects both overweight and underweight patients: in particular, older adult patients. In the acute care hospital setting, it affects approximately 20 to 60 percent of admitted patients. Nearly 35–50 percent of older residents in long term care facilities are malnourished. Chronic disease increases the risk of malnutrition in older adults. While older adult malnutrition is a prevalent and potentially costly problem, it is also preventable. Effective and timely screening is essential to help providers make accurate diagnoses, and early nutrition interventions have been shown to substantially reduce readmission rates, as well as complication rates, length of stay, cost of care, and in some cases, mortality. This presentation will describe the formation of a multidisciplinary coalition, DefeatMalnutrition.Today. The coalition seeks to increase awareness of the problem of older adult malnutrition and to propose policy solutions to combat this growing crisis. The coalition has already taken steps to change policy. This coalition is unique in its multidisciplinary nature, bringing together nutrition, wellness, faith, aging, health, business, and other groups. This is an important health policy opportunity for the gerontology network to become involved in a serious health problem.

AGING AND NUTRITION: WHERE WE'VE BEEN AND WHERE WE'RE GOING

M. Raimondi, *Academy of Nutrition and Dietetics, Washington, District of Columbia*

The U.S. has made great strides in the last few years in older adult nutrition policy, in both regulations and legislation. This presentation will detail these advances and discuss what they mean for older adults. Also, with a new U.S. President in 2017 come new challenges and opportunities. This presentation will discuss the new Administration and its potential goals, as well as the new Congress and potential legislation surrounding senior nutrition, hunger and food insecurity, including the renewals of the Farm Bill and the Older Americans Act. It will also focus on the ways in which gerontologists and others in the field of aging can impact this new policy.

SESSION 3880 (SYMPOSIUM)

USING CROSS-CULTURAL AND INTERNATIONAL EXPERIENCES IN DESIGNING AND IMPLEMENTING FUTURE ELDER CARE PLANS

Chair: R. Aminbakhsh Co-Chair: D. Chau, *University of California, San Diego, California*

Discussant: A. Gass, *VA San Diego Health Care System, San Diego, California*

This Symposium will present a historical review of geriatrics around the world and the current state of elderly health care in different regions, including North America (US and Mexico), South America, Asia (China and Japan), Europe, Middle East, and Africa. It will examine different factors that are responsible for the diversity in elders' care in different countries. It will also discuss the future challenges that elderly will face due to inevitable changes within each society. To be prepared for these challenges, planning should start now. Although each community will need a unique plan, based on its own unique needs and resources, learning from other regions' experiences is an invaluable guide in this process.

THE EFFECTS OF INDUSTRIALIZATION, URBANIZATION, AND GLOBALIZATION ON GERIATRIC POPULATION

R. Aminbakhsh^{1,2}, A. Gass², 1. *Geriatrics, University of California, San Diego, California*, 2. *VA Health care System, San Diego, California*

Objective: World is graying at different pace around the world. However due to globalization and economic factors almost all countries are facing new challenges in taking care of their elderly.

Design: Extensive literature review

Results: Industrialization, urbanization and globalization have caused young people to leave the farms for city, leaving their elderly parents and traditions behind. This study will explore the social, psychological, economic, and political effects of these trends on elderly.

Conclusion: Industrialization, urbanization and globalization have also increased the aging population across the world. It has tremendous effects on government expenditures for elder care and housing, labor supply and participation, economic productivity and saving levels. Although elder care is different around the world, it is necessary to study and learn about various cultures and plan an appropriate health care for elderly in each community.

A BRIEF REVIEW OF ELDER CARE IN THE U.S. AND EUROPE OVER THE LAST CENTURY

R. Aminbakhsh^{1,2}, D. Chau^{1,2}, 1. *Geriatrics, University of California, San Diego, California*, 2. *VA Health Care System, San Diego, California*

Objective: Elderly care has changes tremendously in the last decades over U.S. and European countries. Although institutionalization of elderly is decreasing on some regions, largest portion of long term funding still goes to institutions.

Design: Extensive literature review

Results: Passing of Social Security ACT in 1935, reshaped elder care. Nursing homes numbers started to increase and more elderly were institutionalized. However, over the recent

years, nursing home population is decreasing. Medicaid funds are also shifting toward home and community-based services.

In Europe, percentage of institutionalized elderly can be as low as 1% in Poland and Russia to as high as 9% in Iceland. Still the largest portion of long term care funding goes to institutions.

Conclusion: The largest portion of elder care funds are still going to institutions. However, the transition toward supporting home and community based services have started in some regions.

A GLANCE AT ELDERLY CARE CHALLENGES IN FEW ASIAN COUNTRIES

R. Aminbakhsh^{1,2}, R. Motarjemi^{1,2}, 1. *Geriatrics, University of California, San Diego, California*, 2. *VA Health Care System, San Diego, California*

Objectives: Rapidly aging society in Japan is facing tremendous health care challenges. One of the most important issues in Japan is housing for elderly. According to Japanese Government, there are 400,000 elderly waiting for a vacancy to move into a public or semipublic nursing home. The same situation is true in China. Due to work pressures and economic changes, extended families are breaking apart and providing care for elderly is becoming a significant challenge.

Design: Extensive literature review

Results: Industrialization of Asia is forcing ancient cultures to adapt to new social changes. Institutionalization of elderly, once strongly opposed in this region, is now becoming an accepted practice. Many elderlies are waiting to be institutionalized.

Conclusion: If current health care trends continue, institutionalization of elderly will increase. Policy makers must critically explore experiences of other countries and determine if institutionalization is the best option for future health care plans.

A BRIEF REVIEW OF ELDER CARE IN AFRICA AND LATIN AMERICA

R. Aminbakhsh, 1. *Geriatrics, University of California, San Diego, California*, 2. *VA Health care, San Diego, California*

Objective: Elderly are facing multiple challenges in developing countries. In Africa, elderly have key social and economic roles like farming and taking care of orphans. Despite more medical needs, they use less health care services due to inequity in access. In Latin America, family networks are losing ground before social services are securely in place, so some call rapid growth of elderly's population to be premature.

Design: Extensive literature review

Results: Despite all differences in developing countries, they share the fact that they are not ready for their elderly's future needs. While elder care is changing enormously, deficiency of funding, limited research and statistical data, inadequate geriatrics education makes planning an appropriate elder care system particularly difficult.

Conclusion: Designing elder care plans are crucial in developing countries. These Plans should be affordable and accessible to elderly and compatible with their beliefs and traditions.

SESSION 3885 (SYMPOSIUM)

CHALLENGES AND OPPORTUNITIES LINKED WITH SUMMARY MEASURES OF WELL-BEING IN LATER LIFE

Chair: J. Goodwin, *Age UK, London, United Kingdom*

Discussant: B. Krause, *Optum Labs Europe, London, United Kingdom*

We've all heard the saying "What gets measured gets done". In addressing challenges and opportunities of population ageing, this motto points to the urgency of developing a high-quality evidence base which can show how specific experiences of ageing at the individual level can be enriched with better informed public policy responses and more age-friendly environments. The relevant measurements are the summary measures of wellbeing of older people and the age-friendliness of the communities in which older people reside. The current examples of such summary measures include the EU/UNECE Active Ageing Index "AAI", the HelpAge Global AgeWatch Index and the AARP's Livability Index. Age UK's Wellbeing in Later Life (WILL) Index is the latest addition which has also sought to improve upon the usefulness for the advocacy and policy advice of such composite indices. The WHO's work on indicators of age-friendly cities also has a similar potential of serving the public good. This symposium will discuss the challenges and opportunities linked with the development of such aggregate summary measures, and what lessons can be learned regarding future collaborative work in this area.

AARP'S LIVABILITY INDEX: A PICTURE OF HOW COMMUNITIES MEET THE NEEDS OF PEOPLE OF ALL AGES

R. Harrell, *Public Policy Institute, Washington, District of Columbia*

By 2030, older adults will account for approximately 20% of the U.S. population. Surveys show that many desire to stay in their communities as they age, but many communities are not prepared. The diverse needs of the older population play a role, as does the evolution of preferences over time. Several factors lead to the development of neighborhoods that will not meet needs of all community residents over time.

To inform policymakers and residents, AARP created a Livability Index measuring seven categories of livability for each neighborhood. Using 60 indicators, the Index provides a picture of how well each community meets the current and future needs of people of all ages. These metrics and policies cover seven categories: housing, neighborhood, transportation, environment, health, engagement and opportunity. This discussion includes the reasons for creating the Index, how it supports the creation of livable, age-friendly communities, and lessons for other nations

WELL-BEING IN LATER LIFE (WILL) INDEX: CAPTURING INEQUALITIES IN AGEING EXPERIENCES OF OLDER PERSONS

M. Green¹, A. Zaidi², J. Iparraguirre¹, P. Rossall¹, S. Davidson¹, *1. Age UK, London, United Kingdom, 2. University of Southampton, Southampton, United Kingdom*

Age UK wants older people in the UK to experience maximum possible wellbeing. However, not everybody does. The older population in the UK is heterogeneous and no less so in its inequalities in wellbeing. Age UK has built a statistical, multidimensional index of wellbeing which reveals what is important to older people in later life and importantly which groups of older people are doing well and those that are not doing so well. Benefiting from large-scale, representative household panel data in the form of Understanding Society, and using a combination of statistical techniques including factor analysis, structural equation modelling and principal component analysis, this is an index that has utility for influencers, policy-makers and practitioners working with older people.

MEASURING ACTIVE AND HEALTHY AGEING: LESSONS FROM ACTIVE AGEING INDEX OF THE EUROPEAN COUNTRIES

A. Zaidi, *1. Ageing/ Gerontology, University of Southampton, Southampton, United Kingdom, 2. London School of Economics and Political Science, London, United Kingdom*

The idea underlying active ageing strategies is to provide an environment that is rich in opportunities and where old age is not synonymous with becoming dependent. Such a paradigm prevents the loss of valuable expertise of older people and strengthens society's human resilience. Many of these ideas are brought together in the Active Ageing Index "AAI" project of European Commission/UNECE. The AAI is a summary measure of active and healthy ageing, using 22 indicators to assess the untapped potential of older people, to capture the baseline position, to monitor progress and identify where challenges remain.

This presentation will draw learnings from the AAI in addressing how countries fare better than others and how this can motivate and orient countries lagging behind. It will show how the AAI allows policymakers to base their interventions on the comparative evidence of active ageing indicators and their aggregation into a summary measure.

SESSION 3890 (SYMPOSIUM)

IAGG EUROPEAN REGION: AGEING RESEARCH IN EUROPE—ACHIEVEMENTS, CHALLENGES, AND OPEN QUESTIONS

Chair: C. Tesch-Roemer, *German Centre of Gerontology (DZA)*

Co-Chair: S. Becker, *Swiss Society of Gerontology, Bern, Switzerland*

Europe is a region with a long history of population ageing, and these demographic changes will continue in the future. The number of Europeans aged over 65 is expected to nearly double from 85 million in 2008 to 151 million by 2060, and the number of those aged over 80 is expected to rise from 22 to 61 million in the same period. Longevity has to be celebrated as societal success, opportunities connected to demographic change should be used wisely, and challenges should be acknowledged as well. Ageing research in Europe takes place in a multitude of institutions across a range of countries which might look similar from the outside, but are

highly diverse, in terms of societal wealth, welfare state policies and demographic composition. In this symposium, we will present selected findings from European ageing research, discussing achievements, challenges, and open questions in gerontology and geriatrics in Europe.

PRESENT STATE OF BIOGERONTOLOGY IN EUROPE

S. Rattan, *Department of Molecular Biology and Genetics, Aarhus University, Aarhus, Denmark*

In Europe, biogerontology deals with: (i) describing the aging phenotype at the level of organs, systems, tissues, cells and molecules; (ii) unraveling the biochemical and molecular mechanisms of age-related changes; (iii) identifying genes that affect the quality and duration of lifespan; (iv) identifying the rate-limiting steps which lead to the emergence of age-related diseases; and (v) developing effective interventions to modulate aging and to extend the healthspan. Different countries have different priority areas for research, which change and evolve in accordance with the changing social, political and economic trends. At the molecular level, failure of homeodynamics, increased molecular heterogeneity, altered cellular functioning and reduced stress tolerance are the main determinants of aging. Gene therapy, stem cells, nutraceuticals, cosmeceuticals and other life style alterations are examples of aging interventions being researched. Another approach is that of hormesis by strengthening the homeodynamic ability of self-maintenance through repetitive mild stress. European biogerontology aims to achieve the goal of extended healthspan by elucidating and utilising dynamic interactions among biological, clinical, psycho-social and environmental factors.

AGING IN EUROPE AND GERIATRIC CARE

M. Barbagallo, L. Dominguez, *DIBIMIS, University of Palermo, Palermo, Italy*

Europeans are living longer than ever, and this pattern is expected to continue. The increased life expectancy is a remarkable achievement, which however poses obvious challenges for health care and geriatric assistance. There is a progressive increase of older persons living alone and in need of assistance. European countries are handling these challenges with very different approaches. There are countries and regional differences in social policies and sanitary assistance, in providers of care, in quality of the assistance and in lodging costs. The long term care models are also very different (cash benefits, public provision of care services, or hybrid rather than pure models of care). The proportion of older institutionalized vs. those receiving care at home is changing differently among countries, as a result of specific policies, with some countries reducing their institutional care capacity to encourage community care, while others increasing nursing home care capacity.

A SOCIETY OF CARE: THE ESSENTIAL CHALLENGE FOR AN AGING EUROPE

J. Yanguas, M. Sancho, D. Pura, D. Elena, *Matia Gerontological Institute, Donostia, Gipuzkoa, Spain*

In the next two decades Europe (and specially the countries in South Europe) will suffer some "tsunamis" related to aging: i) the number of very old people (80+) will be higher than that of young people (20-); ii) a rapid decrease in the

hypothetical number of informal caregivers who are essential for care; iii) social consequences of the economic crisis threaten the maintenance of the welfare state; iv) changes in family structures; v) rupture of the intergenerational pact. What possibilities does Europe have? We need to promote a culture of care. We must place the care as a central axis of social development and retrieve the values and principles associated with care (solidarity, dignity, autonomy, joint responsibility, transversality,...) as values for the whole society from schools to companies. We need to adjust the needs of an aging population with the young/adult population availability and increase relationships between generations. Other ways of reconciling work and care must be explored while minimizing economic impact. Therefore, there is a need for a new model of governance where aging must be the key to all sectorial policies. There must be changes in the production system to adapt to aging, which is an opportunity to create jobs and industry.

Thinking about the future of care means reconsidering the model of society for the future.

Through this presentation, we will review various ongoing projects that are driving this society of care-

STRUCTURES, ORGANIZATION, AND CHALLENGES OF LONG TERM CARE FACILITIES IN EUROPE BASED ON PACE PROJECT

K. Szczerbinska¹, H. Finne-Soveri², G. Gambassi³, B.D. Onwuteaka-Philipsen⁴, S. Payne⁵, N. Van Den Noortgate^{6,7}, L. Deliens^{6,8}, L. Van den Block⁶, 1. *Epidemiology and Preventive Medicine Chair, Jagiellonian University Medical College, Krakow, Poland*, 2. *National Institute for Health and Welfare, Helsinki, Finland*, 3. *Università Cattolica del Sacro Cuoro, Rome, Italy*, 4. *EMGO Institute for Health and Care research, Expertise Center for Palliative Care, VU University Medical Centre, Amsterdam, Netherlands*, 5. *International Observatory on End of Life Care, Lancaster University, Lancaster, United Kingdom*, 6. *Department of Family Medicine & Chronic Care, End-of-Life Care Research Group, Vrije Universiteit Brussel (VUB) and Ghent University, Brussels, Belgium*, 7. *Department of Geriatric Medicine, Ghent University Hospital, Ghent, Belgium*, 8. *Department of Medical Oncology, Ghent University Hospital, Ghent, Belgium*

Long term care (LTC) organization is the most diverse care sector with institutions rendered in the frame of health and/or social care sectors. The main differences are observed in staff resources, range of services, and culture of LTC organization within and across countries. We are going to describe structure and organization of long term care facilities (LTCF) in Europe based on data from 322 randomly selected facilities in 6 European countries collected in the PACE project (Comparing the effectiveness of Palliative Care for Elderly people in long-term care facilities in Europe) funded by European Commission from 7th Frame Programme. We will provide description of differences in organization, staff and services in LTCFs across countries. We will put special attention to development of palliative care structures and services within LTCFs that aims to answer an emerging challenge, which is a high quality end-of-life care for dying residents.

SESSION 3895 (SYMPOSIUM)

THE FIRE OF CHRONIC INFLAMMATION IN OLDER ADULTS: ETIOLOGIES, CONSEQUENCES, AND TREATMENTS

Chair: J.D. Walston, *Johns Hopkins University School of Medicine, Baltimore, Maryland*

Chronic inflammation is recognized as a globally prevalent condition related to aging that worsens chronic disease states, drives functional and cognitive decline, and accelerates mortality in older adults. Age-related etiological drivers are likely senescent cells, altered immune system composition, mitochondrial declines, altered microbiome, and chronic infections such as CMV. The consequence of chronic inflammation is increased production of inflammatory chemokines and cytokines and an altered adaptive immune system which drives pathophysiological changes in organs and tissues, which in turn accelerates adverse health outcomes and chronic disease status in older adults. Although many inflammatory cytokines have been used to identify older adults with chronic inflammation, no diagnostic gold standard exists. Further, few if any preventive and treatment strategies beyond exercise have been identified or tested. In this interdisciplinary and translational symposium, assembled by the Geroscience Interest group of the Gerontological Society of America, an international roster of speakers will discuss 1) the prevalence, consequences, and diagnostic considerations for chronic inflammation from studies of older adults from around the world, 2) the molecular etiologies and the cellular mechanisms, including cellular debris and auto reactive processes, that drive chronic diseases, 3) the role of the altered immune system and the impact of chronic infections such as CMV on the development of chronic inflammation and adaptive immune system modulation and 4) novel intervention strategies in older adults including fish oil and losartan that target chronic inflammation and mobility.

THE EPIDEMIOLOGY AND DIAGNOSTIC CONSIDERATIONS FOR CHRONIC INFLAMMATION IN OLDER ADULTS

J.D. Walston, *Medicine/Geriatrics, Johns Hopkins University School of Medicine, Baltimore, Maryland*

Chronic Inflammation as measured by serum inflammatory cytokines is common in older adults has been studied in dozens of population studies of older adults around the world. Although most of the studies use a similar profile of measures that generally include Interleukin-6 and C-Reactive Protein to identify chronic inflammation, to date, no gold standard measure exists to identify those older adults with chronic inflammation. This is in part due to the lack of standardization of measurement and the inadequate knowledge of the biology that connects serum diagnostic markers to adverse health outcomes. This session will provide an overview of the global prevalence of chronic inflammation and its adverse health consequences from population studies from Europe, Asia, and North America. In addition, new information on the development of specific diagnostic tests, along with some of the newer diagnostic cytokine measures of chronic inflammation that are under development will be presented.

RECIPROCAL FUELLING OF GARBAGING/ INFLAMMAGING AND CHRONIC AGE-RELATED DISEASES

C. Franceschi, *University of Bologna, Bologna, Italy*

Inflammaging, i.e. age-associated chronic inflammation, develops with age and represents a major pathogenic component of most age-related diseases. It is thought to be triggered by activation of innate immunity, is macrophage-centered, involves a variety of organs, and is likely influenced heavily by the gut microbiome. A major source of inflammatory stimuli may be the endogenous/self, represented by a variety of misplaced and altered molecules resulting from damaged/dead cell and organelles (cell debris). The production of this cellular 'garbage', is physiological and increases with age while its disposal by proteasome, autophagy and mitophagy progressively declines. This "auto-reactive/auto-immune" process fuels the onset/progression of chronic diseases which in turn release additional garbage ("disease communicome") capable of accelerating aging processes locally and systemically. This session will describe the importance of the life-long capability to adapt by activating anti-inflammatory responses whose efficiency is critical to attain healthy aging and longevity.

IMMUNOSENESCENCE AND INFLAMMAGING: AN INTRICATE CONNECTION

T. Fülöp, *Université de Sherbrooke, Sherbrooke, Quebec, Canada*

One of the most notable biological age-related changes are alterations in the immune system. Near constant antigenic stimulation by various antigens such as chronic viral infections, altered proteins, and/or tumoral cells is characteristic of this change. The innate part of the immune response is chronically stimulated at baseline and is in a state of alertness to respond to various stimulation. This is most of the time assured by the trained memory of the innate cells. Although the effectiveness of innate immune functions are decreased, this state of activation assures a higher adaptive response. This chronic low grade inflammation is stimulating/exhausting the adaptive immune system which itself is constantly under the attack of the chronic antigenic stress. The induction of these adaptive responses will be characterized and the intracellular pathways leading to immunosenescence, which further stimulates innate responses, will also be discussed.

CLINICAL INTERVENTIONS FOR REDUCING LOW-GRADE CHRONIC INFLAMMATION IN OLDER PERSONS

M. Pahor, *University of Florida, Gainesville, Florida*

Low-grade chronic inflammation is an independent risk factor of reduced physical performance and several geriatric outcomes, however it is unknown whether reducing inflammation *per se* prevents mobility loss and disability. Several pharmacological and behavioral interventions have been considered as potential preventive strategies for mobility decline. In addition to being effective, such interventions should be safe, tolerable, acceptable by older persons, practical and affordable. Among a large list of potential therapies, only a few interventions meet these criteria. Physical activity and weight loss improve function and reduce low-grade

chronic inflammation. The ENRGISE pilot trial is testing the effects fish oil and an angiotensin receptor blocker on inflammatory markers and mobility. These interventions have excellent safety records, are tolerable and acceptable, reduce elevated IL-6, and have shown some benefits in improving physical performance. They act with different but complementary biological mechanisms, do not negatively interfere with neuromuscular metabolism, and are widely available.

SESSION 3900 (SYMPOSIUM)

GLOBAL AGING AND THE INTERNATIONAL DISSEMINATION OF KNOWLEDGE: PUBLISHING OPPORTUNITIES IN GERONTOLOGY

Chair: E.A. Miller, *UMASS Boston, Boston, Massachusetts*

Co-Chair: C. Ronneberg, *University of Massachusetts Boston, Boston, Massachusetts*

Discussant: M. Gusmano, *Rutgers University, New Brunswick, New Jersey*

Global aging has proceeded at an unprecedented and accelerating rate. By 2050, one in five people will be aged 60 years and older, up from one in ten in 2015. The aging of the population creates both opportunities and challenges for elders, their families, and society in general. Importantly, there is substantial variation in the effects of and response to global aging both within and across nations depending, in part, on prevailing cultural expectations and values, political and economic imperatives, and social and demographic characteristics. Thus, while some regions and countries have responded with innovative policies and programs to better enable the growing cohort of older adults to remain active and engaged in the community, other regions and countries have struggled with their response or barely begun to plan for the rising population of elders. This symposium assembles editors at five leading gerontological journals to demonstrate the role that peer-reviewed scholarship can play in disseminating knowledge that informs gerontological research, policy, and practice internationally. Editors include: Jeffrey Burr, PhD, Editor of *Research on Aging*; Deborah Carr, PhD, Editor of the *Journal of Gerontology: Social Sciences*; Joseph E. Gaugler, PhD, Editor of *The Journal of Applied Gerontology*; Edward Alan Miller, PhD, Editor of the *Journal of Aging & Social Policy*; and Rachel Pruchno, PhD, Editor of *The Gerontologist*. Each presenter will review the scope, content, and focus of their journals and the role and opportunities for international scholarship. Michael Gusmano, PhD, a leading expert on the economic, political, and social consequences of global aging and International Editor of the *Journal of Aging & Social Policy*, will serve as discussant.

THE ROLE OF INTERNATIONAL SCHOLARSHIP IN THE JOURNAL OF AGING & SOCIAL POLICY

E.A. Miller^{1,2}, M. Gusmano^{3,4}, C. Ronneberg¹, 1. *University of Massachusetts Boston, Boston, Massachusetts*, 2. *Brown University, Providence, Rhode Island*, 3. *Rutgers University, New Brunswick, Massachusetts*, 4. *The Hastings Center, Garrison, New York*

Policymakers, practitioners, and researchers need a balanced, thoughtful, and analytical resource to meet the

challenge of global aging at a rate that's historically unprecedented. The *Journal of Aging & Social Policy (JASP)*, which was founded in 1989, serves this role by drawing contributions from an international panel of policy analysts and scholars who assume an interdisciplinary perspective in examining and analyzing critical phenomena that affect aging and the development and implementation of programs for elders from a global perspective. Study settings extend beyond the United States to include Europe, the Middle East, Australia, Latin America, Asia, and the Asia-Pacific rim. This presentation will document the scope, content, and focus of JASP, including the rise of international submissions, which now account for approximately half of articles published. Opportunities for publishing in JASP will be discussed; so too will strategies for navigating the peer-review process successfully.

INCREASING THE LIKELIHOOD OF SUCCESS: THE GERONTOLOGIST'S ADVICE FOR INTERNATIONAL SCHOLARS

R. Pruchno, *Rowan University School of Osteopathic Medicine, Stratford, New Jersey*

The Gerontologist®, published since 1961, is a bimonthly journal of The Gerontological Society of America. The journal provides a multidisciplinary perspective on human aging through the publication of research and analysis in gerontology, including social policy, program development, and service delivery. It reflects and informs the broad community of disciplines and professions involved in understanding the aging process and providing service to older people. In 2015, more than 75% of submissions were research articles; 8.9% were literature reviews. Other types of submissions included brief reports, forum essays, practice concepts, policy studies, and international spotlights. Although half of all 2015 submissions were from international authors, acceptance rates for international submissions (5.0%) were substantially lower than those for U.S. authors (22.4%). Presentation will focus on strategies international authors can use to increase the likelihood of success publishing in this top-tiered journal.

RESEARCH ON AGING: THE INTERNATIONAL VIEW FROM THE EDITORS' DESKS

J.A. Burr, J. Tavares, *Gerontology, University of Massachusetts Boston, Boston, Massachusetts*

We review the scope, content, and focus of the peer-reviewed journal, *Research on Aging* (SAGE), publishing its 38th volume this year. We will discuss how scholarship produced from researchers around the globe has changed over the years. Data on submissions, acceptance rates, and the important role of an international editorial board will be presented. The review process will be described, along with suggestions on how to increase chances of success when submitting original research. Although *Research on Aging* is sometimes considered to focus primarily on social gerontology, the scope in recent years has widened considerably, with manuscripts in aging studies published from such fields as economics, psychology, demography, public health, and public policy, as well as from sociology, and social work, among others. One of several special issues forthcoming in the journal will be described to demonstrate the possibilities for international impact.

JOURNAL OF GERONTOLOGY: SOCIAL SCIENCES —GLOBAL SCHOLARSHIP CHALLENGES AND OPPORTUNITIES

D. Carr, *Rutgers University, New Brunswick, New Jersey*

Journal of Gerontology: Social Sciences aims to publish the highest quality social scientific research on aging and the life course in the U.S. and worldwide. The disciplinary scope is broad, encompassing scholarship from demography, economics, psychology, public health, and sociology. A key substantive focus is identifying the social, economic, and cultural contexts that shape aging experiences worldwide. In the coming decade, social gerontology research is poised to present many opportunities for cross-national and cross-cultural scholarship – driven in part by the proliferation of large parallel data sets from many nations in Europe, Latin America, and Asia. I will discuss the role that peer-reviewed cross-national scholarship can play in disseminating knowledge that informs gerontological research, policy, and practice internationally. I will also identify under-researched areas that will be of great interest to scholars in the coming decade, including LGBT older adults, aging in the Global South, reconfigured families, and centenarians.

APPLIED GERONTOLOGY: AN INTERNATIONAL PERSPECTIVE

J.E. Gaugler, *Center on Aging, School of Nursing, University of Minnesota, Minneapolis, Minnesota*

The mission of applied gerontology is to bridge science and practice to benefit the health and well-being of older persons, their families, their communities, and other contexts. This presentation will provide insights from the *Journal of Applied Gerontology* and its attempts to publish and disseminate scholarship that has international application. Following an overview of the growing internationalization of peer-reviewed submissions to the Journal of Applied Gerontology on variety topics and from a range of perspectives, the presentation will highlight key achievements as well as ongoing concerns and opportunities to better achieve the goals of applying gerontological scholarship to aging contexts worldwide. Concluding comments will examine how outlets for dissemination and authors themselves can better position their work to enhance their influence on aging in an international context.

SESSION 3905 (SYMPOSIUM)

ADVANCING HOSPITAL CARE FOR OLDER ADULTS: SCIENCE, POLICY, AND PRACTICE FROM FOUR GLOBAL PARTNERS

Chair: B.A. Liu, *University of Toronto, Regional Geriatric Program, Toronto, Ontario, Canada*

For older adults, the benefits of hospital care are often compromised by the experience of hospitalization itself. The complexity of care for older adults increases the risk for adverse outcomes and complicates discharge. Furthermore, existing hospital design and practices – such as immobility, under-nutrition, sleep deprivation, and unfamiliar surroundings – may cause unintended but significant harm. Quality approaches designed to improve the care of older adults in hospital demonstrate improved physical function, lower

rates of delirium, fewer discharges to long-term care, and improved satisfaction. Increasingly, research is converging on the recognition that adapting processes across the entire organization is needed to achieve these benefits consistently. This symposium will provide an overview of current knowledge on hospital-acquired disability. Three collaborators will then share their approaches, blending clinical research and implementation science, to develop large-scale programs to advance care for hospitalized older adults. In Ontario, Canada, a provincial Senior Friendly Hospital (SFH) strategy identified priorities for system-wide improvement, evolving into SFH ACTION – an 87-hospital collaborative engaged in quality improvement for senior-friendly care. In the Netherlands, a national Senior Friendly Hospital strategy coordinates development of hospital-broad approaches and directly engages community advisors in the improvement and appraisal process. In Queensland, Australia, a state-wide older person friendly survey has been completed, and the “Eat, Walk, Engage” program continues to spread across sub-acute and acute hospitals. The presenters will describe their unique approaches to a common challenge, and also ways in which they have bridged their geographic distances, finding opportunities to collaborate and share ideas.

HOSPITAL-ACQUIRED DISABILITY: AN OVERVIEW

K.E. Covinsky, *University of California, San Francisco, San Francisco, California*

Older patients who are hospitalized for medical illness often leave the hospital with increased disability in activities of daily living, even when the condition that led to admission is successfully treated. This syndrome is often referred to as hospital-acquired disability. This presentation will provide an overview of our current understanding of Hospital Acquired Disability. This presentation will describe the epidemiology of this syndrome. We will present data describing risk factors for the syndrome and the associated long term consequences for patients, caregivers, and the health system. We will describe hospital processes that may increase the risk for hospital acquired disability. Finally, we will present evidence that the better models of hospital care can prevent this syndrome. This will lay the ground work for the next presentations that describe on going examples of efforts to reduce the risk of hospital acquired disability.

THE SENIOR-FRIENDLY HOSPITAL (SFH) STRATEGY IN ONTARIO, CANADA: FROM INQUIRY TO ACTION

K. Wong^{1,2}, A. Tsang¹, D. Ryan^{1,2}, W. Zeh¹, R. Schwartz³, S.E. Straus^{4,2}, B.A. Liu^{1,2}, 1. *Regional Geriatric Program of Toronto, Toronto, Ontario, Canada*, 2. *University of Toronto, Toronto, Ontario, Canada*, 3. *Seniors Care Network, Cobourg, Ontario, Canada*, 4. *Li Ka Shing Knowledge Institute, St. Michael's Hospital, Toronto, Ontario, Canada*

We will describe a system-wide approach to change in support of senior-friendly hospitals. The ongoing Ontario SFH Strategy saw the application of a conceptual framework across the hospital system and the identification of provincial priorities for SFH care. We continue this work with SFH ACTION, an 87-hospital collaborative implementing SFH quality improvement supported with centralized coaching. SFH ACTION has made improvement work

a shared experience and has built durable capacity across the system. Within 8 months, 35 of 48 projects in the initial cohort reported progress in their improvement aims, with 20 of these projects reporting significant to sustainable results. A self-efficacy evaluation of participants' abilities to execute SFH principles, quality improvement, and change management demonstrated improvement in all 9 skill areas assessed. Strategies to sustain the collaborative and to evolve the SFH framework into a Senior Friendly Care framework applicable across the healthcare continuum will also be discussed.

THE QUALITY MARK SENIOR-FRIENDLY HOSPITAL CARE: A FRESH BREEZE IN HOSPITAL CARE FOR OLDER ADULTS!

H. Habets, 1. Zuyd University, Heerlen, Limburg, Netherlands, 2. Zuyderland Medical Center, Sittard-Geleen, Limburg, Netherlands

The Quality Mark 'Senior Friendly Hospital Care', an initiative of collaborating senior citizens organizations in the Netherlands, aims to enhance quality of care for older patients in hospitals. A literature search, the advice of expert teams of seniors and professionals led to a set of 15 criteria 'Senior Friendly Hospital Care'. All hospitals received a questionnaire and were visited by so-called mystery guests judging the physical aspects of the public space and reception.

55 (2015) of the 130 hospitals in the Netherlands received the Quality Mark. The Mark shows to be a desirable Quality Mark. A lot of hospitals invest in concrete improvements to enhance quality of care. Actual topics: family participation, function focused care, continuity of care. In 2017, concrete experiences of older people discharged after an admission will be included in the investigations.

The presentation will give an overview of content, actual results and concrete inspiring practice examples.

EAT WALK ENGAGE: IMPROVING OUTCOMES FOR HOSPITALISED ELDERS

A.M. Mudge^{1,2}, P. McRae¹, K. Lee-Steere¹, M. Cahill¹,
1. Royal Brisbane and Women's Hospital, Brisbane, Queensland, Australia, 2. Queensland Institute of Technology, Brisbane, Queensland, Australia

Hospital-acquired disability and delirium can be reduced by improving inpatient care practices to support mobility and independence, nutrition and hydration, and meaningful cognitive engagement for older inpatients. The challenge is translating this evidence into practice in all wards caring for older patients. Eat Walk Engage is a unique ward-based program using the i-PARIHS implementation framework to guide sustainable practice change. A skilled facilitator works with the multidisciplinary ward team to prioritise and tailor strategies to the recipients (patients, staff) and context of each ward. Multiple data sources and iterative team discussions build shared understanding of barriers and enablers. Pilot before-after studies have shown reductions in delirium, functional decline, falls and pressure injury, and length of stay. The program has been successfully scaled up to 8 medical, surgical and oncology wards in one large teaching

hospital, and transferability is being tested in a cluster RCT across 4 hospitals.

SESSION 3910 (PAPER)

INNOVATIVE RESEARCH METHODS IN GERIATRICS AND GERONTOLOGY

PROFILE OF VIOLENCE AGAINST THE ELDERLY REGISTERED IN THE DISQUE 100 IN THE PERIOD 2011–2015, BRAZIL

L. de Medeiros Taveira, M. Cunha de Oliveira, Catholic University of Brasilia, Brasilia, Distrito Federal, Brazil

This research has as a goal characterize the violence profile against the elderly in Brazil from the reports registered on Dial 100 Service. It's a descriptive, retrospective, exploratory study with transversal focus and quantitative approach. The research was developed based on a computerized database from the Human Rights Secretary from the Presidency of the Republic. The instrument used to collect data was the reports from Dial 100 Service in the period from 2011 to 2015. The data were analyzed through mean, standard deviation, and frequency by taking into consideration Qui-Quadrado, Odds Ratio, and Anova One-Way programs for inferential analysis. The results highlighted that in the years studied there was the prevalence of the female gender (63,7%), with an average of age from 76 to 80 (17%), and caucasians (35,9%). Besides that, it could be observed that the greatest number of violence practitioners against the elderly were the husbands (56,7%) and that the most frequent type of violence was negligence. Thus, this research was able to show the magnitude and gravity of the problem and the need to identify precociously the violence against the elderly. This study suggests the development of other researches which contribute to a greater understanding towards this phenomenon, by being able to train healthcare professionals and improve the victims support system as well as the prevention of violence cases against the elderly and strengthen public policies for seniors.

RECRUITMENT, RETENTION AND DATA COLLECTION WITH VICTIMS OF ELDER ABUSE IDENTIFIED FROM POLICE REPORTS

C.Z. Pickering¹, C. Maxwell², 1. School of Nursing, University of Texas Health Science Center San Antonio, San Antonio, Texas, 2. School of Criminal Justice, Michigan State University, East Lansing, Michigan

Several methodological issues limit the elder abuse/neglect researchers including difficulties with recruitment and enrollment of victims, lack of tools to help retain participants in longitudinal studies, uncertainty regarding what are safety concerns, and appropriate procedures for data collection with victims. Steps to address many of these issues have in turn led to difficulties gaining IRB approval. As such, we planned a project to obtain data on these issues in order to inform planning of a randomized control trial. First, we developed a protocol for coding police narrative reports in order to identify victims, and a three-step process for contacting the victims about study enrollment which included mailers, cold calls,

and home visits. To limit bias against homebound or isolated older adults, we developed a data collection protocol which involved home interviews but was flexible in case home interviews posed a safety risk. Furthermore, to limit bias against persons with dementia we developed a protocol for consent capacity assessment and a separate protocol for data collection with proxy respondent-participants. We developed guides for our interviewers intended to protect both the safety of the participant and the safety of our team member in the field. In this presentation, we describe our protocols and discuss their successes and failures in terms of recruitment, retention and data collection with victims. We will also discuss what we learnt about safety concerns, our IRB challenges and the solutions we proposed to obtain approval.

VALIDATION OF PRIMARY CARE QUESTIONNAIRES ON KNOWLEDGE, ATTITUDES, AND PRACTICES TOWARD DEMENTIA

N. Sourial^{1,2}, G. Arsenault-Lapierre², M. Hardouin², I. Vedel^{1,2}, 1. *Department of Family Medicine, McGill University, Montreal, Quebec, Canada*, 2. *Lady Davis Institute, Jewish General Hospital, Montreal, Quebec, Canada*

In 2013, the Quebec Ministry of Health implemented a reform called the 'Alzheimer Plan' in 42 family medicine groups (FMG) to better manage dementia patients in primary care. We created and validated two questionnaires to measure the clinicians' knowledge, attitudes, and practices regarding dementia care in each FMG.

Based on the literature and content validation with experts, one 72-item questionnaire for family physicians and another 70-item questionnaire for nurses and other health professionals were created. The questionnaires were distributed to 865 clinicians after the beginning of the AD plan. Exploratory factor analysis (EFA) was performed to examine the construct validation of each questionnaire and determine the underlying subscales. Prior to the EFA, a clinically-relevant structure of subscales was elaborated.

Five subscales were identified within the physicians' questionnaire: 1) perceived competency and knowledge, 2) attitudes toward the AD Plan, 3) practices for cognitive evaluation, 4) attitudes toward the disease, and 5) collaboration with nurses and other professionals. Four subscales were identified within nurses and other professionals' questionnaire: 1) perceived competency and knowledge, 2) attitudes toward the AD Plan, 3) attitudes toward the dementia patients and their care-givers, and 4) perceived support from external resources. These subscales were consistent with the a priori clinically-derived structure. Items within the subscales correlated well together and differentiated well across subscales.

MISSING DATA IN LONGITUDINAL STUDIES OF AGING: THE GOOD, THE BAD, AND THE UGLY

S. Karunanathan, C. Wolfson, *Epidemiology, Biostatistics and Occupational Health, McGill University, Montreal, Quebec, Canada*

In longitudinal studies of aging, missing data are inevitable. In the literature on the association between grip strength and survival time in older persons, the methods used to deal with missing values are generally not even mentioned. The default in standard statistical software is listwise deletion

- removing all observations with any missing data. Missing data have been classified into three types: missing completely at random (the good), missing at random (the bad) and missing not at random (the ugly). Depending on the type of missing data, listwise deletion may produce biased results. The objectives of this presentation are: 1) To identify different types of missing data that may arise within a longitudinal study of aging and 2) To assess the estimates of the association between grip strength and mortality that result from applying different methods for handling missing data. Using data from the Cardiovascular Health Study, a longitudinal study of 5,201 older persons, we: 1) examined the types of missing data; 2) investigated the association between grip strength and survival time, applying three common methods of handling missing data: listwise deletion, last value carried forward (LOCF), and multiple imputation (MI). We identified all three types of missing data in the CHS. Compared to the method of listwise deletion, estimates of the association between grip strength and survival were weaker when applying LOCF, and stronger with MI. Methods of handling missing data in longitudinal studies of aging should be considered carefully in order to limit the potential for biased results.

ESTIMATING TREATMENT EFFECT OF HALOPERIDOL ON DELIRIUM SYMPTOMS USING OBSERVATIONAL DATA

L. Han, M. Pisani, K.L. Araujo, H. Allore, *Yale School of Medicine, New Haven, Connecticut*

The efficacy of haloperidol treatment on delirium among critically ill older patients has relied on limited randomized trials. Using causal methods, we estimate average treatment effect (ATE) of haloperidol from 304 older patients hospitalized in a medical intensive care unit (ICU) with daily assessment of delirium symptoms using the Confusion Assessment Methods for ICU (CAM-ICU). Haloperidol exposure was tracked daily to define the treatment versus comparison groups. A propensity score (PS) of receiving haloperidol in the ICU was estimated for each patient and used in three approaches: covariate adjustment, matching and inverse-probability-of-treatment-weighting (IPTW). PS matching (N=172 or 56.6%) achieved balance (Standardized Difference < 10%) on 17 of 23 covariates. Based on a generalized estimating equation Poisson model, patients treated with haloperidol had a 1.81 (95% CI: 1.31, 2.31) higher delirium severity score than those untreated in the original cohort. This unfavorable ATE reduced to 0.80 (0.27, 1.32) after PS matching, became nonsignificant [-0.50 (-1.73, 0.74)] using IPTW, and turn beneficial [-0.96 (-1.87, -0.06)] when integrating IPTW with PS-matching. Covariate adjustment significantly reduced the unfavorable ATEs in the conventional [0.60 (0.06–1.13)] and the PS-matched [0.62 (0.14–1.10)] analyses, yet reversed the ATEs to unfavorable direction in both the IPTW [0.94 (0.45–1.44)] and the hybrid IPTW-PS-matching [0.67 (0.10–1.25)] models. In conclusion, PS-matching enhances treatment-group comparability yet still faces residual confounding; whereas IPTW seems capable of "recovering" counterfactual ATE on its own right. Integrating IPTW with PS-matching appears most powerful in bias reduction than either approach alone, despite of inhering the limitation of matching in generalizability.

SESSION 3915 (SYMPOSIUM)

MULTIMODAL AND COMBINED INTERVENTIONS TO IMPROVE GAIT AND COGNITION: FROM THE CCNA INITIATIVE

Chair: M. MonteroOdasso, *University of Western Ontario, London, Ontario, Canada*

Co-Chair: L. Bherer, *University of Montreal, Montréal, Quebec, Canada*

Discussant: Q. Almeida, *Wilfrid Laurier University, Waterloo, Ontario, Canada*

Until recently, both clinicians and researchers treating older adults have performed gait and cognitive assessments separately. However, increasing evidence demonstrates that gait and cognition are interrelated and their decline is a main driver of the insidious disability of aging. A population particularly at risk are older adults with mild cognitive impairment (MCI), who are not only at a 10 times higher risk for progression to dementia syndromes but also at risk of mobility decline and falls.

Five experts in the field who belongs to the **Canadian Consortium in Neurodegeneration and Aging (CCNA)** initiative will review the significance of the gait-cognition interrelationship. They will present current and provocative evidence suggesting cognitive and mobility decline can be treated together by combining physical exercises, cognitive training, and nutritional supplements such as Vitamin D. Lessons learned from three interventional studies in the area of gait, cognition, and brain health will be presented.

Finally, the study protocol, design and preliminary data from the SYNERGIC Trial (SYNchronizing Exercises, Remedies in GaIt and Cognition; NCT02808676), a novel multi-site, phase 3, clinical trial that combines exercises with cognitive remediation and Vitamin D with the goal to delay cognitive decline among older adults with Mild Cognitive Impairment will be shown.

This symposium will introduce multi-modal interventions as a novel approach to the current prevention treatments for cognitive and mobility decline; therefore, we expect it will be of interest to clinicians (e.g., geriatricians, neurologist, psychologists, nurses and physiotherapists) and researchers in the area of gait, cognition, and brain health.

GAIT AND COGNITION AND RISK FOR DEMENTIA AND FALLS. THE RATIONALE FOR TREATING THEM TOGETHER

R. Camicioli, *University of Alberta, Edmonton, Alberta, Canada*

Gait and cognitive impairments in older adults are evaluated and treated as separate entities, which has created gaps in care and obscured common mechanistic connections. Considering them separately is not only inefficient but it does not acknowledge the reality that they co-exist in an important proportion of older individuals and that ultimately leads to insidious disability. The combined view of gait and cognitive decline has substantial public health relevance, not only because of their high combined prevalence, but also because of potential crossover effects on one syndrome by treating the other. The detection of common modifiable risk factors will open the opportunity to treat them as a single entity,

thus, in essence, doubling the repertoire of interventions. The rationale of treating them together will be presented.

WHICH PHYSICAL EXERCISES IMPROVE COGNITION IN MCI? LESSONS LEARNED FROM THE PROMOTE TRIAL

T. Liu-Ambrose, *University of British Columbia, Vancouver, British Columbia, Canada*

Exercise is a promising strategy for the promotion of cognitive and brain health. However, whether it can still benefit for those who have already exhibit cognitive deficits is not well established. Moreover, there are two types of exercise: 1) aerobic training (AT); and 2) resistance training (RT; e.g., lifting weights). Evidence from randomized controlled trials (RCTs) suggests that both AT and RT enhance cognitive function in healthy older adults; although there has been extensive focus on AT. Thus, more research is needed on ascertaining the efficacy of both AT and RT among those at risk for dementia, such as those with mild cognitive impairment (MCI). We will summarize results from RCT of exercise in older adults with MCI, with a specific focus on the results of a 6-month RCT of AT and RT.

COGNITIVE REMEDIATION TO IMPROVE GAIT AND COGNITION. LESSONS LEARNED FROM THE CONCORDIA STUDY

K.Z. Li, *Concordia University, Montreal, Quebec, Canada*

This talk will explore the recent intervention studies and clinical trials that use cognitive training to improve cognitive executive function in order to improve mobility. The use of cognitive remediation to benefit motor performance is based upon the principle of neural overlap, i.e., the common brain regions or networks that underpin cognitive processes and motor behaviors such as walking and balancing. Recent intervention findings will be presented that demonstrate the range of cognitive training methods found to be effective in healthy older adults and elderly fallers. Variations in specificity of training task(s), duration of training, and combinations with other modalities of training will also be discussed.

VITAMIN D DEFICIENCY IN GAIT AND COGNITION. LESSONS LEARNED FROM THE GAIT & BRAIN STUDY

M. MonteroOdasso, *University of Western Ontario, London, Ontario, Canada*

This talk will review recent provocative studies that have demonstrated relationships between Vitamin D deficiency with poor cognitive and mobility performance in older adults. Interventional studies supplementing vitamin D have shown mixed result concerning cognitive and mobility outcomes. Results from the GAIT & BRAIN Study and from a recent meta-analysis will be presented showing that Vitamin D supplementation in doses higher than the current recommendation of 800 IU/d would be needed to achieve serum levels over 75nmol/l which seems needed to improve cognitive and mobility outcomes in older adults with Vitamin D deficiency. Potential neuroprotective vitamin D attributes through antioxidative mechanisms, neuronal calcium regulation, immunomodulation, enhanced nerve conduction and detoxification mechanisms will be reviewed.

PUTTING ALL TOGETHER: THE SYNERGIC TRIAL

L. Middleton, *University of Waterloo, Waterloo, Ontario, Canada*

The SYNERGIC Trial (SYNchronizing Exercises, Remedies in Gait and Cognition) is a multisite clinical trial aimed to improve cognition and delay progression to dementia syndromes in older adults with MCI using the combination of multimodal interventions. This presentation will review the design, rationale and show the preliminary result and challenges faced in this innovative study.

SESSION 3920 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: DEVELOPING PALLIATIVE CARE SERVICES FOR PEOPLE WITH CHRONIC-PROGRESSIVE DISEASES AT THE END OF LIFE

Chair: J. van der Steen, *Leiden University Medical Center, Leiden, Netherlands*

Co-Chair: J. Hockley, *University of Edinburgh, Edinburgh, United Kingdom*

Discussant: S. Sternberg, *Jerusalem, Israel*

Increasingly, it is being recognized that people with chronic-progressive diseases including dementia may benefit from palliative care. However, the palliative phase and what palliative care entails exactly, is less well defined for these people compared with for people with cancer. Further, needs may vary greatly across the long and ill-predicted disease trajectories. This may hinder the implementation and integration of palliative care in clinical practice. Special palliative care services should overcome these challenges and also fit with health care systems and with long-term care services that may be disease oriented or focused on the living situation only.

This symposium will present the development and evaluation of palliative care services for people with chronic-progressive disease living in nursing homes and in the community. We report on new initiatives in four countries, the UK, Netherlands, Norway and Israel, for people to die “as homely” and comfortable as possible and to bring palliative care to where people are. We will discuss the new initiatives against a background of literature on how palliative care developed in these countries, in comparison to the US.

SERVICES FOR DEMENTIA IN THE TERMINAL PHASE: INTERVIEWS ABOUT EXPERIENCES IN FIVE COUNTRIES

J. van der Steen^{4,5}, N. Lemos Dekker¹, M.H. Gijsberts², L.H. Vermeulen¹, M.M. Mahler³, B. The¹, 1. *University of Amsterdam, Amsterdam, Netherlands*, 2. *VU University Medical Center, Amsterdam, Netherlands*, 3. *Stichting Kalorama, Nijmegen, Netherlands*, 4. *Leiden University Medical Center, Leiden, Netherlands*, 5. *Radboud university medical center, Nijmegen, Netherlands*

The nature of physical, psychosocial and spiritual care needs of people with dementia and their families may change near the end of life. To prepare for developing optimal palliative care services for the terminal phase, we interviewed 25 experts about 15 special types of services for people with

dementia in five countries (US, UK, Netherlands, Belgium, and Israel). Most services were for dying people or those with a life expectancy of at most 6 months or for advanced dementia (and continued until death), some were for both or earlier enrolment was possible. The interviews pointed to failure of attempts to move people and preferred, successful models in which a representative of a well-trained team takes time and brings specialized care and education of staff and family to where people are and ensures continuity of relationships with and around the patient.

REACHING OUT TO DEVELOP QUALITY PALLIATIVE CARE IN CARE HOMES: DATA FROM A 7-YEAR PROJECT

J. Hockley¹, J. Kinley², 1. *University of Edinburgh, Edinburgh, United Kingdom*, 2. *St Christopher's Hospice, London, United Kingdom*

A fifth of the UK population dies in a nursing home (care home). In 2008, the Department of Health's end of life care strategy encouraged the implementation of specific palliative systems to all settings. St Christopher's Hospice, London became a regional centre for the Gold Standards Framework in Care Homes programme (GSFCH) to reach out to care homes to improve the quality of palliative care. We implemented and audited the GSFCH in nursing care homes across 5 clinical commissioning groups (population of 1.4 million people) over a 7-year period using a research-based model of facilitation. Across 76 nursing care homes, the percentage of residents dying in hospital reduced from 43% to 21% with an increase in documentation of advance care planning and cardio-pulmonary resuscitation decisions. A ‘high’ facilitation model, including a sustainability initiative and ongoing audit, contributed to significant improvements. Reciprocity and trustworthiness underpin the success of this initiative.

INTEGRATED CARE INNOVATION FOR PEOPLE WITH DEMENTIA LIVING AT HOME (ICI-HOMETIME)

B.S. Husebø, *University of Bergen, Bergen, Norway*

Facing an ageing population, priorities in elderly care have changed from narrow acute care focus to broader framework of disease prevention and community care. Living well at home requires integrated care innovation, including palliative care. Thus, understanding what and how Electronic Patient Records (EPR), Information and Communication Technology (ICT), volunteers, and research-based education mediate QoL, is crucial to equip policymakers to better formulate cost-effective policies on healthy ageing at home. Integrated Care Innovation at home (ICI-HomeTime), prepares a new approach to understanding and treating age-related challenges, enabling more people to stay safely at home or to die there. Our approach of development, user-involvement, and research will objective 3 research questions: what are barriers and facilitators for ICI-HomeTime that may contribute to sustainable health systems; what are issues relating to palliative care and how influences ICI-HomeTime communication, participation, and QoL of end-users and health financing? Pilot study results will be presented.

HOME PALLIATIVE CARE FOR ADVANCED DEMENTIA IN ISRAEL

S. Sternberg, *Ministry of Health, Israel, Jerusalem, Israel*

Dementia is a terminal illness with pain and suffering, making the palliative approach an appropriate choice for care. We examined the prevention of hospitalizations, treatment of symptoms, caregiver burden, and satisfaction with care in a pilot project providing palliative care at home for 20 advanced dementia patients. The service was provided for 6 months or until the person died by a multidisciplinary team who were available 24/7. Family members were interviewed once every three months using validated measures and charts were reviewed. After a total of 112 months of care, we found that 33 hospitalizations were prevented. Improvements were seen in symptom management (average scores 33.8 to 38.3 after 6 months) and satisfaction with care (27.5 to 35.3) and caregiver burden declined (12 to 4). We conclude that a home palliative service for 20 advanced dementia patients resulted in improved care.

SESSION 3925 (PAPER)

IMPROVING CARE IN THE COMMUNITY

ADD A LANGUAGE! ADD A PICTURE!—IMPROVING PRESCRIPTION MEDICATION LABELS FOR ELDERLY SINGAPOREANS

R. Malhotra¹, M.C. Bautista¹, N. Tan², W. Tang⁴, S. Tay², A. Tan³, A. Pouliot⁵, R. Vaillancourt⁵, 1. *Health Services and Systems Research (HSSR), and Centre for Ageing Research and Education (CARE), Duke-NUS Medical School, Singapore, Singapore*, 2. *SingHealth Polyclinics, Singapore, Singapore*, 3. *National Healthcare Group HQ, Regional Health, Singapore, Singapore*, 4. *National Healthcare Group Polyclinics, Singapore, Singapore*, 5. *Children's Hospital of Eastern Ontario, Ottawa, Ontario, Canada*

In Singapore, medication labels placed by clinics on packets/bottles of dispensed prescription medications are primarily in English. This poses a challenge for elderly Singaporeans (≥ 65 years) as 61% of them cannot read in English. However, nearly half of them can read in ≥ 1 of the other three official languages (Chinese/Malay/Tamil), thus suggesting a potential strategy, i.e., adding another language, for improving prescription medication labels. Pictograms, shown to be helpful for low-literacy populations elsewhere, are another potential strategy. We assessed the utility of these strategies, i.e., bilingual labels and/or labels with pictograms, in improving the understanding of medication labels among elderly Singaporeans. Respondents were randomized to 4 different label types - (A) English-text ($n=357$); (B) English-text with pictograms ($n=357$); (C) Bilingual-text ($n=353$); and (D) Bilingual-text with pictograms ($n=350$) - for the same three medications, and questioned on their understanding of the label content. While 65% of those randomized to Type A reported difficulty reading the labels, corresponding proportions were significantly lower with the addition of pictograms and/or another language (57%, 32%, 37%, for types B, C, D, respectively). However, even among those able to read English, 12%, 14%, 10% and 9%, respectively

across each label type still reported difficulty. Use of bilingual medication labels is a promising strategy for improving prescription medication labels for elderly Singaporeans. However, careful assessment of the label design and content and of non-label-related factors that may limit the elderly's understanding is warranted. Our findings can support future empirical studies evaluating real-world prescription medication labels for elderly Singaporeans.

INAPPROPRIATE PRESCRIBING OF ANTIPSYCHOTIC MEDICATIONS IN LONG TERM-CARE RESIDENTS: THE HALT PROJECT

F. Harrison, M. Cations, T. Jessop, A. Shell, H. Brodaty, *Dementia Collaborative Research Centres, UNSW Australia, SYDNEY, New South Wales, Australia*

Despite limited evidence for efficacy and safety concerns, antipsychotic medications are commonly prescribed to manage behavioural and psychological symptoms of dementia (BPSD). Guidelines mandating appropriate, short-term use are rarely followed in practice. The aim is to examine conditions under which antipsychotics are prescribed in long term care (LTC) residents to better understand inappropriate practices and opportunities for intervention. Data were from the HALT project, a single-arm longitudinal deprescribing study including 24 facilities across NSW, Australia, with participants aged over 60 years, on regular antipsychotic medication, without primary psychotic illness or severe BPSD. Antipsychotic use including naturalistic dosage history, setting, consent and indication was collected. Of 139 participants, 86.4% were prescribed an atypical antipsychotic, 10.1% a typical, and 3.6% both, among 2.3 concurrent psychotropic medications on average. The current course of antipsychotic was prescribed on average 2.1 years prior, and dose unchanged for 1.2 years. Aggression and agitation were the most common reasons for prescription. Most current courses (57.6%) commenced during residency at an LTC facility. Verbal consent for antipsychotics was recorded in 15.1% of participant files; written consent was located once. Recommendations by health professionals to review antipsychotics were documented in 62.6% of cases. Antipsychotics were commonly prescribed outside guidelines for older adults with dementia. The majority were initiated without informed consent and continued without change for lengthy periods, even when reduction or cessation was recommended. Indications were often unclear or for symptoms with insufficient evidence for benefit. Interventions to improve prescribing practices to meet guidelines are urgently needed.

SALIENT CUES AND WAYFINDING IN ALZHEIMER'S DISEASE WITHIN A VIRTUAL SENIOR RESIDENCE

R. Davis, J. Ohman, *Kirkhof College of Nursing, Grand Valley State University, Grand Rapids, Michigan*

Wayfinding is a problem for persons with Alzheimer's disease (AD), especially in complex environments such as senior residential communities. In this study, persons with AD or Mild Cognitive Impairment (MCI) and a control group of older adults were asked to find their way in a virtual reality simulation of a senior residential community. Subjects had to find their way repeatedly over multiple trials for two consecutive days in standard (no extra cues) and salient

(colorful, memorable cues placed at key decision points) cue conditions. The results showed that there was a significant interaction among group, day, and trial ($F(8, 987) = 8.049$; $p < .0001$ indicating that the subjects in the control group found their way faster over days and trials in both cue conditions when compared to the AD/MCI group. The control group found the goal significantly more often ($M = 16.1$, $SD = 2.23$) than the AD/MCI group ($M = 6.45$, $SD = 5.43$); $t(68) = 25.806$, $p < .001$. There was an interaction among cue condition, day, and trial; $F(4, 986) = 2.534$, $p = .039$, with subjects finding the goal location the fastest in the salient cue condition. Both groups had more goal acquisitions and a faster time to acquire the goal in the salient cue condition when compared to the standard cue condition. The study results indicate that individuals with and without AD/MCI can find their way more often when virtual environments are enhanced with salient environmental cues. Funded by the NIH: 1R15AG37946-1A1

USE OF TELEHEALTH DURING PHYSICAL REHABILITATION FOR PATIENTS WITH CHF: A SYSTEMATIC REVIEW

D. Shaw, A. Anderson, C. Hernandez, J. Padilla, J. Royer, C. Saulog, *Franklin Pierce University, Goodyear, Arizona*

The purpose of this systematic review was to discuss telehealth as a viable adjunct for improving physical outcomes in patients with congestive heart failure (CHF) as compared to patients receiving cardiac rehabilitation in traditional hospital settings. A comprehensive literature search was completed using PubMed, CINAHL, PEDro, Cochrane Central Register of Control Trials, and Google Scholar. Articles were assessed by three reviewers for quality using the PEDro scale. Five randomized controlled trials were selected and analyzed. The results focused on the affect telemonitored home programs (THP) had on select physical outcome measures (i.e. VO_2 peak, Six Minute Walk Test, and ECG monitoring). The articles reviewed all characterize THP as a safe alternative to hospital-based cardiac rehabilitation in patients with CHF. Four of the studies revealed significantly greater improvements in VO_2 peak for THP when compared to hospital-based groups. All studies characterize THP to be as safe as, and sometimes superior to, hospital-based cardiac rehabilitation programs. Improvements in physical outcome measures for aerobic power and functional mobility were consistent throughout. The opportunity for telemonitored patients to receive direct feedback from healthcare professionals regarding physical responses to exercise clearly added to patient confidence. There were no untoward ECG-related events reported in patients participating in cardiac rehabilitation either at home or at a hospital. We conclude THP is an efficacious rehabilitation adjunct for patients with CHF when compared to cardiac rehabilitation received in traditional hospital settings.

THE CRITICAL ROLE OF THE HEALTHCARE SYSTEM ON LONG-TERM CARE ADMISSIONS OF PEOPLE WITH DEMENTIA

N. Donnelly¹, N. Humphries², A. Hickey¹, F. Doyle¹, 1. *Psychology, Royal College of Surgeons in Ireland, Dublin, Ireland*, 2. *Royal College of Physicians of Ireland, Dublin, Ireland*

Background: There are few studies concentrating on the influence of health system factors on long-term care admissions of people with dementia. We address this absence by examining how inadequacies in the healthcare system impact on long-term care admissions of people with dementia. This is in the context of the Irish healthcare system which has been greatly impacted by the economic crisis and austerity.

Methods: Thirty-eight qualitative in-depth interviews with healthcare professionals and family carers were conducted. Interviews focused on participants' perceptions of the main factors which influence admission to long-term care. Interviews were analysed thematically.

Results: Long-term care admissions of people with dementia are affected by inadequacies in the healthcare system in three ways. Firstly, the economic crisis in Ireland appears to have exacerbated the under-resourcing of community care services. These services are also inequitable. Consequently, the effectiveness of community care is limited. Secondly, such limits in community care increase acute care admissions. Finally, admission of people with dementia to acute care can accelerate the journey towards long-term care.

Conclusions: Inadequacies in the healthcare system have a substantial impact on the threshold for long-term care admissions. This suggests that we cannot fully understand the factors that predict long-term care admission of people with dementia without accounting for healthcare system factors on the continuation of homecare.

SESSION 3930 (PAPER)

CHRONIC CONDITIONS IN OLDER ADULTS 2

PREVENTING RECURRENCE OF VENOUS LEG ULCERS IN OLDER ADULTS: A LONGITUDINAL, RANDOMISED TRIAL

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Leg ulcers are a significant cause of chronic ill-health for older adults, and after healing, up to 70% recur. This study aimed to determine the effectiveness of leg elevation and/or calf muscle exercise interventions on preventing venous leg ulcer recurrence. Patients were recruited within 4 weeks of healing and randomised to either 1) usual care (i.e. evidence-based compression therapy and recommendations); 2) usual care plus 60 minutes/day of leg elevation; or 3) usual care plus leg elevation and a calf muscle exercise program. Data were collected 3 monthly for 12 months after healing.

A third (35%) of a sample of 45 participants recurred within 12 months. The mean age was 68 years ($SD 14.4$) and 62% were male. Using Kaplan-Meier analysis, the mean time to ulcer recurrence for the usual care group was 32.6 weeks (95%CI 19.4–45.9), for the leg elevation group 38.2 weeks (95%CI 27.9–49.4), and for the combined elevation and exercise group 43.8 weeks (95%CI 36.8–50.9), ns. Controlling for age and comorbidities, Cox proportional hazards regression found participants in the combined leg elevation and exercise group were significantly less likely to

recur than those in the usual care group (HR 0.02, 95%CI 0.01–0.79, $p=0.037$), while the leg elevation group were not significantly different (HR 0.31, 95%CI 0.001–1.13, $p=0.059$). Living alone was associated with higher risk (HR 4.68, 95%CI 1.23–17.8, $p=0.024$). Results suggest that significant decreases in ulcer recurrence are possible with regular follow-up after healing and non-invasive, self-management interventions.

COMPLEX COMORBIDITY AMONG OLDER U.S. VETERANS WITH INSOMNIA

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Background: Current treatment for insomnia does not address the complex comorbidity associated with insomnia in older adults. The purpose of this study was to identify comorbid conditions and symptoms among older US Veterans with insomnia.

Methods: All community-dwelling patients aged ≥ 60 years who received care at one Veterans Administration healthcare system were sent a postal survey. Respondents who met International Classification of Sleep Disorders, 2nd Edition (ICSD2) criteria for insomnia were invited for in-person assessment, including a self-reported Comorbidity Index, Patient Health Questionnaire (PHQ9, depression), symptoms that caused trouble sleeping, home sleep apnea testing (apnea-hypopnea index, AHI), Flinders Fatigue Scale (FFS) and Epworth Sleepiness Scale (ESS).

Results: Of 4717 veterans who completed the postal survey, 52% met ICSD2 diagnostic criteria for insomnia. 519 with insomnia completed in-person assessment (mean age 72.0 years, 98% male, 79% non-Hispanic white). They reported a mean of 6.3 comorbidities; including high blood pressure (65% of participants), back pain (61%), cataracts (50%), enlarged prostate (46% of males), and osteoarthritis (42%). 13% of participants had PHQ9 > 10 (suggesting major depression), and 46.7% had an AHI > 15 (suggesting moderate-severe sleep apnea). Symptoms that caused trouble sleeping > 3 times per week included need to use the bathroom (40% of participants) and pain (15%). 42% reported a FFS > 11 , and 16% reported ESS > 10 .

Conclusions: Insomnia is common among older US veterans, and occurs with complex comorbidity. Treatment approaches for insomnia should address the complex comorbidity that occurs with insomnia in older adults.

DEPRESSION IN COMMUNITY-LIVING OLDER ADULTS WITH CHRONIC VENOUS LEG ULCERS

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Older adults are at higher risk of developing venous leg ulcers, many of which do not heal for months or years.

Qualitative reports suggest the chronic condition is associated with poor self-esteem, anxiety and depression; however, there is little information on the prevalence of depressive symptoms, or factors associated with them.

Data were collected for 24 weeks from a sample of 386 community-living adults with venous leg ulcers, on socio-demographics, health, and symptoms, utilising the Geriatric Depression Scale (GDS) for depressive symptoms. Multivariable linear regression identified factors associated with depressive symptoms, and logistic regression identified predictors of failure to heal within 24 weeks.

The mean age was 79 years (SD 14.4) and 52% were female. On enrolment, 8% ($n=29$) of participants scored at high risk of depression, and another 23% ($n=92$) scored at mild risk of depression. Controlling for gender and co-morbidities, regression analysis found younger age ($p=0.012$), pain ($p=0.017$) and poorer social support ($p=0.001$) were significantly associated with higher GDS scores. Higher GDS scores were significantly associated with failure to heal after 24 weeks at the bivariate level ($p=0.031$), however regression analysis found living alone (OR 2.33, 95%CI 1.37–3.94), rheumatoid arthritis (OR 2.94, 95%CI 1.33–6.67) and weeks of ulcer duration (OR 1.01, 95%CI 1.005–1.014) were the primary predictors of failure to heal ($p<0.01$).

Results suggest that depressive symptoms may not be directly involved in chronic wound healing, rather social factors and management of comorbidities may be significant factors to address to promote well-being and ulcer healing.

ASSOCIATION OF THYROID HORMONES WITH CHRONIC CONSTIPATION IN HOSPITALIZED ELDERLY PATIENTS

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AIMS: The aim of this study was to investigate the relationship between thyroid hormones and chronic constipation in the elderly.

Methods: This pilot study was conducted at the Center of Gerontology and Geriatrics, West China Hospital. A total of 267 inpatients aged 60 years or older were enrolled from January 2015 to May 2016. All the patients were evaluated whether or not chronic constipation. Thyroid-stimulating hormone (TSH), triiodothyronine (T3), tetraiodothyronine (T4), free triiodothyronine (FT3), and free tetraiodothyronine (FT4) were detected using radioimmunity. We assessed associations between TSH and other thyroid hormones.

Results: Our study included 93 patients (34.83%) with chronic constipation, and 174 patients (65.17%) without chronic constipation. At baseline, Compared with the non-constipation patients, the patients with constipation had significantly lower levels T3 (1.38 ± 0.29 nmol/L vs 1.23 ± 0.38 nmol/L; $P = 0.01$), and FT3/FT4 ratio (0.26 ± 0.05 vs 0.24 ± 0.06 ; $P = 0.04$). There was no significant difference in TSH, T4, FT3, and FT4. In the constipation patients, none of the correlations between TSH and T3, T4, FT3, and between TSH and FT4, FT3/FT4 was significant. However, in the non-constipation patients, TSH was significantly correlated with T4 ($R = -0.298$; $P = 0.001$) and FT3 ($R = 0.473$; $P = 0.01$), and between TSH and FT4, FT3/FT4 ratio was significant.

Conclusion: Among hospitalized elderly patients with chronic constipation, there is a decreased T4 to T3 conversion, and abnormal biofeedback regulations in thyroid axis. These changes in thyroid hormone production may contribute to chronic constipation in the elderly.

SESSION 3935 (SYMPOSIUM)

DELIRIUM IN HOSPITALIZED OLDER PATIENTS: EARLY RECOGNITION, PREVENTION, AND MANAGEMENT

Chair: M. Schuurmans, *UMC Utrecht, Utrecht, Netherlands*
Co-Chair: K. Milisen, *KU Leuven - University of Leuven, Leuven, Belgium*

Discussant: S.K. Inouye, *Harvard Medical School, Boston, Massachusetts*

Delirium is a frequent complication of hospitalization in vulnerable old people. Given the greying of all nations and the changes in hospital practice, the expectation is that the number of delirious patients will increase rapidly. The last decades much research has been conducted regarding early recognition and prevention of delirium in hospitalized patients. The 2016 Cochrane review regarding prevention of delirium in non-ICU patients concluded that there is strong evidence supporting multi-component interventions to prevent delirium in hospitalized patients. To bring this knowledge into practice at the one hand, and to strengthen the body of knowledge with easy to use tools and interventions, however, is still challenging. As a result many older patients who enter the hospital will develop delirium and this will eventually not even be recognized or adequately managed. Delirium results in longer hospital stays, morbidity and increased mortality at huge personal and societal costs. Changing practice involves a large variety of professionals and hospital management. What can be done to change practice, what is the effect of national policy, of education and of strengthening tools and interventions? In this symposium a selection of studies targeted at strengthening delirium recognition and prevention will be presented. Finally, our discussant Sharon Inouye, the delirium expert from Harvard Medical School, the United States will wrap-up the session.

A NATIONAL POLICY ON EARLY RECOGNITION OF DELIRIUM

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In the Netherlands in 2008 the professional associations agreed with the Ministry of Health on a policy of reduction of preventable harm in hospitalised patients. Part of this policy regarded implementation of early recognition and prevention of delirium. In 2010 the Inspectorate of Health defined delirium as one of the mandatory quality of care indicators of hospital care. Although mandatory, in 2015 data of the inspectorate showed that less than 10% of the hospitals succeeded to assess risk in at least 80% of the patients combined with a follow up if needed. A few national studies regarded this mandatory set of delirium recognition indicators and showed that nurses consider the assessment of risk

and the subsequent monitoring as an administrative burden more than a quality of care indicator. The general impression is that the national policy resulted in higher delirium awareness, however, not automatically followed by preventive measures.

VALIDITY OF A SCREENING METHOD FOR DELIRIUM RISK IN OLDER PATIENTS ADMITTED TO A GENERAL HOSPITAL

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Routine care data were used to examine the predictive value of three Dutch health care inspection mandatory questions for screening on delirium. Delirium diagnosis was established on three proxy measures.

The three health care inspection mandatory questions for screening on delirium combined with relevant routine collected patient characteristics were modelled in a logistic regression model. Subsequent potential additional predictive variables were fit into a full model and with bootstrap backward selection a final model was fit.

In data of 3,786 hospitalized patients, 70 years and over (16.4% delirium), AUC (95%CI's) were found of 0.81 (0.79 - 0.83), 0.86 (0.85-0.87) and 0.86 (0.84-0.87) for the three question models, the full model and the final model respectively. The calibration performance was high: *U*-statistic (*p*-value) of 0.00 (1.00) for all three models. The three mandatory questions perform well in screening on delirium risk.

RECOGNITION AND MANAGEMENT OF DELIRIUM IN OLDER HOSPITALIZED PATIENTS

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A retrospective cohort study was conducted to research the recognition rates and types of management of delirium in older hospitalized patients. The medical files of all 65+ patients who were diagnosed with a delirium in 2014 in one academic hospital were included in the study (N=401, 5% of all admitted older people). Three quarters of the delirious patients (75%) were monitored using the Delirium Observation Screening Scale (DOS), and 67% received one or more delirium consultations from a specialized geriatric nurse practitioner. Most patients (86%) received drugs (Haloperidol or other) to manage the delirium, 69% received interventions aimed at reorientation, and 60% received both pharmacological and non-pharmacological treatment. Overall, recognition of delirium was probably severely underestimated, as previous prospective studies reported higher delirium prevalence rates in older hospitalized patients. The treatment of delirium can also be improved, as many patients did not receive any nursing interventions aimed at reorientation.

EFFECT OF AN INTERACTIVE E-LEARNING TOOL FOR DELIRIUM ON PATIENT AND NURSING OUTCOMES

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A before-after study (sequential design) was used to evaluate the effect of a delirium e-learning tool on: (1) presence and duration of delirium in geriatric patients, and (2) nurses' delirium recognition and knowledge. The intervention consisted of (1) a one-hour information session to offer oral and written information about the use of the e-learning tool, which included 11 e-modules integrating knowledge and skill development in delirium prevention, detection and management, and (2) a three-month self-active e-learning program. End points were presence and duration of delirium (Confusion Assessment Method) and delirium recognition (Case vignettes) and knowledge (Delirium Knowledge Questionnaire) for nurses. In geriatric patients, there was no significant difference in presence (21.5% versus 25.9%; $P=0.51$) and duration of delirium (mean $4.2 \pm SD$ 4.8 days versus $4.9 \pm SD$ 4.8 days; $P=0.8$) between the intervention ($n=81$) and non-intervention ($n=79$) cohorts, respectively. Also, no benefits were found for nurses' delirium knowledge ($P=0.43$) and recognition ($P=1.0$).

SESSION 3940 (PAPER)

PHARMACOLOGICAL MANAGEMENT IN THE ELDERLY

PHARMACOVIGILANCE IN THE ELDERLY (PHARE STUDY)

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Background: The PharE Study (Pharmacovigilance in the Elderly) is an ongoing study in the ASP Catanzaro, Italy, on elderly home care patients affected with dementia. The aim of the present study is: to assess the use of inappropriate drugs; to study the possible drug-drug interactions; to perform the possible strategies for avoiding the potential harmful prescriptions, by using the STOPP and START criteria.

Methods: Preliminary data were obtained from 461 home patients, 185 men, 276 women, mean age 81.1 ± 6.8 years old. Overall patients with Alzheimer's dementia were 39%, vascular and mixed dementia 52%, other dementias 9%. A classification of potential inappropriate drugs was made according to the Beers criteria. Data were collected through an appropriate software able to gather the main information. In the case of suspected adverse event, Naranjo Scale was applied. The study of possible drug-drug interactions was made by Micromedex 2.0. All analyses were performed using the SPSS program version 18.0 for Windows.

Results: Patients were functionally impaired (ADL 0.8 ± 1.9 , IADL 0.1 ± 0.4) and moderately to severely cognitively impaired (MMSE 12.1 ± 2.5). 71.8% of patients used 5–9 drugs and 10.6% more than 10 drugs. The bivariate relationship between number of drugs and Modification of Diet in Renal Disease (MDRD) showed that the higher the number of drugs used is, the worst is kidney function ($p=0.0001$). Among the inappropriate drugs anticholinergic drugs were 13.2%, tricyclic antidepressants 2.8% and ticlopidine 2.1%. Long half-life benzodiazepines were used in 4.3% of patients. Antipsychotics were used in 20% of the cases. Proton pump inhibitors were used in 86.6% of the cases. Some interesting case reports were recorded too.

Conclusions: These preliminary data are very impressive and show the need for an accurate choice of drugs in elderly people. The implementation of data collected will bring further details and the application of STOPP and START criteria will improve drug use in older age.

DEPRESCRIBING IN FRAIL OLDER PEOPLE

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Deprescribing has been proposed as a way to reduce polypharmacy in frail older people, and may improve their survival. We have conducted two randomised controlled trials (RCT) and a systematic review examining deprescribing, the planned cessation of potentially non-beneficial medicines. In our pilot RCT in 35 participants we found that an RCT of deprescribing is acceptable to participants, and that recruitment in residential aged care facilities (RACF) is feasible. In an open RCT enrolling ninety-five people aged over 65 years living in four RACF we found that randomisation to the deprescribing intervention was associated with participants taking 2.0 ± 0.9 (95% CI 0.08 to 3.8, $p=0.04$) fewer medicines after 12 months. Twelve (of 47) intervention participants and 19 (of 48) control participants died within 12 months of randomisation (26% versus 40% mortality, $p=0.16$, HR 0.60, 95% CI 0.30 to 1.22). The main limitations of this study were the open design and small participant numbers. Systematic review of the available randomised data suggests that reducing polypharmacy does not have a significant effect on mortality (OR 0.82, 95% CI 0.61 to 1.11). However subgroup analysis suggests patient specific interventions (as opposed to generalized educational programmes) may be associated with a significant reduction in mortality (OR 0.62, 95% CI 0.43 to 0.88). Deprescribing appears to reduce the number of regular medicines consumed by older people with, at least, no significant adverse effects on survival.

ANTICHOLINERGIC MEDICATION USE AND COMMUNITY-ACQUIRED PNEUMONIA RISK IN AN OLDER VETERAN POPULATION

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Community-acquired pneumonia (CAP) is a leading cause of morbidity and mortality among older adults. Identifying medications that pose CAP risk can help health providers reduce

use in their older patients. The purpose of this study was to investigate the association between anticholinergic medication use and the rate of CAP among an older Veteran population.

The study identified a case group of Veterans aged 65–89 years diagnosed with CAP and matched by age for a control group. Any anticholinergic fill within the year prior to CAP diagnosis or index date was noted. Acute use was defined as any anticholinergic fill in the 90 days prior to CAP diagnosis, and chronic use was defined as 3 or more fills in the year prior to CAP diagnosis. Groups were compared using Chi-square test with a priori alpha set at 0.05.

Two hundred and fifty-two patients met inclusion criteria (mean age 73, 97.6% male). Any anticholinergic use in the year prior to index date was observed in 35% of CAP cases and 17% of controls without CAP (OR = 2.683, 95% CI = 1.480–4.863). Acute use of anticholinergics was observed in 23% of cases and 7% of controls (OR = 3.887, 95% CI 1.755–8.605), and chronic use was observed in 21% of cases and 10% of controls (OR = 2.260, 95% CI 1.102–4.634).

In this study of an older Veteran population, any anticholinergic use in the year prior to CAP, acute use, and chronic use were all associated with increased CAP risk.

SAFE MEDICATION TRANSITIONS IN FRAILTY PATIENTS

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Purpose: To determine if transitions of care activities conducted by a clinical pharmacist decrease medication and non-medication related 30-day readmissions in frailty patients admitted to a medical-surgical unit.

Methods: This was a single center, prospective cohort study conducted at Cedars-Sinai Medical Center (CSMC) in which frailty patients admitted to a designated nursing unit were provided with comprehensive medication management services as outlined in the G.E.R.I.A.T.R.I.C. bundle.

Results: Fifty patients were included in the intervention and control groups, respectively. Of the patients in the intervention group, 96% received admission medication reconciliation, 72% received discharge counseling and 88% received post-discharge follow up. The 30-day all-cause readmission rate was not significantly lower in the intervention group (16% vs 30%, $p=0.15$). The number of patients with intermediate or high medication adherence and literacy, defined as achieving a medication adherence and literacy score ≥ 6 points, increased after the implementation of a pharmacy-based transitions of care test of change ($p=0.03$).

Conclusion: This study shows that pharmacists increase medication adherence and literacy in the elderly. There was not a significant difference in medication or non-medication related readmission rates detected between the intervention and control groups.

POLYPHARMACY AND GERIATRIC SYNDROMES IN OLDER HOSPITALIZED VETERANS

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Polypharmacy is common in older patients discharged to skilled nursing facilities (SNFs) and is associated with adverse health outcomes. As part of a recent VA-funded Quality Improvement project to improve the care transition process from the VA hospital to area SNFs, we prospectively collected data for 134 hospitalized, older Veterans. These data showed that, on average, 14 medications were ordered for Veterans discharged from the VA hospital to SNF, which included 2.5 medications newly prescribed in the hospital that met criteria for being potentially inappropriate medications (PIMs). Moreover, 75% of Veterans had two or more and 43% had three or more geriatric syndromes based on standardized assessments completed by research staff, with an average of 2.6 syndromes per Veteran. The most common geriatric syndromes in this sample of Veterans included: recent fall history (62%), recent unintentional weight loss (41%), depression (41%), incontinence (40%) and cognitive impairment (39%). Multiple syndromes also were reported by Veterans as newly-acquired during hospitalization, which averaged 14.6 (± 10.26) days per Veteran. All of those with polypharmacy (100%) also had one or more medications with side effects related to geriatric syndromes, with an average of 5.4 such medications per Veteran.

Conclusion: The prevalence of both polypharmacy and multiple co-existing geriatric syndromes may, at least partially, explain why these patients often have poor health outcomes. Efforts to de-prescribe PIMs and medications associated with geriatric syndromes deserve further study as they may contribute to improved health outcomes among hospitalized veterans discharged to SNF.

SESSION 3945 (PAPER)

INTERNATIONAL REPORTS ON FRAILTY RISK FOR ADVERSE OUTCOMES

THE ASSOCIATION BETWEEN FRAILTY INDEX AND THE METABOLIC SYNDROME OVER THE LIFESPAN

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Both the frailty index (FI) and the metabolic syndrome have been associated with poor outcomes in the general population. In very old people (90+ years) the FI, but not the metabolic syndrome was associated with an increased mortality risk. This study investigates the relationship between FI, metabolic syndrome, and mortality risk, in younger (20–65 years) and older (65+ years) people. The United States National Health and Nutrition Examination Survey (NHANES) datasets for 2003–2004 and 2005–2006 were linked with mortality data up to 2011. The metabolic syndrome was defined using the International Diabetes Federation criteria, while frailty was determined using a 41

item FI. Compared to the younger group ($n=6403$), the older group ($n=2152$) had a higher FI (0.10 ± 0.00 vs 0.22 ± 0.00 , $p < 0.001$) and a greater prevalence of metabolic syndrome (24.14 vs 45.5% , $p < 0.001$). The metabolic syndrome and FI were weakly correlated in younger people ($r=0.25$, $p < 0.001$) but not in older ($r=0.08$, $p < 0.1$). In bivariate analyses, the FI predicted mortality risk in both age groups whereas the metabolic syndrome did only in the younger group. In Cox models, adjusted for age, sex and each other, the FI was associated with increased mortality risk at both ages (younger HR 1.05 (1.04–1.06); older HR 1.04 (1.03–1.04)) whereas the metabolic syndrome did not contribute to mortality risk. Thus, the FI is a better predictor of mortality than metabolic syndrome status in younger and in older people.

WHICH PERSONAL RESOURCES MODERATE THE IMPACT OF LEVELS OF FRAILTY ON ADVERSE OUTCOMES?

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Although there is a lively ongoing debate on the nature and definition of frailty, researchers agree that the more frail older persons are, the higher their risk of adverse frailty outcomes is. Nevertheless, there are pre-frail and frail people who do not suffer from these adverse outcomes. This suggests that more factors play a role in the occurrence of these outcomes. Research on the potential moderating effect of resources on frailty outcomes among pre-frail and frail persons is, however, scarce. The present prospective cohort study ($n=2420$) investigates the moderating effects of level of education, income, availability of informal care, living situation, sense of mastery, and self-management abilities on the relation between the level of frailty and the adverse outcomes mortality, hospitalization and (I)ADL disability over a 2-year period. Results show that frail older people have increased odds for mortality and hospitalization, and a higher risk for increased disability compared to pre-frail older people. Only for the development of disability, two resources (income and living situation) had a moderating effect of the impact of frailty. However, overall the included resources had no consistent and convincing moderating effects. The results of the present study indicate (a) that the impact of the level of frailty on adverse outcomes can be generally considered as main effects, and (b) that it is not yet clear whether, and how presumed resources impact the pathway from frailty to adverse outcomes.

SYNERGISTIC EFFECT OF FUNCTION AND COMORBIDITY BURDEN ON MORTALITY: A 16-YEAR SURVIVAL ANALYSIS

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The relationship between disability and comorbidity on mortality is widely perceived as additive in clinical models of frailty. National data were retrospectively extracted from medical records of community hospital. There were of 12,804 acutely-disabled patients admitted for inpatient rehabilitation in Singapore rehabilitation community hospitals from 1996 through 2005 were followed up for death till 31 December 2011. Cox proportional-hazards regression was used to assess the interaction of comorbidity and disability at discharge on all-cause mortality. During a median follow-up of 10.9 years, there were 8,565 deaths (66.9%). The mean age was 73.0 (standard deviation: 11.5) years. Independent risk factors of mortality were higher comorbidity ($p < 0.001$), severity of disability at discharge ($p < 0.001$), being widowed (adjusted hazard ratio [aHR]: 1.38, 95% confidence interval [CI]: 1.25–1.53), low socioeconomic status (aHR: 1.40, 95% CI: 1.29–1.53), discharge to nursing home (aHR: 1.14, 95% CI: 1.05–1.22) and re-admission into acute care (aHR: 1.54, 95% CI: 1.45–1.65). In the main effects model, those with high comorbidity had an aHR=2.41 (95% CI: 2.13–2.72) whereas those with total disability had an aHR=2.28 (95% CI: 2.12–2.46). In the interaction model, synergistic interaction existed between comorbidity and disability ($p < 0.001$) where those with high comorbidity and total disability had much higher aHR=6.57 (95% CI: 5.15–8.37). Our finding that comorbidity and disability have multiplicative effects on survival has important implications on measurements and models of frailty.

COGNITIVE IMPAIRMENT AND PHYSICAL FRAILTY IN OLDER ADULTS: IMPACT ON SURVIVAL

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The presence of both physical frailty and cognitive impairment has been recently proposed as a distinctive entity. We investigated the effect of physical frailty and cognitive impairment on survival among elderly. Study participants included 2251 dementia-free people aged 60+ years enrolled in the Swedish National study on Aging and Care in Kungsholmen, Stockholm. Physical frailty was defined according to Fried phenotype (weight loss, weakness, exhaustion, slowness, low physical activity). Cognitive Impairment Non Dementia (CIND) was defined on the basis of an extensive neuropsychological battery. We investigated the impact of CIND and physical frailty alone and the combination of these two conditions on survival in terms of mortality rate at 5 and 10 years of follow-up (Cox models) and differences in median age at death (Laplace regression). The strongest association with short and long survival was found among people with both CIND and physical frailty. Those people, after 5 years, had three times higher mortality rate (HR: 3.1; 95% CI: 1.8–5.4)

and 3.7 years shorter life compared to frailty-free subjects (neither CIND nor physical frail). People with only physical frailty but cognitively intact had an HR of 1.7 (95% CI: 1.1–2.8) as compared with frailty-free ones. Isolated CIND was not associated with mortality. After 10 years, similar results were observed, although attenuated (for CIND+ physical frailty: HR: 2.1; 95% CI: 1.3–3.2). Subjects with both physical frailty and cognitive impairment represent a special frail and complex population that deserves *ad hoc* assessments and care.

INFLUENCE OF COGNITIVE IMPAIRMENT ON PROGRESSING FROM BEING PRE-FRAIL FOR OLDER MEXICAN AMERICANS

B. Downer, S. Al Snih, B.T. Howrey, M. Raji, K.S. Markides, K.J. Ottenbacher, *University of Texas Medical Branch, Galveston, Texas*

Many older adults recover from pre-frailty, but a significant number experience continued declines and may become frail or deceased. Older Mexican Americans are vulnerable to becoming frail. This may be partly due to the high prevalence of cognitive impairment in this population. However, research into the role of cognition in the progression from pre-frailty is limited. Data for this analysis came from Wave 6 (2006–07) and Wave 7 (2010–11) of the Hispanic Established Population Epidemiological Study of the Elderly. The final sample included 1006 participants (age ≥ 77 years). Non-frail, pre-frail, and frail were defined as presence of 0, 1, and ≥ 2 frailty measures (weight loss, exhaustion, slow walking speed, and low grip strength). Cognitive impairment was defined as < 21 points on the Mini Mental Status Examination. Multinomial logistic regression models were used to assess the relationship between cognition and frailty status at Wave 6 (2006–07) and frailty status and mortality at Wave 7 (2010–11). The reference category was being non-frail and not cognitively impaired. Participants who were cognitively impaired and pre-frail ($n=89$) had 5.76 (95% CI=2.27–14.60) times higher odds to become frail and 3.95 (95% CI=1.60–9.79) times higher odds to be deceased at Wave 7. Participants who were pre-frail but not cognitively impaired at ($n=243$) did not have significantly higher odds to be frail (OR=1.51, 95% CI=0.83–2.76) or deceased (OR=0.97, 95% CI=0.54–1.72) at Wave 7. These findings provide evidence that cognitive impairment is an important characteristic of pre-frail older Mexican American adults who become frail or deceased.

SESSION 3950 (SYMPOSIUM)

INNOVATIONS IN CARE

Chair: L.M. Wagner, *University of California, San Francisco, San Francisco, California*

This session will focus on new approaches to innovative care models for older adults. The presentations will involve perspectives stemming from the economic impact of new models of dementia care to models for improving medication use for older adults. Topics included in this session will focus on evidence-based approaches to improving care for older adults with serious illness, models for improving medication use for older adults, the Care Ecosystem model, the

goals of the Global Brain Health Institute, economic models of dementia care, and policy and access to oral health care for older adults.

EVIDENCE-BASED APPROACHES TO IMPROVING CARE FOR OLDER ADULTS WITH SERIOUS ILLNESS

C.S. Ritchie, *University of California, San Francisco, San Francisco, California*

Every day 11,000 Baby-boomers turn 65. With increasing age, a subset of these older adults will experience multiple ailments, increasing symptom burden and serious illness. Geriatric palliative care “combines the principles and practice of geriatric medicine and palliative care; and focuses on comprehensive geriatric assessment; relief from pain and other symptoms; and management of physical and psychological problems, integrating social, spiritual, and environmental aspects of care.” Geriatric-palliative care integrates traditional geriatric assessment with holistic palliative care management to address both functional vulnerabilities brought on by disability, frailty and cognitive impairment and medical vulnerabilities brought on by multimorbidity and advanced illness. A number of geriatric-palliative care models have now been tested and demonstrated to be beneficial in improving quality of life and “right-sizing” cost. This presentation will review evidence-based approaches to the provision of community-based geriatric palliative care and discuss implications of these findings for future care.

ECONOMICS OF MODELS OF CARE DELIVERY: THEN AND NOW

L. Wilson, *University of California, San Francisco, San Francisco, California*

Introduction: CMS under the Obama Administration committed to shifting 50% of Medicare payments from fee-for-service to value-based models by 2018. But Tom Price, the new Secretary of Health and Human Services is an outspoken critic of value-based care. The major economic models being tested by CMMI; pay-for-performance, chronic care management, bundled payment, re-hospitalization, medical homes, and accountable care organizations (ACO's), have mixed results in demonstrating savings but value-based care is widely supported and may be too embedded to pull-back from them.

Objectives: We will present results of two studies examining economic effects of new models of dementia care: 1). Chronic care management and bundled payments for caregiver support programs 2).

Time-driven-activity-based-costing (TDABC) comparing different dementia care models

Methods: We use caregiver healthcare utilization data, and California Medicare data to compare shortterm economic effects of caregiver support programs funded by CMMI innovation grants. We compare annual dementia care costs using TDABC across three types of care delivery systems: ACO's, neurology practice, and medical home.

Results: We demonstrate the limitations of demonstrating cost-savings within short-term CMMI

demonstration projects, despite showing promising quality outcomes, and use Medicare data to demonstrate limitations of Medicare benchmarking. We demonstrate considerable costs differences across delivery systems.

Conclusions: Value-based care may be here to stay despite new leadership's premium support model' and lack of overwhelming cost impacts.

MODELS FOR IMPROVING MEDICATION USE FOR OLDER ADULTS

M. Steinman, *University of California, San Francisco, San Francisco, California*

Prescribing for older adults is highly complex and challenging. In this presentation, we will discuss several novel approaches to improving medication prescribing for older adults, including evidence about their ability to improve outcomes in this population.

THE DENTAL GAP: MISMATCH BETWEEN POLICY AND ORAL CARE DELIVERY NEEDS FOR INDIVIDUALS IN LONG-TERM CARE SETTINGS

C. Wides¹, K. Walgama¹, E. Mertz^{1,2}, *1. School of Dentistry, Department of Preventive and Restorative Dental Sciences & Healthforce Center, University of California, San Francisco, San Francisco, California, 2. Philip R. Lee Institute for Health Policy Studies, San Francisco, California*

Oral health is critical to overall health and well-being across the lifespan. This mixed method study examines the variation in state policy and provision of dental care to LTC patients and identifies gaps between the policy environment and care delivery needs that are shaping the organization of care in four states with varying policy environments. Factors that enable treatment of this population include geriatric dental training, hygienist autonomy and billing abilities, expanded practice dental providers, inter-professional practice, teledentistry and mobile dentistry. The regulatory environment of LTC settings dictates quality for patients in almost all aspects of care except dental health. A general trend was found toward cross-subsidized mobile service models nationally; however, the range and scope of services varies widely and in relation to the presence or absence of supportive policy factors.

THE CARE ECOSYSTEM: DEVELOPMENT AND EARLY RESULTS FROM AN ADAPTIVE AND SCALABLE DEMENTIA CARE PROGRAM

K. Possin, *Department of Neurology, University of California, San Francisco, San Francisco, California*

Our objective was to develop a scalable model of dementia care that complements primary care with additional caregiver support and education, medication consultation, and support in planning for future medical, financial, and legal decisions consistent with patient values. Care is delivered via the phone and web by unlicensed Care Team Navigators (CTNs), who are trained and supervised by a nurse, social worker, and pharmacist. This 'Care Ecosystem' is being tested via a pragmatic randomized controlled trial. The care model was iteratively improved during the trial based on input from caregivers, primary care providers, and clinical team members. In this talk, we will present the care model, lessons learned, and preliminary results.

ADDRESSING GLOBAL DEMENTIA CHALLENGES THROUGH INTER-PROFESSIONAL TRAINING: THE GLOBAL BRAIN HEALTH INSTITUTE

J. Merrilees², V.G. Valcour^{1,2,3}, B. Lawlor^{1,4}, S. MacDonald^{1,2}, I. Robertson^{1,4}, B. Miller^{1,2}, *1. Global Brain Health Institute,*

San Francisco, California, 2. Department of Neurology, University of California, San Francisco, San Francisco, California, 3. Division of Geriatric Medicine, Department of Medicine, University of California, San Francisco, San Francisco, California, 4. Trinity College, Dublin, Ireland

Dementia is among the most devastating illnesses worldwide, affecting over 36 million individuals with a prevalence that is expected to double every 20 years if effective interventions are not implemented. In 2010, the worldwide costs of caring for dementia approached 1% of total global GDP. Lower and middle income countries are at greatest risk for the emerging challenges of dementia care. Established in 2015, the Global Brain Health Institute (GBHI) works to reduce the scale and impact of dementia globally by training and supporting a new generation of leaders. We value innovative and inter-professional activities to enhance an international network armed with skills to create social change and inspire optimism around aging and dementia, shape dementia care and policy, reduce stigma, improve public opinion and expand knowledge related to treatment and prevention. We embrace the core hypothesis that our greatest impact will be achieved through inter-professional engagement.

SESSION 3955 (SYMPOSIUM)

ADDRESSING ISSUES FACING A DIVERSE AGING POPULATION: SCIENTIFIC PERSPECTIVES FOR PRACTICE AND POLICY

Chair: D.A. DiGilio, *American Psychological Association, District of Columbia*

Co-Chair: M. Gatz, *University of Southern California*

Discussant: T.C. Antonucci, *University of Michigan, Ann Arbor, Michigan*

The 2015 White House Conference on Aging (WHCoA) put forth a thematic agenda to help guide and shape the landscape for the current and next generations of older adults and their families. This symposium highlights key findings from the behavioral/social sciences that address three themes: retirement security; family caregiving and support services; and elder abuse. Economic and psychological research on the shifting boundaries between work and retirement has shown that a necessary condition for withdrawal from work includes income that replaces lost wages. Drs. Quinn will speak on key aspects of financial security and Dr. James on the importance of connecting on a deep and meaningful level with activities for health and wellness in retirement. Dr. Qualls positions family caregiving work within the context of family life across the lifespan, highlighting overlaps and distinctions between normal family life and caregiving work for older adults whose physical or cognitive challenges require assistance. Older adults and their families, particularly those who are ethnic minority, sexual minority, rural-residing, disabled, and economically disadvantaged, have problems accessing physical and mental health care. Dr. Czaja discusses key findings on the use of technology to facilitate older adults' aging in place and use of long-term services/supports. Elder abuse threatens the health, safety and well-being of far too many older adults. Dr. Roberto identifies risk factors and outcomes of elder abuse for individuals, families, and communities. Dr. Smyer

will provide summative comments and recommendations for translating research to practice and policy changes within the global context of aging.

THE NEW WORLD OF RETIREMENT INCOME SECURITY

J. Quinn¹, K. Cahill², 1. *Boston College, Chestnut Hill, Massachusetts*, 2. *Center on Aging & Work at Boston College, Chestnut Hill, Massachusetts*

We have entered a new world of retirement income security in America, with older individuals more vulnerable to financial insecurity than were prior generations. Traditionally, a secure retirement depended on Social Security, a defined-benefit pension plan, and individual savings. Today, two of these — pensions and savings — are absent or of modest importance for many elderly. Retirement income security now often requires earnings from continued work later in life, which exacerbates the economic vulnerability of persons with disabilities, the oldest-old, single women, and individuals with intermittent work histories. Policymakers can help remedy this by promoting savings at all (especially younger) ages and by removing barriers that discourage work later in life. Inaction now could mean a return to the days when old age and poverty were closely linked. The negative repercussions of this would extend well beyond traditional economic measures, as physical and mental health are closely tied to financial security.

RETIREMENT SECURITY: THE IMPORTANCE OF ENGAGEMENT

J. Boone James, C. Matz-Costa, *Boston College Center on Aging & Work, Chestnut Hill, Massachusetts*

The accumulation of a solid financial foundation is necessary but not sufficient for retirement security in the broadest sense, i.e. to continue to belong and to be a contributing member of society. Too little attention has been paid to creating a path to a rewarding later life. We define engagement in terms of the experience of connecting on a deep and meaningful level with productive activities and test whether there is a differential effect of engagement level (no involvement, low, moderate, and high engagement) on health and well-being in later life. Findings suggest that just staying “busy” in and of itself may not be the key to health and well-being in later life and retirement security; instead the quality of one’s experience (i.e., engagement) with paid work, volunteering, caregiving, and informal helping plays an important role in the extent to which involvement leads to positive outcomes.

PSYCHOLOGISTS’ ROLES WITH FAMILY CAREGIVERS AND HEALTH SYSTEMS

S.H. Qualls, *University of Colorado Colorado Springs, Colorado Springs, Colorado*

Caregiving is ubiquitous to family life across the lifespan, positioning families as key partners in long term services and supports for adults who require it. Ironically, families are poorly integrated into acute as well as long term care service systems despite their centrality in caregiving for adults

requiring long term services and supports. The prevalence, types of long term care work, and consequences of caregiving provided by family members are described, along with the opportunities for psychologists to address barriers to effective partnership between families and care settings. Research, practice innovation, and policy advocacy are all critical roles for psychologists’ involvement in improving the linkages between families and care systems. Psychologists can promote stronger integration of families and care systems, an imperative for the families whose caregiving is so critical to a rapidly aging society.

TECHNOLOGY AND THE PROVISION OF LONG-TERM CARE SERVICES AND SUPPORTS (LTSS) FOR OLDER ADULTS

S.J. Czaja, *University of Miami Miller School of Medicine, Miami, Florida*

The aging of the population, especially the increase in the “oldest old,” presents both opportunities and challenges. Although many older adults enjoy relatively good health, many have one or more chronic conditions or diseases and need help with disease management activities or activities important to independent living. There are a variety of technology applications such as sensing or monitoring technologies, telemedicine applications, or mobile device applications that can be used to enhance mobility and quality of life of people who have limitations and foster the ability of those with chronic conditions to remain at home. Technology can also provide a role in providing support to family caregivers. This paper will discuss the potential role that technology can play in the provision of LTSS for older adults and their families. Challenges and barriers that currently limit the full potential of technology to be realized for these populations will also be discussed.

ELDER ABUSE AND NEGLECT: A WICKED PROBLEM IN NEED OF ATTENTION

K.A. Roberto, *Virginia Tech, Blacksburg, Virginia*

One of the most wicked problems facing society today, elder abuse, affects at least one in ten older Americans. A systematic analysis of the empirical research revealed common risk factors for abuse including gender, race/ethnicity, living arrangements, cultural beliefs/values, physical/cognitive impairments, social isolation, and loneliness. While risk factors vary by type of abuse (physical, sexual, psychological/emotional, financial abuse/exploitation, neglect), older adults typically know their perpetrators, who are usually family members and others they trust or rely upon for assistance. The costs and consequences of elder abuse are typically irreversible and long-lasting. Psychological abuse is one of the most underreported yet damaging forms of elder abuse; its intangible nature makes it difficult to quantify and often goes unrecognized by older victims. Findings suggest the need for collaborations between researchers and practitioners to design and implement rigorous studies to inform integrative approaches to professional practice and policy development to address elder abuse.

SESSION 3960 (PAPER)

REGULATION OF INFLAMMATION IN AGING

INTESTINAL STEM CELL FUNCTION IS IMPAIRED BY EXPOSURE TO AN OLD ENVIRONMENT

D. Huffman, T. Tabrizian, *Albert Einstein College of Medicine, Bronx, New York*

Intestinal aging is characterized by a decline in stem cell regeneration and renewal, inflammation, and loss of mucosal barrier integrity. Studies using heterochronic parabiosis indicate that circulating factors in old blood can mediate the transposition of aging phenotypes. In order to determine if intestinal aging is modulated by the systemic environment, we generated isochronic (Y-Y, O-O) and heterochronic (Y-O) C57BL/6 male parabionts. Utilizing an established organoid assay, we found that stem cell function in young crypts was significantly impaired by exposure to old blood ($P < 0.05$). Furthermore, we observed a significant reduction in crypt area in these young mice to levels observed in old ($P < 0.05$). Reassociation assays with young and old Lgr5+ stem cells and paneth cells confirmed that aging of the stem and niche cells, contributed to this decline. Several age-related intestinal phenotypes could be rescued in old mice by short-term rapamycin or salicylate treatment ($P < 0.05$). Furthermore, while rapamycin had no effect on intestinal mTOR signaling, it reduced circulating levels of TNF α , IL-1 β and INF γ to youthful levels. An *ex vivo* screening assay confirmed that TNF α was able to potentially disrupt stem cell function, suggesting its potential as a key pro-geronic factor in intestinal aging. Importantly, short-term treatment with a TNF α neutralizing antibody (60ug 3 x wk) partially restored stem cell function in old mice. Thus, these data demonstrate an important role for circulating pro-inflammatory factors in intestinal aging, and suggest that TNF α represents is a key pro-geronic factor in mediating the transposition of intestinal aging phenotypes by heterochronic parabiosis.

ACUTE MACROPHAGE ACTIVATION PREDICTS SURVIVAL POST-HIP FRACTURE SURGERY IN ELDERLY

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Hip fracture (HF) is a common and devastating injury as well as a major health issue in old age. HF has a one-year mortality >30% in the elderly and is a frequent cause of institutionalization. The reasons for such poor outcomes in this trauma are multifactorial but we aim here at identifying immunological factors, which can influence and/or predict the outcome of hip trauma in elderly patients post-surgery.

The present study analyzes longitudinally immunological parameters evocating of the Immune Risk Phenotype as well as inflammation markers in sequential pre- and post-surgical samples collected from HF patients over 75 years of age. These markers were monitored by flow cytometry and Luminex to determine the immune status of such patients.

The study revealed that HF is associated with an immune scar. Comparing healthy elderly individuals and HF elderly patients, we found that, despite unaltered homeostatic mechanisms, CD4+ and CD8+ T-cells counts were impacted early post fracture. However, T-cells subsets returned to normal level at the time of hospital discharge. Moreover, this acute event results in a transient hyper-inflammation.

Importantly, we show that blood level of a molecule released by activated macrophages is predictive of one-year mortality in elderly HF patients.

In conclusion, HF patients exhibit transient changes in innate and adaptive immunity. Meanwhile, profound acute inflammatory processes measurable pre-surgery occur, which are predictive of long-term survival after HF surgery. We propose to use the identified predictive biomarker to improve follow-up of patients at risk of early death.

HOW DOES THE SILENCING OF THE INFLAMMATION MEDIATOR GENE: FAT10, EXTEND LIFESPAN IN MICE?

A. Canaan, C. Arjona, B. Gulez, M. Seay, J. Zhang, O. Henegariu, R. Garcia Milian, *Yale School of Medicine, New Haven, Connecticut*

FAT10 knockout mice display 50% reduction in total body fat and 20% increase in median and maximal lifespan, in both sexes. It is still unclear how FAT10 silencing affects aging and metabolism. Our current studies provide novel mechanistic insights for the role of this inflammation related gene - FAT10 in aging and metabolism.

The FAT10 gene encodes a di-ubiquitin homolog that is found only in vertebrates and is expressed at very low levels in most tissues, but can be strongly induced by inflammatory stimuli. FAT10 knockout mice develop normally, but from an early age these mice have substantially less adipose tissue. Our studies have demonstrated that they are metabolically more active than their controls. FAT10 silencing in 3T3-L1 cells resulted in reduced adipogenesis, *in vitro*. RNA-Sequence analysis of these cells revealed major differential gene expressions associated with adipocyte metabolic functions and growth. Pathway Analysis combined with TRANSFAC analysis identified new regulation of FAT10 by adipogenic transcription factors. In addition to the reduced adipogenesis, FAT10 silencing increases various stem cell populations including mesenchymal and hematopoietic stem cells.

FAT10 thus provides a potentially new window into the mechanisms of mammalian aging. The pleiotropic nature of FAT10's action provides several avenues to probe its anti-aging action and ultimately an opportunity to identify drug-gable targets.

THE NLRC4 INFLAMMASOME CONTRIBUTES TO BRAIN INFLAMMAGING

J. de Rivero Vaccari¹, N.H. Mejias¹, F. Travascio², 1. Neurological Surgery, University of Miami, Miami, Florida, 2. University of Miami Department of Industrial Engineering, Miami, Florida

Inflammation is a natural part of aging in a process known as inflammaging. Inflammaging has been associated with deleterious outcomes in the aging brain. It is believed that inflammaging precedes the onset of neurodegenerative

diseases such as Alzheimer's disease and Parkinson's disease. The inflammasome is an arm of the innate immune response involved in the activation of the inflammatory caspase-1 and the processing of the pro-inflammatory cytokines interleukin (IL)-1b and IL-18. We have previously shown that inflammasome contributes to the inflammatory response in the central nervous system after brain and spinal cord injury as well as stroke. In addition, we have shown that inflammasome inhibition in the aging brain results in improved cognitive outcomes. In this study we analyzed the brain of young (3 months old) and aged (18 months old) mice for the expression of inflammasome proteins. Our findings indicate that the inflammasome proteins NLRC4, caspase-1, ASC, and IL-18 are elevated in the cytoplasm of cortical lysates in aged mice when compared to young. Similarly, in the cytoplasmic fraction of hippocampal lysates in aged mice, we found an increase in NLRC4, caspase-1, caspase-11, ASC and IL-1b. Moreover, ASC is involved in the cell death mechanism of pyroptosis. Interestingly, the pyroptosome is elevated in the brain of aged mice. Taken together, our data indicate that the NLRC4 inflammasome contributes to brain inflammaging and that pyroptosis contributes to cell death in the aging brain; thus highlighting the inflammasome as a novel therapeutic target for the treatment of brain inflammaging.

AUTOPHAGY ACTIVITY IS LINKED TO ELEVATED ER-STRESS AND INFLAMMATION IN AGING ADIPOSE TISSUE

A.K. Ghosh, T. Mau, M. O'Brien, R. Yung, *Internal Medicine, University of Michigan, Ann Arbor, Michigan*

Adipose tissue dysfunction in aging is associated with inflammation, metabolic syndrome and other diseases. We propose that impaired protein homeostasis due to compromised lysosomal degradation (micro-autophagy) might promote aberrant ER stress response and inflammation in aging adipose tissue. Using C57BL/6 mouse model, we demonstrate that adipose tissue-derived stromal vascular fraction (SVF) cells from old (18–20 months) mice have reduced expression of autophagy markers as compared to the younger (4–6 months) cohort. Elevated expressions of ER-stress marker CHOP and autophagy substrate SQSTM1/p62 are observed in old SVFs compared to young, when treated with either vehicle or with thapsigargin (Tg), an ER stress inducer. Treatment with bafilomycin A1 (Baf), a vacuolar-type H (+)-ATPase, or Tg elevated expressions of CHOP, and SQSTM1/p62 and LC-3-II, in 3T3-L1-preadipocytes. We also demonstrate impaired autophagy activity in old SVFs by analyzing increased accumulation of autophagy substrates LC3-II and p62. Compromised autophagy activity in old SVFs is correlated with enhanced release of pro-inflammatory cytokines IL-6 and MCP-1. Finally, SVFs from calorie restricted old mice (CR-O) have shown enhanced autophagy activity compared to *ad libitum* fed old mice (AL-O). Our results support the notion that diminished autophagy activity with aging contributes to increased adipose tissue ER stress and inflammation.

SESSION 3965 (SYMPOSIUM)

THE THERAPEUTIC BENEFIT OF ACTIVITY IN DEMENTIA CARE: EVIDENCE ACROSS COUNTRIES AND SERVICE CONTEXTS

Chair: N. Regier, *Johns Hopkins University, Kensington, Maryland*

Co-Chair: L.N. Gitlin, *School of Nursing, Johns Hopkins University, Baltimore, Maryland*

Dementia is a public health crisis that affects a staggering 47.5 million people worldwide and will quadruple in prevalence between 2010 and 2050. There is currently no imminent cure or effective pharmacotherapy, and dementia-related behavioral symptoms carry profound costs and consequences such as caregiver burden and long-term care placement. Consequently, it is vital to identify interventions that minimize behavioral occurrences and improve or sustain quality of life. One promising non-pharmacological intervention is engagement in meaningful activity, shown to increase positive emotions and attitudes toward caregivers, improve performance in activities of daily living, quality of life and well-being, and decrease neuropsychiatric symptoms. This symposium examines the evidence for and utility of activity as a therapeutic modality in dementia care in different countries and service contexts. Aravena and Gajardo will discuss the benefits of activity implementation within a public center supporting persons with dementia and their caregivers in Chile, the Kintun Program. Novelli et al., will report the outcomes of a randomized trial of a home-based activity program in Brazil on neuropsychiatric symptoms and caregiver well-being. Mamo et al. will present the therapeutic benefits of activity within a United States center for hearing-impaired persons with dementia. Regier and Gitlin examine activity engagement as a predictor of well-being, functional independence, cognitive changes, and mortality in persons with dementia participating in the National Health and Aging Trends Study. Taken as a whole, this symposium will highlight implementation challenges and cultural adaptations to optimize the benefits of activity as a therapeutic modality in dementia care.

ENGAGEMENT IN MEANINGFUL ACTIVITY AND WELL-BEING, COGNITION, AND MORTALITY IN PERSONS WITH DEMENTIA

N. Regier, L.N. Gitlin, *Center for Innovative Care in Aging, Johns Hopkins University, Kensington, Maryland*

Per activity theory, older adults who remain engaged in the world around them experience increased levels of psychological and physical well-being. Activity engagement is particularly important for older adults with dementia, as it has been shown to decrease depressive symptomatology, improve performance of daily activities, improve quality of life, foster positive attitudes toward caregivers, and decrease challenging behaviors. Using data from the second (T1) and third (T2) rounds of the National Health and Aging Trends Study (NHATS), we examined activity engagement as a

predictor of well-being, functional independence, cognition, and mortality in participants with dementia through logistic regression models. Engagement at T1 was significantly associated with higher well-being, greater independence of complex daily activities, better cognition, and decreased mortality at T2. Our findings show that meaningful activities may decrease mortality even in the face of chronic health conditions and dementia diagnosis, and can enhance quality of life, well-being, and cognition.

THE EFFECTS OF THE BRAZILIAN VERSION OF THE TAILORED ACTIVITY PROGRAM (TAP-BR) IN DEMENTIA CARE

M. Novelli¹, S. Machado¹, G. Lima¹, L. Cantatore¹, B.P. Sena¹, R.S. Rodrigues¹, L.N. Gitlin², M.S. Yassuda³,
1. *Management and Health Care Department, Federal University of São Paulo, Santos, Sao Paulo, Brazil*, 2. *Johns Hopkins University, Baltimore, Maryland*, 3. *University of Sao Paulo, Sao Paulo, Brazil*

Objectives: Evaluate the effects of the TAP-Br on behavioral and psychological symptoms of dementia and caregiver burden. **Methods:** In a prospective study 30 dyads (patient and caregiver) were randomized to treatment (EG -experimental group – n=15) or wait-list (CG - control group – n=15). Dyads were evaluated at baseline and after 4 months (trial endpoint). The dyads were recruited from the community in Santos. We carried out comparative analyzes (repeated measures ANOVAs with time (pre versus post-test)) between the groups and calculated the effect size of the intervention. **Results:** At posttest, EG caregivers reported reduction in the frequency/intensity ($p=.001$; Cohen's $d=0.86$) and number of behaviors ($p=.001$; Cohen's $d=0.90$), reduced caregivers' distress ($p=.001$; Cohen's $d=0.87$) and improved caregivers' quality of life ($p=.001$, Cohen's $d=0.60$). **Conclusion:** Results suggest the TAP-Br is an effective strategy to support dementia caregivers.

THE KINTUN PROGRAM: LESSONS FOR THE DESIGN OF ACTIVITIES FOR PERSONS WITH DEMENTIA IN CHILE

J.M. Aravena², J. Gajardo², 2. *INTA University of Chile, Santiago, Chile*, 2. *University of Chile, Santiago, Chile*

The Kintun Program is the first public center for the support of people with dementia and their carers in Chile. The program involves different components such as day care center, home visits and caregiver training. Engagement in daily activities and situations is one of the main outcomes of the program, therefore the design and implementation of activities is a major challenge. This symposium will describe the embedded rationale, learnings and recommendations from the process of design and implementation of activities at the center. Three key stages can be described in the history of the Kintun Program since 2013 until today. These stages reflect a progression from an initial structured set of group activities towards a tailored and situated frame for participation in activities. Results show benefits in the reduction of behavioral symptoms, improvement in levels of function and improved caregiver's perception of the person with dementia's participation at home.

IMPROVING ACCESS TO ACTIVITIES IN A GROUP CARE SETTING BY ADDRESSING AGE-RELATED HEARING LOSS

S. Mamo, N. Reed, M. McNabney, E. Oh, F. Lin, *Johns Hopkins University, Baltimore, Maryland*

Untreated age-related hearing loss can exacerbate dementia-related problem behaviors and interfere with a person's ability to listen, follow instructions, and communicate, especially in a group care setting. The intervention presented in this session aims to improve access to activity participation by improving the listening environment, providing staff training in communication strategies, and using over-the-counter amplification on an individual basis to support adults with both hearing and cognitive impairments. After addressing the physical and social context (i.e., room acoustics and staff training), target individuals were offered an amplification device during activities and meals in a group care setting. The primary outcomes focused on participation, engagement, and communication behaviors that were directly observed in the activity hall. This approach to addressing hearing loss in the group care setting allows for on-site staff to support improved communication and in turn, enhance activity participation among at risk individuals.

SESSION 3970 (SYMPOSIUM)

EMOTION, ATTENTION, AND AGING: GOING BEYOND THE POSITIVITY EFFECT

Chair: H.H. Fung, *Chinese University Hong Kong, Hong Kong*

Discussant: U. Kunzmann, *Leipzig University*

For a number of years, the literature on attention toward emotional stimuli across age has been dominated by the positivity effect – the postulate that older adults cognitively process positively valenced stimuli to a greater extent than neutral or negatively valenced stimuli, compared with younger adults. This symposium goes beyond exploring whether this phenomenon exists to identifying its boundary conditions and functions, as well as other age-related differences in attention not covered by the positivity effect. First, Lee, Ngo, Fung, Isaacowitz and Ho found the positivity effect among US Americans, but only under sadness. Chinese did not show the positivity effect. This suggests that the positivity effect may serve emotion-regulatory functions (i.e. seeking positive stimuli under sadness) among US Americans who value positive emotions but not among Chinese who do not. Then, Sands and Isaacowitz examined age differences in the temporal relationship between attention and physiological reactivity. Their findings suggest that the positivity effect may also be used to regulate physiological arousal differentially with age. Next, Fung, Lu and Isaacowitz found an age-related bias in attention that could not be explained by the positivity effect. They found that regardless of the valence of the stimuli, older adults who valued eudaimonic goals (but not those who valued hedonic goals) attended more to close others' facial expressions than did younger adults. Finally, Ngo and Isaacowitz compared the influences of contextual information and stereotypes on age differences in emotion perception. Ute Kunzmann will discuss the theoretical and practical implications of these papers.

AGE DIFFERENCES IN ATTENTION UNDER SADNESS: COMPARISONS BETWEEN CHINESE AND U.S. AMERICANS

J. Lee¹, N. Ngo², H.H. Fung¹, D.M. Isaacowitz², Y. Ho¹, 1. *Department of Psychology, The Chinese University of Hong Kong, Hong Kong, Hong Kong*, 2. *Northeastern University, Boston, Massachusetts*

Previous literature have found positivity effects in age-related cognition, such that with age, people show increased preference in processing positive stimuli relative to negative or neutral stimuli. Yet, in cross-cultural studies the findings are mixed. This study utilized eye-tracking techniques to record visual fixation towards emotional information when participants were under sadness induction or not. Younger and older participants from Hong Kong (n = 119; Young: 19 – 26 years; Old: 64 – 81 years) and US (n = 111; Young: 18 – 23 years; Old: 60 – 87 years) viewed pictures that differed in valence (positive, negative, neutral) and cultural relevance (US, Chinese culture). Results revealed that older participants in both cultures showed decreased fixation duration towards negative pictures compared to younger participants. When experimentally induced into sad mood, US older participants showed increased attention towards positive pictures whereas Hong Kong older participants did not. The findings suggest that age-related differences in attention under laboratory-induced affect may be moderated by one's cultural background.

AGE DIFFERENCES IN THE USE OF ATTENTION TO REGULATE PHYSIOLOGICAL AROUSAL DURING NEGATIVE AFFECT

M. Sands, D.M. Isaacowitz, *Northeastern University, Boston, Massachusetts*

Older adults often exhibit positivity effects in attention to emotional stimuli. In older age, these positivity effects are linked to better moods suggesting that directing attention away from negative and towards positive emotional content may be an effective emotion regulation strategy for older individuals (Isaacowitz, 2012). However, no studies have examined how positive looking patterns relate to the regulation of physiological responses. In this study, 51 younger (18–25) and 49 older adults (65–75) watched six highly-activating negative emotional videos while peripheral physiology and eye-tracking were recorded. As in prior research, older adults fixated less than younger adults on the most negative visual aspects, $p < .021$. Older adults were also less physiologically reactive than younger adults, $ps < .05$. Additionally, we examine age differences in the temporal relationship between attention and physiological reactivity. This study suggests that attention is used to regulate physiological arousal differentially with age.

PURSuing EUDAIMONIC GOALS MODERATED AGE DIFFERENCES IN ATTENDING TO OTHERS' EMOTIONS

H.H. Fung¹, M. Lu¹, D.M. Isaacowitz², F. Zhang¹, 1. *Chinese University of Hong Kong, Hong Kong, Hong Kong*, 2. *Northeastern University, Boston, Massachusetts*

In this study, 59 younger (aged from 18 to 24) and 66 older participants (aged from 58 to 84) were presented with different emotional expressions (happy, sad, and angry),

and the closeness of the facial stimuli was manipulated by telling participants that the targets shared many (little) similarities with them. Participants' values on eudaimonic (hedonic) goals and whether they regarded happiness (meaning) as important were also measured. Results revealed that regardless of valence of the facial expressions, among participants who didn't value eudaimonic goals, older adults generally paid less attention to others' emotions than did younger adults; however, among participants who valued eudaimonic goals, older adults did not differ from younger adults in attending to non-close others' emotions, and even demonstrated more attention to close-others' emotions than younger adults. These results suggested that eudaimonic goals (but not hedonic goals) motivate older adults to attend to others' emotional expressions.

AGE DIFFERENCES IN CONTEXTUAL ATTENTION IN EMOTION PERCEPTION OF STEREOTYPED TARGETS

N. Ngo^{1,2}, D.M. Isaacowitz¹, 1. *Northeastern University, Boston, Massachusetts*, 2. *Chinese University of Hong Kong, Hong Kong, Hong Kong*

Older adults have been shown to be more biased towards context in visual attention. In emotion perception, contextual attention to incongruent context can lead to inaccurate labelling of target facial expressions. However, older adults, due to cognitive and social factors, have also been shown to display more stereotyping behaviors. If the target of emotion perception belongs to a strongly stereotyped social group, such as African American being stereotyped as being angry, older adults might rely more on stereotypes and attend less to the visual context. In this study, White younger (n = 51) and older adults (n = 51) judged facial expressions of White and Black individuals embedded in emotionally congruent and incongruent context. Contrary to initial hypotheses, older adults were influenced by context regardless of the target's race, and were more so than younger adults, especially when the target was angry in a disgust context.

SESSION 3975 (SYMPOSIUM)

UNDERSTANDING THE COMPLEX ETIOLOGY OF SUBJECTIVE HEALTH: THE IGEMS CONSORTIUM

Chair: D.G. Finkel, *Indiana University Southeast*

Co-Chair: C.E. Franz, *University of California San Diego*

Discussant: M.K. Jylha, *University of Tampere, Tampere, Finland*

Deceptive in its simplicity, assessment of subjective health has generated hundreds of papers as researchers attempt to uncover the components that contribute to judgments about personal health. The fact that subjective health predicts mortality and a variety of other health outcomes above and beyond objective health supports the importance of subjective health and generates questions about mechanisms and etiologies. Recent analyses suggest that these mechanisms can vary by age, gender, and even the questions used to assess subjective health. Using data available from the Interplay of Genes and Environment Across Multiple Studies (IGEMS) Consortium, the primary aim of the current symposium is to deepen our understanding of the etiology of

subjective health by presenting several different methods for investigating the relevant issues. The first paper focuses on individuals to examine the relationship between subjective health, multi-morbidity, activities of daily living, and social networks. The next two papers employ the methods of twin analysis to examine genetic and environmental influences on subjective health. The second paper examines the extent to which shared genetic or environmental factors explain the relationship between subjective health and physical health. The third paper examines sex differences in longitudinal trends in genetic and environmental influences on subjective health. The fourth paper moves beyond genetic variance to focus on individual genes. Using available genotyping data to calculate polygenic risk scores, the analysis assessed the degree to which variability in physical health and subjective health could be explained by variability in genes underlying subjective wellbeing.

SELF-RATED HEALTH OVER TIME: THE ROLE OF CHRONIC DISEASE, PHYSICAL FUNCTION AND SOCIAL NETWORKS

A.D. Foebel¹, N.L. Pedersen¹, M. Ernsth Bravell², 1. *Karolinska Institutet, Stockholm, Sweden*, 2. *Jönköping University, Jönköping, Sweden*

Poor self-rated health (SRH) among older people is an important predictor of formal care and mortality. This study explored the association between SRH and chronic diseases, physical function and social networks over 20 years.

Data from 3 questionnaire waves (1987, 1990, 2007) of the Swedish Adoption/Twin Study of Aging were used and 1065 individuals older than 55 years at baseline were included. SRH was measured as good or reasonable/bad. Physical function and number of chronic diseases were measured using 5 activities of daily living (ADLs) and a modified Cumulative Illness Rating scale, respectively. Social networks were measured by the number of relatives, friends, neighbors and caregivers.

Factors associated with SRH changed over time, but did not differ by sex. Fewer diseases, better ADLs and having more friends and a caregiver were associated with better SRH at baseline and 3 years. At 20 years, older age and diseases predicted poorer SRH.

GENETIC AND ENVIRONMENTAL INFLUENCES ON MEDICAL BURDEN AND SUBJECTIVE HEALTH IN MIDLIFE

C.E. Franz, A. Yao, M. Panizzon, W.S. Kremen, *University of California San Diego, La Jolla, California*

Using data from the Vietnam Era Twin Study of Aging, a community dwelling sample of middle aged men, we analyzed the extent to which shared genetic or environmental factors explain the relationship between medical burden (CIRS-IGEMS) and two measures of subjective health from the SF36: physical (SPH) and mental health (SMH). CIRS-IGEMS represents a count of major health conditions. Participants (N=1237) were male twins age 56 (range 51–60). The phenotypic correlation between CIRS-IGEMS and SPH was $r=.34$; for CIRS-IGEMS and SMH $r=.20$.

Heritabilities ranged from .32 to .35, with the remaining variance accounted for primarily by unique environmental influences. The genetic correlation between CIRS-IGEMS and SPH was .70; .41 for CIRS-IGEMS and SMH. This indicates moderately strong shared genetic influences between health counts and subjective health. Medical burden moderated genetic influences on SMH (but not SPH) with higher heritability among those with more illness. Further analyses examine associations over time.

SEX DIFFERENCES IN LONGITUDINAL CHANGES IN GENETIC AND ENVIRONMENTAL INFLUENCES ON SUBJECTIVE HEALTH

D.G. Finkel¹, I. Consortium², 1. *Indiana University Southeast, New Albany, Indiana*, 2. *University of Southern California, Los Angeles, California*

Previous investigations of genetic and environmental contributions to measures of subjective health (SH) have reported generally moderate heritability (25–30%), though estimates can vary widely across studies and measures. In the few twin studies to investigate gender differences in heritability of SH, results are equivocal. A recent analysis of age moderation of heritability of SH in a cross-sectional sample of 12,900 twins identified significant gender by age effects. The few longitudinal twin analyses of SH suggest moderate increases in heritability with age, but gender differences were not examined. The current analysis examines sex differences in longitudinal changes in genetic and environmental influences on measures of SH in a sample of 7372 twins (aged 26–102) with up to 8 waves of measurement (mean = 3.1). Latent growth curve modeling indicated significant sex differences in trajectories of change with age and in genetic and environmental contributions to change. Results also differed across measures.

CAN GENETIC VARIANTS UNDERLYING SUBJECTIVE WELL-BEING PREDICT AGE-RELATED HEALTH PROBLEMS?

M.A. Mosing, N.L. Pedersen, *Karolinska Institute, Stockholm, Sweden*

Single item measures of Subjective well-being (SWB) are often superior to more objective clinical assessment for predicting an individuals' morbidity and mortality, suggesting that SWB is a powerful predictor of future health. Little is known about the genetic architecture underlying this link between SWB and healthy aging. Recently, genetic polymorphisms underlying SWB were identified (rs3756290, rs2075677, and rs4958581) using genome-wide data of more than 298,000 individuals. Based on these findings we derived polygenic risk-scores to predict age-related health problems as measured by self-rated health (SRH) and the Cumulative Illness Rating Scale (CIRS). CIRS scores, SRH as well as genetic information were available in 8,000 individuals from the IGEMS consortium. The observed CIRS and SRH scores were regressed on the polygenic risk-score to assess the degree to which variability in CIRS and SRH could be explained by variability in genes underlying SWB. Findings and implications of these analyses will be discussed.

SESSION 3980 (SYMPOSIUM)

GSA BALTES FOUNDATION AWARD LECTURE: THE ADVENTURE OF HEALTHY AGING: FROM POPULATION HEALTH TO LIFE-SPAN PSYCHOLOGY

Chair: S. Wurm, *Friedrich-Alexander-University Erlangen-Nuernberg (FAU), Nuernberg, Germany*

A common desire among all people is to live long and healthy, yet many individuals experience health-related losses, not only in very old age but also from midlife on. Starting from epidemiological findings on population health, the presentation will go into different predictors of healthy aging. Based on the International Classification of Functioning, Disability, and Health (ICF), three questions will guide the presentation: How do people contribute to how healthily they age? Do people age differently depending on which region they live in? And finally, what can we do to support older people in their endeavor to age healthily? Based on large-scale survey data as well as longitudinal and intervention studies, I will give an overview of my own findings on the role that personal resources can play in the health of an aging society – resources such as individual views on aging, strategies of self-regulation and adaptation (response shift) – and also the role regional resources such as district-level primary care supply can play. Finally, the presentation will point to some open questions that should be addressed in future research.

SESSION 3985 (SYMPOSIUM)

NEW DIRECTIONS IN SOCIAL RELATIONS ACROSS AGE AND OVER TIME

Chair: T.C. Antonucci, *University of Michigan, Ann Arbor, Michigan*

Co-Chair: K.J. Ajrouch, *Eastern Michigan University*

In this symposium we examine social relations across age and over time. Using data from this three wave (Wave 1 = 1995; Wave 2 = 2005; Wave 3 = 2015) study of the Detroit Metropolitan area, we consider different aspects of social relations including structure, quality and influence on health. Wylie and Antonucci consider contrasting theories of social relations: the Convoy Model, the Strength and Vulnerability (SAVI) model and the Socioemotional Selectivity Theory (SST), using the work-retirement experience as illustrative. Their findings, of more proximate, more negative, and less positive relations among workers compared to retirees, suggest each theoretical perspective offers explanatory insights. Manalel and Ajrouch examine the role of relationship quality and health. Positive relationship quality is uniformly associated with better health. Negative relationship quality is associated with more depressive symptoms, an association that is stronger among those with low contact frequency. Birditt and Sherman used monthly reports of social relations for up to one year found that older people had fewer negative relationships than younger people and that their well-being was less likely to be affected by these negative relationships. Finally, Tighe and Webster consider the longitudinal data and examine four income trajectories, decreasing, stable, slightly increasing, significantly increasing incomes. They find no differences in life satisfaction across the four trajectories while slightly and

significantly increasing incomes are associated with better health. Interestingly, only slightly increasing incomes are associated with increased happiness. These findings suggest the importance of a more nuanced approach to the study of social relations.

RELATIONSHIP QUALITY AND HEALTH IN ADULTHOOD: THE ROLE OF SOCIAL CONTACT

J. Manalel, K. Ajrouch, *University of Michigan-Ann Arbor, Ann Arbor, Michigan*

Research has recognized the positive and negative effects of relationship quality on health and well-being. The extent to which these effects are contingent upon other social network characteristics is less understood. We examined links between relationship quality, health and well-being, and the effects of various contact frequency types on these associations. In a sample of adults (age range=36–99) from the Social Relations and Health Study (n=399), multiple regression analyses revealed that higher levels of positive relationship quality were associated with fewer depressive symptoms, greater life satisfaction, and greater happiness. Higher levels of negative relationship quality were associated with more depressive symptoms. Furthermore, the link between negative relationship quality and depressive symptoms was buffered by in-person contact frequency such that it was observed only for respondents who reported low levels of in-person contact. These findings further specify the independent and interactive effects of structural and functional aspects of social networks.

LESS IRRITATING AFTER ALL THESE YEARS: NEGATIVE RELATIONS AND LINKS WITH WELL- BEING ACROSS ADULTHOOD

K. Birditt, C. Wexler Sherman, T.C. Antonucci, *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*

Negative relationships are associated with poor health, chronic illness, and mortality. Yet, we know little about the dynamics of negative aspects of relationships within individuals over time, how those experiences vary by age and the implications of those relationships for well-being. A total of 615 participants (ages 18 to 97; M= 57; 64% women) from the *Social Relations and Health Study* completed monthly web surveys for up to 12 months. Each month they reported negative relationship quality with their closest network members and multiple dimensions of well-being (positive affect, negative affect, self-rated health and sleep). Multilevel models revealed that older individuals reported less negativity in their relationships than younger people. Further, older individuals' well-being was less detrimentally affected by negativity than younger adults' well-being. Consistent with gerontological theories of emotion regulation, older individuals appear better able to regulate the negative aspects of their relationships.

THE INFLUENCE OF SOCIOECONOMIC STATUS ON HEALTH AND WELL-BEING: COMPARING DIVERSE TRAJECTORIES

L. Tighe, N.J. Webster, *University of Michigan, Ann Arbor, Michigan*

Previous research indicates that health and well-being varies by socioeconomic status (SES). This study expands upon existing research by investigating the association between

changes in SES (i.e., income) and health and well-being. Data are from the three-wave (1992; 2005; 2015) longitudinal Social Relations Study, which included a lifespan sample (age 13+; N=1451) from metro-Detroit, MI. Four longitudinal income trajectories were documented from Wave 1 to 3: significantly decreasing income, stable, slightly increasing, and significantly increasing. Individuals with slightly and significantly increasing income reported significantly better health than individuals experiencing other income changes. Individuals with slightly increasing income were significantly happier compared to those with other income trajectories. Interestingly, life satisfaction did not differ across the four income trajectories. Further analyses will examine longitudinal trajectories of education, financial well-being, and a composite SES indicator. Findings highlight that SES fluctuates over time and these changes have important implications for health and well-being.

WORK-RETIREMENT TRANSITIONS AND SOCIAL RELATIONS

W. Wan¹, T.C. Antonucci², 1. *Oregon Health and Science University, Portland, Oregon*, 2. *University of Michigan, Ann Arbor, Michigan*

The Convoy Model of Social Relations posits that changes in social networks have important implications for social support, health, and well-being. The Social Relations Study (Waves 1 to 3) provides a unique opportunity to examine changes in social networks over 20 years. This study tests the Strength and Vulnerability Integration (SAVI) model and the Socioemotional Selectivity Theory (SST) as competing theories to examine changes between work status (working versus retired) and network characteristics. Bivariate analyses revealed that those who remained working (n=251) from Wave 1 to Wave 3 had more promixate networks (73.5%), more negative networks (M=2.2; t=3.1, p<.01), and less positive networks (M=4.7; t=-3.5, p<.001) than those who retired (n=154; 66% promixate networks; M=1.9 negative networks; M=4.8 positive networks). Findings are discussed using the Convoy Model to elaborate ways in which the SAVI and SST frameworks advance a lifespan perspective on roles and social relations.

SESSION 3990 (SYMPOSIUM)

OLDER MEN'S RESILIENCE AND MENTAL HEALTH

Co-Chair: K.M. Bennett, *University Of Liverpool, United Kingdom*

E.H. Thompson, *College of the Holy Cross, Broadview Heights, Ohio*

Discussant: B. deVries, *San Francisco State University, San Francisco, California*

Resilience is the process of negotiating, managing and adapting to significant sources of stress or trauma, and the process is facilitated or hindered by masculinities as much as individuals' resources and access to community resources. Our objective is to assess what similarities and differences likely exist among older men in terms of their resilience. The symposium brings together papers that have looked at older men's experiences from different parts of the world and different life circumstances. Bennett and her colleagues assess

the resilience among men carers from the vantage of an ecological framework and discuss how the men can be supported in their communities. Heisel reviews a novel group intervention for men transitioning to retirement and discusses how it seems to bolster their resilience. Understanding that 20 veterans daily die of suicide in the US, Jahn and Crosby report on the ways the social and internalized stigmas of men seeking help for distress is a troubling source of suicide risk among older vets. King and Richardson draw on a life course perspective to assess the bearing of the early coming out experience on the older men's resilience and mental health. Tate and colleagues identify distinct predictors of longevity at different life stages among RCAF vets who survived to at least age 90. de Vries' discussion finds the threads among the papers on the bearing of masculinities to older men's resilience and mental health. Participants will better understand how the diversity of masculinities can facilitate or hinder resilience among older men.

HEALTH-RELATED RESOURCES: REFINING THE ECOLOGICAL MODEL OF RESILIENCE FOR OLDER MALE CARERS

K.M. Bennett, L. Cropper, W. Donnellan, L. Roper, *University of Liverpool, Liverpool, United Kingdom*

Increasing numbers of older men are informal carers. Whilst caregiving is stressful, some carers can be classified as resilient: able to adapt or bounce back in the face of adversity (Windle, 2011). There is growing interest in resilience amongst these men, and in the factors that contribute to resilience. We analyse data from twenty-five in-depth interviews of older men who are caring informally for people with dementia, brain injury and who are at the end-of-life. Utilising the ecological framework (Windle & Bennett, 2011), we examine factors promoting or hindering resilience. We identify individual, community and societal level resources, focusing on biological resources, health behaviors, social support and health-related services and social policy. We discuss the methodological challenges in researching resilience, these include: operationalizing resilience and identifying factors in the ecological system. We argue that male carers may be supported to become resilient through community and societal contributions.

MAN'S SEARCH FOR MEANING...IN RETIREMENT: FINDINGS FROM THE MEANING-CENTERED MEN'S GROUP (MCMG) STUDY

M. Heisel, 1. *Western University, London, Ontario, Canada*, 2. *Lawson Health Research Institute, London, Ontario, Canada*, 3. *University of Rochester Center for the Study and Prevention of Suicide, Rochester, New York*

Older men have the highest suicide rates worldwide, yet few interventions have been shown effective in reducing suicide risk in middle-age or older men (Lapierre et al., 2011). We developed and tested a novel, 12-session Meaning-Centered Men's Group (MCMG) intervention with 100-120 cognitively-intact, community-residing men 55 years or older who were struggling to adjust to retirement, a transition associated for some with increased suicide risk. The intervention draws on research demonstrating negative associations of Meaning in Life (MIL) with depression and suicide ideation (Heisel & Flett, 2014, 2016), and aims to build camaraderie through

group discussions about finding meaning in work, leisure, relationships, and generativity. This paper summarizes findings from this on-going study, including controlled analyses comparing MCMG with a current-events discussion group, and experiences disseminating MCMG to distant sites. Discussion will focus on helping men adjust meaningfully to retirement and preventing the onset or exacerbation of suicide ideation.

OLDER MALE VETERANS' RELATIONSHIPS, HELP-SEEKING ATTITUDES, AND SUICIDE RISK FACTORS

D. Jahn^{1,2}, E. Crosby², 1. *University of Maryland School of Medicine, Baltimore, Maryland*, 2. *VA Capitol Health Care Network (VISN 5) Mental Illness Research, Education, and Clinical Center (MIRECC), Baltimore, Maryland*

Older men die by suicide at very high rates (CDC, 2016), and may be particularly at risk for suicide due to a lack of help-seeking (Berger et al., 2013; Crabb & Hunsley, 2006). This study's aim was to examine relations among older men's relationships, attitudes toward help-seeking, and thoughts of suicide. In 30 male Veterans (ages 65+) with mental health diagnoses, social stigma regarding professional help-seeking, as well as social stigma and internalized stigma regarding informal help-seeking, were correlated with suicide ideation. Analyses indicated that social and internalized stigma regarding informal help-seeking mediated the relation between perceived hostility in personal relationships and suicide ideation. Additionally, social stigma regarding professional help-seeking mediated the relation between perceived healthcare provider stereotypes regarding mental health consumers and suicide ideation, though internalized stigma did not. These results suggest that reducing stigma may be important for improving help-seeking among older men to reduce suicide risk.

FAMILY ACCEPTANCE, RESILIENCE AND PHYSICAL AND MENTAL HEALTH OF MIDLIFE AND OLDER GAY MEN

S. King, V.E. Richardson, *The Ohio State University, Columbus, Ohio*

An association between previous coming out experiences and current depression, suicide, and overall physical and mental health was observed in this national, cross-sectional study of 316 older gay men. The older men who retrospectively reported having experienced high levels of stress when coming out to parents and other family members evidenced worse physical health, higher internalized homophobia, lower resilience, weaker internal health locus of control, and more substance abuse compared to older gay men who reported experiencing minimal family stress when coming out. The findings underscore the importance of using a life course framework and Meyer's minority stress theory to understand older gay men's mental and physical well-being. These early experiences evidently affect older men's health throughout their lives although longitudinal studies are needed to confirm these findings. Mental health interventions that address these critical events are discussed.

PREDICTORS OF LIVING TO AGE 90 AMONG THE MEN OF MANITOBA FOLLOW-UP STUDY

R.B. Tate¹, A. Swift¹, P. St. John¹, E.H. Thompson², 1. *University of Manitoba, Winnipeg, Manitoba, Canada*, 2. *College of the Holy Cross, Worcester, Massachusetts*

A cohort of 3,983 young male aircrew recruits from the Royal Canadian Air Force has been followed with medical examinations and regular contact since 1948. In this cohort 98% were born in 1925 or earlier, and hence had the opportunity to live to age 90; 745 (19%) did. A history of childhood illnesses was recorded at entry to the study, mean age 30 years. EKG abnormalities, anthropometric measurements, and disease diagnoses were recorded at routine physical examinations over 68 years of follow-up. Physical activity was surveyed at ~50 years of age, and physical and mental functioning were documented on annual surveys since 2000. Smoking history, blood pressure and body weight at entry; absence of smoking, major ekg abnormalities and excess weight at mid-life; and continuity in mental functioning in later life distinguish the men living to age 90. The life course perspective is invaluable for long-term research.

SESSION 3995 (PAPER)

MILITARY SERVICE AND THE LIFE COURSE

TRANSGENDER OLDER ADULTS—MILITARY SERVICE: IDENTITY STIGMA AND MENTAL HEALTH CHANGES OVER TIME

C.P. Hoy-Ellis¹, C. Shiu², H. Kim², K. Sullivan², A. Sturges², K.I. Fredriksen-Goldsen², 1. *College of Social Work, University of Utah, Salt Lake City, Utah*, 2. *University of Washington, Seattle, Washington*

Depression is a leading cause of disability globally. Transgender older adults experience depression and serve in the U.S. military at disproportionality high rates. Military service has been implicated in mental health outcomes, yet there is scant empirical evidence relating military service to transgender mental health, particularly in relation to identity stigma. Cross-sectional data has limited our understanding of the directional relationship between identity stigma and mental health. Using longitudinal data we examined temporal relationships between these factors among transgender older adults with and without prior military service. We used weighted multivariate linear models to evaluate the relationships between previous military service, identity stigma, depressive symptomology, and psychological health related quality of life (HRQOL) among a subsample of transgender older adults ($n = 183$) from Waves 1 and 2 of the Aging with Pride: National Health, Aging, Sexuality & Gender Study. Over time, Identity stigma was significantly associated with HRQOL only for those without prior military service. Regardless of military service history, changes in depressive symptomatology predicted changes in HRQOL.

The U.S. recently joined 18 other countries in allowing transgender individuals to serve openly in the military. This study provides new insights into the roles of military service and identity stigma in the long-term mental health of transgender older adults, and highlights within-group heterogeneity. As such, it contributes to promoting resilience and better mental health outcomes for both of transgender older adults and current and future transgender service members

– tomorrow's transgender older adults. Implications for practice, policy, and research are discussed.

IMPACT OF MILITARY SERVICE AND ITS TIMING ON MARITAL HISTORY AND FECUNDITY AMONG U.S. WWII VETERANS

M. Mackintosh¹, E.A. Willis¹, S. Edland², L.J. Launer³, L.R. White¹, 1. *Pacific Health Research and Education Institute, Brentwood, California*, 2. *University of California, San Diego, San Diego, California*, 3. *National Institute on Aging, Bethesda, Maryland*

Military service can have important life course effects on veterans' marital history and family structure. More specifically, research shows that the timing of entry and exit from military service can impact these family variables (Settersten, 2006). This presentation uses data from 1479 veterans and 6493 civilians from the Honolulu Asian-Aging Study to assess the effects of military service on marital status and fecundity. After controlling for demographic and psychosocial variables, we found an interaction between age at the beginning of World War II (WWII) and Military Status on likelihood of marriage, assessed 25 years later. Compared to civilians, veterans who were older at the beginning of WWII had a greater chance of never marrying, odds ratio (OR) = 0.90, while for civilians it was the opposite, OR = 1.09, p 's < .0001. There were no differences based on military service for ever being divorced. In relation to family size, we found a significant three-way interaction between Education, Military Status and Marital Status in 1941 (i.e., being married or not). Among those who were not married in 1941, civilians had significantly more children than veterans, across all levels of education. However, among those who were married in 1941, there were no differences in the number of children based on Veteran Status, Education Level or their interaction. Overall, results suggest greater disruption on marriage and family status for veterans who had not yet married and started families at the beginning on WWII, despite a short mean military service period of 2.7 years.

EARLY-LIFE DISADVANTAGE, MILITARY SERVICE, AND MEN'S SELF-RATED HEALTH TRAJECTORIES

J.M. Wilmoth, A. London, *Syracuse University, Syracuse, New York*

Although a growing body of research demonstrates the transformative effect of military service on the life course, few studies have considered the extent to which military service can offset the negative impact of early-life disadvantage on later-life health outcomes. This research uses data from the 1992–2012 Health and Retirement Study (HRS) to estimate growth curve models predicting men's self-rated health trajectories. Distinctions are made between non-veterans, veterans who do not have a service-related disability, and veterans who do have a service-related disability. Models that take into account whether the respondent has a service-connected disability rating are also estimated. Consistent with the findings of previous research, early-life socioeconomic disadvantage is associated with lower self-rated health. Compared to non-veterans, veterans without a service-related disability or service-connected disability rating have better self-rated health, and veterans with a service-related disability or service-connected disability rating have worse self-rated health.

The negative effects of early-life disadvantage on self-rated health are offset by military service: men from disadvantaged backgrounds have better self-rated health if they served in the military, even if they were harmed by that service. The models indicate that part of the observed offset is explained by mid- to late-life characteristics. Overall, the findings provide additional evidence of the early-adulthood institutional pathways that shape later-life self-rated health trajectories, and new evidence that military service can produce discontinuities in the life course by offsetting the negative relationship between early-life socioeconomic disadvantage and later-life health outcomes.

MENTAL AND PHYSICAL HEALTH OF AGING VIETNAM-ERA VETERANS AND NON-VETERANS

L.D. Erickson¹, V. Call¹, M.S. Marsala², J.B. Yorgason¹, 1. *Sociology, Brigham Young University, Provo, Utah*, 2. *Duke University, Durham, North Carolina*

We examine whether participation in the Vietnam War conditions the relationship between early life socioeconomic status (SES) and later-life mental and physical health. Data were from 3,348 (817 veterans) participants in a longitudinal study of high school juniors and seniors that began in 1966. Data from 1966, 1980, and 2010 (ages 60 – 64) were used. Outcome measures assessed in 2010 include depression, posttraumatic stress syndrome, activities of daily living, and chronic conditions. Draft status was related to PTSD but not depression or physical health. Childhood SES was related to physical but not mental health. The role of childhood SES for later-life mental health differed for veterans compared to non-veterans but not for physical health. Aging veterans are not unique in their physical health but are more likely to suffer from mental health problems. Older veterans, even those who were not exposed to combat, likely have mental health needs that may not be sufficiently met.

COGNITIVE ABILITIES AND ALL-CAUSE MORTALITY: THE VA NORMATIVE AGING STUDY

J. Wang^{1,2}, L.O. Lee^{2,3}, A. Spiro^{2,3}, 1. *RTI International, Waltham, Massachusetts*, 2. *VA Boston Healthcare System, Boston, Massachusetts*, 3. *Boston University, Boston, Massachusetts*

Although the association between general cognitive ability and mortality is well-established, few studies have examined specific domains of cognitive functioning, and fewer still include cohorts with lengthy follow-up. This study examined the association between three domains of cognitive abilities and all-cause mortality over 50 years.

Data are from the VA Normative Aging Study, a longitudinal study of 2,280 men that began in 1963. Participants aged 21–81 were screened for the absence of chronic medical conditions at study entry. Verbal intelligence, visuospatial reasoning, and psychomotor speed were assessed in 1965–67 using the General Aptitude Test Battery in half the sample ($n=1,078$; $M_{age}=44$; $SD=9$). Mortality data were available through 2014 (72% deceased). Cox proportional hazards regression with age as the time axis was used to assess whether all-cause mortality risk was associated with domains of cognitive abilities. Covariates included baseline education, income, smoking status, and BMI; smoking and BMI were assessed repeatedly during follow-up.

In unadjusted models of cognitive ability, faster psychomotor speed and higher verbal intelligence were associated with lower mortality risk. After adjusting for all covariates, only psychomotor speed remained predictive. In the final model, faster psychomotor speed (HR=0.88, 95% CI: 0.81–0.95), higher education (HR=0.88, 95% CI: 0.81–0.95), and abstinence from smoking (current vs. never, HR=2.43, 95% CI: 1.95–3.03; former vs. never, HR=1.17, 95% CI 0.99–1.38) were linked to lower risk of death. Facets of psychomotor speed, such as choice reaction time and perceptual speed, may be uniquely associated with mortality.

SESSION 4000 (SYMPOSIUM)

CO-HOST NCOA: BRINGING EVIDENCE-BASED SELF-MANAGEMENT AND PATIENT ACTIVATION PROGRAMS TO SCALE

Chair: J. Firman, *National Council on Aging, Arlington, Virginia*

Co-Chair: C. Zernial, *WellMed Medical Management, Austin, Texas*

Individuals with one of more chronic diseases typically progress to disease complications while accumulating additional chronic conditions. This leads to lower quality of life and increased cost. In addition to access to high quality health care, people with the ability to self-manage their lives and conditions have improved business and health outcomes. To realize these improvements requires individual behavior change. Whether a person has one or multiple chronic conditions, the solutions are generally the same: exercise, diet, nutrition, sleep, medication management, stress/emotional management, role management, and being an informed and activated consumer of health services.

This symposium will address innovative strategies for bringing to scale evidence-based programs that promote self-management and activate older adults to make behavior changes associated with better health outcomes and lower costs.

Moderator: Carol Zernial, VP Community Relations & Executive Director Charitable Foundation, WellMed Medical Management

Neal Kaufman, CMO, Canary Health and Adjunct professor of Medicine and Public Health, UCLA, will discuss how digital delivery can bring interventions to scale and highlight outcomes from a large study of community-based and on-line Diabetes Self-Management Programs developed by Stanford University.

Philip McCallion, SUNY Albany, Director, Center for Excellence in Aging and Community Wellness, will discuss findings from a quasi-experiment of the Aging Mastery Program, a promising patient engagement and activation program for older adults.

James Firman, CEO, National Council on Aging, will discuss NCOA's efforts to help bring to scale evidence-based programs including barriers and potential solutions.

Sponsored by the National Council on Aging.

ONLINE SELF-MANAGEMENT PROGRAMS

N. Kaufman, *Canary Health, Los Angeles, California*

Current approaches to Value-Based Healthcare - improving insurance design, clinical management, and delivery system function - are missing the key element to make it all work - Self-management support- defined as the tasks an individual "must undertake to live well with one or more chronic conditions. These tasks include gaining confidence to deal with medical management, role management, and emotional management." (1st Annual Crossing the Quality Chasm Summit 2004).

The presentation will address the unique ability of internet-based interventions to cost effectively bring self-management support to very large numbers of individuals who have one or more chronic conditions including obesity and diabetes. It will also highlight how user-centered design can create digital self-management support interventions using the best science available while delighting the user and successfully engaging them in their own health journey.

INNOVATIVE COMMUNITY-BASED PATIENT ACTIVATION AND ENGAGEMENT PROGRAM

P. McCallion, L. Ferretti, *SUNY Albany, Albany, New York*

Self-management of their conditions by patients, person-centered care, multidisciplinary approaches and the value of partnerships with community based agencies are being discovered, sometimes as if they are new concepts. And in many ways they are "new" and are at the forefront of moving healthcare from an acute to a chronic care focus. These ideas are challenged by (1) poor understanding of the value and availability of evidence-based self-management interventions; (2) skepticism among professionals and providers, (3) varying levels of readiness among patients to be self-managing partners in their care, (4) a lack of linkages between need for programs and their delivery, particularly structure for electronic exchange of information among healthcare and community based partners, and (4) still to be established reimbursement mechanisms. Resolving these challenges will be a next critical step for healthcare reform.

Health related self-management practice is focused upon enhancing positive health, reducing the risk of ill health, and managing both the consequences and improving prognosis when chronic disease is present. The interventions may include (i) self-management tasks: medical, role and emotional management; (ii) skills in: decision-making, problem-solving, building patient/provider partnerships, resource utilization, action planning and tailoring responses; and (iii) health related behavior changes targeting modifiable risk factors for disease: e.g., smoking cessation and increased physical activity and healthy eating. Underlying processes include building a sense of empowerment and self-efficacy, often through the experience and reinforcement of success, recognizing that social and environmental factors are to be influenced as well as individual behaviors, and understanding that the intervention setting and leader are also of influence.

An approach will be described and supporting data from New York State provided on successful use of evidence-based

health related self-management, including related participatory and empowerment strategies, and activities to overcome policy and access barriers.

OPPORTUNITIES, BARRIERS, AND STRATEGIES FOR SCALING PROGRAMS THAT WORK

J. Firman, *National Council on Aging, Alexandria, Virginia*

For many years, the National Council on Aging (NCOA) has been a national leader in developing community-based and on-line services that improve the health and economic security of older adults and in bringing these programs to scale nationwide. Recent examples include: 1) evidence-based, health and wellness programs offered by community organizations; 2) on-line versions of the Stanford Chronic Disease Self-Management Programs; 3) the Aging Mastery Program; and 4) holistic economic casework programs. Jim Firman will discuss NCOA's successes and failures and offer his insights and reflections about the key barriers to scaling and strategies for overcoming barriers. He will suggest strategies for both program development, evidence-building and policy changes that can accelerate widespread adoption. He will focus on individual, organizational and policy dimensions of challenges and strategies.

SESSION 4005 (PAPER)

RETIREMENT: HEALTH AND POLICY ISSUES

SMOKING CESSATION AFTER RETIREMENT AMONG JAPANESE OLDER WORKERS: DOES RELIEF FROM JOB STRAIN MATTER?

M. Kan, *School of Economics, University of Hyogo, Kobe, Japan*

This paper examines how workers change their health related behaviors, specifically smoking habit, after their retirement in Japan. Previous research across countries has analyzed the effects of retirement on health behaviors, which include various outcomes such as physical exercise and sleep duration. Most effects can be explained by opportunity costs in the health investment framework, however, the mechanism of a change in smoking habit has not been fully uncovered.

In present study, we test a hypothesis in which some people smoke in order to cope with stress, and thus they quit smoking when they are released from it after retirement. Using eight waves of the data from the Longitudinal Survey of Middle-aged and Elderly Persons in Japan, we investigate the effect of retirement on smoking habit with fixed-effect regression model. We include two dummy variables in our model, each of which denotes those who were not satisfied with their work content, and those who were not satisfied with their work-site interpersonal relation in the previous year in order to explore heterogeneous effect of retirement across two different groups according to stress.

Results show that retirement has statistically significant positive effect on smoking cessation among male workers. It is more likely for male workers who were not satisfied with their work-site interpersonal relationship to quit smoking after retirement than other workers. It is possible that stress hypothesis explains the behavioral change after retirement. It suggests that workers might postpone their smoke cessation when their work life is extended.

FINANCIAL PLANNING IN MEXICO: A TEST OF THE INTERDISCIPLINARY RETIREMENT PLANNING MODEL

D.A. Hershey¹, M.I. Bojórquez³, A.E. Pérez³, J.L. Koposko¹, H. Kiso², 1. *Psychology, Oklahoma State University, Stillwater, Oklahoma*, 2. *Susquehanna University, Selinsgrove, Pennsylvania*, 3. *Universidad Autónoma de Yucatán, Merida, Yucatan, Mexico*

Financial planning for retirement is an important life task for working adults in Mexico, as it is in many economically developed nations around the world. In this paper, we test the generalizability of the Interdisciplinary Retirement Planning Model, which was proposed by Hershey, Henkens, and Van Dalen (2010). As part of this study, we examined the psychological, economic, and social force dimensions that impact financial planning for retirement. The collective influence of these three broad sets of constructs was investigated among 369 working adults, 21–64 years of age. A path analysis model accounted for 72% of the variability in retirement planning activities and 52% of the variability in perceptions of saving adequacy. Moreover, planning activities among Mexican adults were found to differ in important respects from previously published studies carried out in the U.S., the Netherlands, China, and Brazil. Particularly notable among Mexican adults was the impact of early childhood learning experiences on the retirement planning process. The discussion focuses on the value of developing interdisciplinary theoretical models of planning, and how such models can inform the development of savings-oriented intervention programs and public policy initiatives.

ETHNORACIAL DISPARITIES IN ADJUSTMENT TO RETIREMENT: THE HISPANIC ADVANTAGE

D. Carr¹, B. Kail³, R. Calvo², 1. *Sociology, Florida State University, Tallahassee, Florida*, 2. *Boston College, Boston, Massachusetts*, 3. *Georgia State University, Atlanta, Georgia*

Retirement is a major life course transition, and, as such, both empirical evidence and life course theory find that retirement is related to changes in life satisfaction. Little is known, however, about racial/ethnic differences in the relationship between retirement and changes in life satisfaction. This is an important omission because racial minorities frequently have different work experiences than do whites. To that end, we use the 2004–2014 waves of the Health and Retirement Study to assess (a) racial differences in changes in life satisfaction after retirement, and (b) potential linking-mechanisms that may explain racial differences in changes in life satisfaction after retirement. We find that (a) relative to whites, Hispanics experience elevated changes life satisfaction after retirement whereas non-Hispanic blacks experience lower changes life satisfaction; and (b) that the differences between blacks and whites is accounted for by differences in wealth and income, but that the differences between Hispanics and whites is not accounted for by differences in health, wealth, nativity status, family arrangements, preretirement job characteristics, or experiences of lifetime discrimination. These findings suggest that even when taking into consideration factors that often explain health and well-being benefits experienced by Hispanics in later life relative to non-Hispanics, Hispanics experience greater increases in life satisfaction at retirement than any other group. In this

session, we discuss the implications of these findings for programs designed to enhance adjustment to retirement.

TO WORK OR NOT TO WORK: THE EFFECT OF PENSION REFORMS ON MALE WORKERS' HEALTH

C. Arditto¹, R. Leombruni¹, A. d'Errico², D. Blane^{3,4}, 1. *Economics and Statistics, University of Torino, Torino, Italy*, 2. *Epidemiology Unit ASL TO3, Piedmont Region, Grugliasco (TO), Italy*, 3. *Imperial College London, London, United Kingdom*, 4. *University College London, London, United Kingdom*

To mitigate the negative effects of ageing population and low labour market participation on economic development, most of the industrialized countries have reformed their pension systems by increasing the age at which workers become eligible for retirement.

This paper investigates the health consequences of the extension of working life on a large sample of Italian men with high labour market attachment during their working life (N=50,143). We focused on the incidence of cardiovascular diseases (CVD) and all-cause mortality, two health outcomes for which there is still contrasting evidence in literature.

The problem of endogeneity of retirement is addressed by adopting an Instrumental Variable identification strategy, which exploits the exogenous changes in pension rules, in a quasi-natural experiment set-up. The analysis is performed using WHIP-HEALTH, a longitudinal administrative database that combines social security records on working histories with hospitalization data.

Results showed a significant detrimental effect of extended working life. A one-year delay in retirement increased the incidence of CVD hospitalization and all-cause mortality at 68–70 years old by 2.1 and 2.6 percentage points respectively ($p < 0.01$). The health risk associated with postponed retirement was heterogeneous, as manual collar workers, lower income earners and those who had longer careers suffered the highest price of being obliged to stay longer at work. The tests for instruments' validity showed very good performance in terms of both relevance and exogeneity.

This pension reform contributed unintentionally to increased health inequalities, by neglecting the differential vulnerability of individuals to work life extension.

SESSION 4010 (SYMPOSIUM)

INTERNATIONAL PERSPECTIVES ON INTERVENTIONS TO DETECT AND PREVENT FINANCIAL EXPLOITATION

Chair: M.L. Gilhooly, *Brunel University London, Uxbridge, England, United Kingdom*

Co-Chair: P.A. Lichtenberg, *Wayne State University, Detroit, Michigan*

Discussant: M.A. Creedon, *A.T. Still University*

This is the second of three symposia about older adults and financial exploitation organized by the GSA Lifelong Financial Health Workgroup. Symposium 2 examines international research and perspectives on training and interventions to detect and prevent financial exploitation of older adults. In the first paper Gutman considers the potential for exploitation and elder abuse during and in the aftermath of

disasters. The second paper by Pearson will help the audience better understand the laws of financial abuse and exploitation; the paper will explore laws from around the globe and will consider whether or not mandatory reporting laws have improved detection and prevention of financial exploitation. Paper 3 by Harries provides an outline of findings from UK research on decision making in relation to detecting and preventing financial exploitation using the bystander intervention model and then goes on to describe a free online training tool developed for professionals in banking, health and social care. Ron Long, in Paper 4 will consider not only the initiatives of Wells Fargo bank, but other financial institutions around the globe. Finally, European initiatives and research on detecting and preventing financial exploitation will be outlined and placed in the context of the report by the European Region of the WHO on elder maltreatment by de Donder.

ELDER ABUSE: FINANCIAL EXPLOITATION DURING DISASTERS AND AMONG MARGINALIZED POPULATIONS

G.M. Gutman, *Simon Fraser University, Vancouver, British Columbia, Canada*

Researchers have rarely considered the potential for increases in elder abuse during and in the aftermath of disasters. Some statistics are, however, revealing. For example, in the three weeks after the 2011 earthquake in Christchurch, New Zealand, domestic violence incidence soared nearly 47%. There was a four-fold increase in family violence after Hurricane Katrina. Child abuse reports have been found to increase during disasters. Apart from the possibility of increasing elder abuse and financial exploitation during and following disasters, marginalized groups may be particularly vulnerable, as well as at other, more normal, times. In this paper issues associated with LGBT elder's vulnerability will be considered. For example, most LGBT people are not protected by marriage or common property laws. In addition, LGBT older adults may be socially isolated because many are estranged from family and are fearful of the health care system.

CAPACITY, CONFLICT, AND CHANGE: ELDER LAW IN AN AGING WORLD

K. Pearson, 1. *Pennsylvania State University, Carlisle, Pennsylvania*, 2. *Dickinson Law, Carlisle, Pennsylvania*

Family responsibility and support laws have a long and interesting history. When first enacted, policy makers used such laws to declare an official policy that family members should support each other, rather than draw upon public resources. This paper tracks modern developments with filial support laws that purport to obligate adult children, and in some states grandchildren, to assist their parents/grandparents if indigent or needy. Filial support laws that have survived into the 21st century are compared. Although such laws are often similar in wording globally, enforcement practices are quite different. Moreover, although intended to ensure that families support their aged relatives enforcement often means attempting to extract from the poor, money for the poor. In addition, it is argued that such laws do nothing to remedy instances of poor children financially exploiting wealthier parents.

ELDER FINANCIAL ABUSE: AN RCT FOR THE DEVELOPMENT OF AN ONLINE TRAINING TOOL FOR PROFESSIONALS

P. Harries¹, K.J. Gilhooly¹, M.L. Gilhooly¹, M. Davies¹, D.C. Kinnear², 1. *Department of Clinical Sciences, Brunel University London, Uxbridge, England, United Kingdom*, 2. *University of Glasgow, Glasgow, Scotland, United Kingdom*

Professionals in health, social care and banking must make complex decisions when they suspect financial exploitation of older adults. Two online training tools were developed, one for the health and social care sectors and one for banking professionals. The training aids involve viewing a series of short case vignettes about elder financial abuse and making judgements as to how they would deal with that case if they encountered it at work. A randomized control trial was conducted to measure the effectiveness of the training aide and to provide evidence that professionals who used the training were able to make decisions more like those with experience. Findings from the RCT will be outlined. For example, it was found that novices who received training were able to make decisions more like those of identified experts and they were more consistent in their judgements after training. Symposium participants will be provided with information on how to locate these free online training aids.

WORKING WITH AGING CLIENTS: EMERGING ISSUES ASSOCIATED WITH FINANCIAL EXPLOITATION

R.C. Long, *Wells Fargo Advisors, St Louis, Missouri*

In this paper the top challenges in detecting and preventing financial exploitation of older adults are outlined. Included are power of attorney abuse, third party investment scams, diminished capacity, familial disputes, new and expensive 'best friends, and account takeovers and wire frauds. Elder client initiatives will be described along with the OWN IT approach – Observe, Wonder Why, Negotiate, Isolate and Tattle. The key issues are poignantly highlighted via two case reviews. Finally, what is needed to improve the elder financial abuse system will be discussed.

DETECTION AND PREVENTION OF FINANCIAL ELDER ABUSE: RESULTS FROM THE BELGIAN AGEING STUDIES

L. De Donder, N. De Witte, D. Verté, *Vrije Universiteit Brussel, Brussel, Belgium*

Prevalence data of financial elder abuse from social and health services only present a tip of the iceberg. A large number of situations are left undetected. An emerging European theme in policy and practice has been concerned with the need to focus more on early detection and prevention. This paper adopts a systematic multi-dimensional approach based on both a progressive (primary, secondary, tertiary, quaternary prevention) and ecological (micro, meso, exo, macro-level) perspective on prevention. Prevention programs for financial elder abuse are described and situated in this multi-dimensional framework. Using data from the Belgian Ageing Studies (N=7,869 people aged 60 and over), the key-argument is developed that most prevention programs are weakened by their undifferentiated treatment of various types of elder abuse. Since the results indicate that risk factors differ

according to type of abuse, it is also important to differentiate by type of abuse when identifying effective prevention strategies. The presentation concludes by discussing the need to develop a particular detection and prevention strategy for financial elder abuse.

SESSION 4015 (SYMPOSIUM)

A COLLABORATIVE RESEARCH MODEL TO IMPROVE THE LIVES OF PEOPLE LIVING WITH DEMENTIA

Chair: S. Kurrle, *University of Sydney, Hornsby, New South Wales, Australia*

Co-Chair: C. Poulos, *HammondCare, Sydney, New South Wales, Australia*

Improving the lives of people living with dementia and associated functional decline and their carers requires co-creation and dissemination of knowledge that changes policy, systems and practice. The Australian Government, through the National Health and Medical Research Council (NHMRC) Partnerships for Better Health Initiative, has recognised that bringing together clinicians, consumers, researchers and decision makers to work on developing research questions is essential to translate research into health and health system improvement. The Partnership Centre on Dealing with Cognitive and Related Functional Decline in Older People (Cognitive Decline Partnership Centre or CDPC) is a working example of this model in practice. During this symposium the audience will hear about how the CDPC was developed and the Funding Partner role in this development, the process of consumer engagement within the Partnership model, as well as preliminary internal evaluation results that examine how the CDPC is progressing towards building effective partnerships. Increased partnerships enhance translation into best practice care for people living with dementia. As an example of this, specific projects within the CDPC will also be discussed including the implementation of Vitamin D supplements in Australian residential aged care facilities to reduce falls, and the role of regulation on the quality of care for people with dementia.

DRIVING RESEARCH FOCUSED ON REAL CHANGE

C. Poulos, 1. *HammondCare, Sydney, New South Wales, Australia*, 2. *Universtiy of New South Wales, Hornsby, New South Wales, Australia*

The Cognitive Decline Partnership Centre comes from a desire for the NHMRC to integrate evidence-based research more in industry. As one of Australia's leading aged care providers, and an inaugural Funding Partner in the CDPC, HammondCare recognised the value of defining research priorities from the perspective of those receiving, delivering, managing, and governing services. The CDPC has provided HammondCare with the opportunity to be involved across a range of research projects with very different aims and processes that will shape the work we do and provide a stronger evidence base for the care we provide. The Partnership has also been a facilitator for new research and service development opportunities across the organisation and has given us an excellent insight into how universities, research and

the NHMRC work together. This oral presentation will outline HammondCare's involvement of the CDPC both from a Funding Partner and research perspective.

CONSUMER ENGAGEMENT: FROM RESEARCH QUESTION TO IMPLEMENTATION

S. Kurrle, 1. *University of Sydney, Hornsby, New South Wales, Australia*, 2. *Hornsby Ku-ring-gai Hospital, Hornsby, New South Wales, Australia*

The Cognitive Decline Partnership Centre (CDPC) is a partnership between aged care providers, consumers, clinicians and researchers. Its major focus is on implementation of current knowledge into practice, and also synthesis and dissemination, collaborative new research, and capacity building. Involving consumers (people with dementia and their carers) is integral to all aspects of the CDPC. The Consumer Dementia Research Network of Alzheimer's Australia was engaged as the main consumer representative from the beginning of the CDPC. During the initial stages, all research projects proposed for integration into the CDPC program of work were reviewed by the Consumer Network prior to taking them to a planning workshop with researchers and providers. Consumers have been involved in constructing research questions, in ensuring all activities are appropriately targeted, and have been involved in project steering committees. They have also been integral in preparing final reports and disseminating results to appropriate audiences.

EFFECTIVE PARTNERSHIPS: WHAT IS REQUIRED?

S. McDermott¹, J. Long², K. Radford³, A. Kitching¹, 1. *University of Sydney, Hornsby, New South Wales, Australia*, 2. *Macquarie University, Sydney, New South Wales, Australia*, 3. *Griffith University, Brisbane, Queensland, Australia*

Improving the care for people with dementia requires developing robust evidence about effective programs, services, and outcome measures, and applying that evidence to policy and practice. The Cognitive Decline Partnership Centre (CDPC) aims to overcome the barriers that prevent the translation of research into practice through its unique structure that brings together end users to work in partnership throughout the research process. This presentation considers the elements that are essential for developing effective partnerships between service providers, clinicians, consumers, and researchers. Drawing on data collected by the CDPC over a two year period, the presentation identifies the six elements of working together in partnership, including: commitment to shared goals; addressing different research cultures; problem solving through compromise and support; resourcing; targeted, frequent, and respectful communication; and developing relationships of trust. This presentation aims to equip audiences with the skills required to work in partnership with end users.

IMPLEMENTATION OF VITAMIN D FOR OLDER PEOPLE IN AUSTRALIAN RESIDENTIAL AGED CARE FACILITIES

I. Cameron, *University of Sydney, Sydney, New South Wales, Australia*

In residential aged care facilities one in every two residents will fall each year. There is strong evidence for Vitamin

D supplement use for the reduction of falls in these facilities, and Vitamin D supplementation is recommended in current best practice falls prevention guidelines for aged care facilities. This presentation reviews current usage of Vitamin D in a range of Australian aged care facilities, and presents effective implementation strategies including education which is multifactorial and targets all stakeholders, use of audits and feedback, and addressing stakeholder beliefs and attitudes. Contextual factors may influence the success of implementation and will vary between facilities.

THE ROLE OF REGULATION IN POLICY FOR AUSTRALIAN DEMENTIA CARE

S. Biggs^{1,2}, A. Carr^{1,2}, 1. *Melbourne University, Melbourne, Victoria, Australia*, 2. *The Brotherhood of St Laurence, Melbourne, Victoria, Australia*

The quality of dementia care has become an important policy issue. This paper examines the role that regulation plays in protection and innovation in care settings. Regulation sits at the crossroads of the State's duty to protect its most vulnerable citizens, provider attempts to fulfill market expectations and consumers concern for their rights and protection. Here we examine the way that regulation is not a uniform event, but forms clusters that allow more effective policy development and resourcing.

SESSION 4020 (PAPER)

ALZHEIMER'S DISEASE AND COGNITION

EXPLORING THE LONG-TERM CARE TRAJECTORIES OF PERSONS WITH DEMENTIA—A WESTERN CANADIAN STUDY

D.S. Cloutier Fisher, M.J. Penning, *University of Victoria, Victoria, British Columbia, Canada*

While a considerable body of research has focused on experiences of care within particular settings (e.g., home care, nursing home care or hospital) and the predictors of entry into such forms of care, little research has been conducted to examine the longitudinal experiences of older persons as they navigate across the overall long-term care (LTC) continuum. This is especially true for older persons with dementia. The purpose of this research is to use latent transition analysis (LTA) to explore the most common service use trajectories over time, and their predictors among a sample of long-term care clients with evidence of dementia. This study draws on four years of administrative data for n=3541 individual clients aged 65+ with evidence of dementia who were clients of long-term care (LTC) in a populous health region in British Columbia, Canada between January 1, 2008 and July 31, 2012. Four latent groups were found to represent the most common experiences of these clients: continuous home care, intermittent home care, residential care and an absorbing mortality class. Multinomial logistic regression analysis highlighted the characteristics of persons with dementia that were most significant in predicting membership in each of these common pathways. Predictors such as: age, marital status, living alone, income, chronic conditions, ADL scores, falls, cognitive performance and behavioural issues were most significant in the first year of service,

and became less significant thereafter. Our results reveal that differential patterns in service use over time depend heavily on where people start in the care system.

LOST WITH DEMENTIA: REPORTS IN THE AUSTRALIAN PRINT MEDIA

L. Schnitker, N. Shepherd, M. MacAndrew, E.R. Beattie, *Queensland University of Technology, Brisbane, Queensland, Australia*

Successful environmental navigation requires intact attention, memory and problem solving, all of which are progressively impaired by dementia. People with dementia who get lost have an increased risk of negative outcomes. In Australia no legislated public community alert system exists, so print media is one critical information source supporting safe return.

We examined news reports of lost people with dementia in Australia (2011–2015) sourced from the Proquest Australia & New Zealand Newsstand database. Articles meeting inclusion criteria were analyzed for relevant information e.g. age, gender, transport mode, location last seen, time missing, location found, health outcome.

Missing people with dementia (n=130, mean age 75, 74% male), typically left home (75%) or residential aged care (25%) and were on foot (62%). Significant resources, e.g. helicopters, police, dogs, search and rescue units and volunteers, were utilized in searches. Ninety two people (71%) were found (73 alive: 60% well, 20% injured; 19 dead). Of the 19 people found dead most were found within 5 km of where they were living and 7 were found within 1 km. Dehydration and exhaustion were the most common issues for those found.

Our findings reinforce existing evidence that wandering away from a safe environment alone and getting lost is not a benign event for people living with dementia. Community-level interventions targeting dementia awareness and risk reduction need to be urgently explored to reduce preventable deaths.

ACCESS TO TIMELY FORMAL CARE FOR PEOPLE WITH DEMENTIA: INTERVIEW STUDIES IN EIGHT EUROPEAN COUNTRIES

A. Stephan, A. Bieber, A. Broda, G. Meyer, *Institute for Health and Nursing Science, Martin Luther University Halle-Wittenberg, Halle (Saale), Germany*

The timely use of community services is supposed to enable people with dementia to live at home as long as possible. However, access to services seems to be gained late in the trajectory of dementia. As part of the transnational project Actifcare (including Germany, Ireland, Italy, Netherlands, Norway, Portugal, Sweden and United Kingdom), barriers and facilitators when using formal community care as experienced by people with dementia, informal carers and healthcare professionals were investigated. Consecutively, strategies improving service use as suggested by political decision-makers/decision influencers were explored. Across countries, 55 focus groups with 266 participants were conducted, followed by 38 expert interviews. A summarising qualitative content analysis was performed.

Using formal community care seems to be influenced by psychosocial factors of people with dementia and informal

carers together with characteristics of healthcare professionals and system-related aspects. Findings highlight the impact of beliefs of people with dementia and carers (e.g. meaning of caregiving for the families), and underline that people with dementia try to stay independent as long as possible, while using formal care is often considered as a threat to individual independence. Political decision-makers/influencers identified good-practice strategies of dementia care that appropriately reflect explored barriers and facilitators (e.g. care coordinator, proactive person-centred services, and raising public awareness). Nevertheless, implementation of these strategies still seems to be challenging. Further research is needed, aimed at investigating how these strategies can be appropriately implemented, and how formal care can be modified towards supporting the independence of people with dementia.

RACIAL AND ETHNIC PATTERNS IN THE PROGRESSION OF COGNITIVE DECLINE IN A CLINICAL SAMPLE

M.P. Aranda, D. Lloyd, *University of Southern California, Los Angeles, California*

Drawing from the National Alzheimer's Coordinating Center Uniform Data Set, we examined the trajectory of cognitive function among older Asians, African Americans, Latinos, and non-Latino Whites. Using latent trajectory model analysis, we pooled subjects with at least 3 assessments (N=1483) and measured cognitive decline using neuropsychological battery test scores. Results indicate an overall declining average trajectory for all groups with increasing heterogeneity at successive assessments. Each minority group had a lower intercept than non-Hispanic whites indicating a less steep decline over time: While Latinos did not differ from non-Hispanic whites in the rate of decline, the slope was significantly less steep among African Americans and Asians. Test administration in Spanish is associated with a flatter trajectory. Implications for early assessment and brain health initiatives are discussed.

COGNITIVE STIMULATION THERAPY: AN EXPLORATORY STUDY IN AN AMERICAN POPULATION

D.B. Stewart¹, M.L. Berg-Weger¹, M. Zubatsky¹, J. Lundy², D. Hayden², *1. Saint Louis University, St. Louis, Missouri, 2. Perryville Memorial Hospital, Perryville, Missouri*

Affecting nearly 5.4 million Americans and 35.6 million individuals worldwide, dementia is one of the greatest health crises of our time. Though pharmacological interventions are a mainstay of treatment, their efficacy remains limited. More attention has been given to non-pharmacological interventions as a primary form of intervention. Offering persons with dementia a voice in selection of stimulation activities is shown to reduce behavioral issues and decrease medication use. One approach, Cognitive Stimulation Therapy (CST), is reported to improve processing and recall for individuals with dementia but few studies incorporate additional social, psychological, or familial measures of improvement within CST interventions. Ninety-four community-based CST participants (M=78.55 years, SD=10.01) underwent CST with 21 continuing onto maintenance CST. Pre-/post intervention measures of cognition, depression, quality of life, and mobility were taken.

Using a paired samples t test, there is a statistically significant difference of SLUMS score after CST ($t_{93}=6.123$, $p<.001$). On average, post-scores were 2.4 points higher. A statistically significant post-test difference of Cornell Scale for Depression in Dementia exists ($t_{94}=-6.743$, $p<.001$) as well as Quality of life ($t_{94}=5.931$, $p<.001$). Results remained significant when comparing results at 12-month mark to baseline. There was no statistically significant difference in caregiver quality of life, caregiver depression, or mobility. CST proves to be an effective form of treatment among older adults with mild to moderate dementia. Implications for integration into practice and education will be highlighted.

SESSION 4025 (SYMPOSIUM)

THE EVOLUTION OF HEALTH AND LONG-TERM CARE INTEGRATION IN THE U.S., CHINA, TAIWAN, AND JAPAN

Chair: Y.W. Glavin, *Case Western Reserve University/ Taipei Medical U, Mayfield Village, Ohio*

Co-Chair: R. Browdie, *Benjamin Rose Institute*

This Symposium reviews and compares care integration trends in China, Taiwan, Japan and the US. Presentations include development in the context of distinctive policy and cultural environment of each respective system. Integration strategies (or models) are concluded from policy analyses, demonstrations and national surveys/studies, ranging from overall financing, payment methods, shared risk and care management to technology applications, with common goal to improve care, reduce cost and ensure system sustainability.

Josh Wiener will review past and current initiatives to integrate care in the US, including Social/ HMOs, the Program for All-inclusive Care for the Elderly (PACE), Dual Eligible Special Needs Plans (D-SNPs) and the Centers for Medicare & Medicaid dual eligible demonstrations.

John Campbell will discuss LTC Insurance in Japan, efforts between Long Term Care and Health Care Insurances to support community-based integrated care, especially for the elderly with heaviest needs. He will discuss integration in the context of distinctive features of Japan's LTCI system.

Yu-Chun Lee will discuss two financing alternative for long term care in Taiwan: insurance and tax-based financing. Discussion will focus on to what extend these two financing models support care integration. Conclusions derived from policy analyses, budget projections and national LTC surveys will be discussed.

Shuang Liu will discuss China's "Medical and Personal Care Integration" policy and conclude from the Comprehensive Home Care Survey to identify opportunities for hospital and home care agency to collaborate on care integration beyond structure changes.

Ye-Fan Wang Glavin and Rich Browdie will serve as moderators

INTEGRATED CARE IN THE UNITED STATES: OPTIONS AND ISSUES

J.M. Wiener, *RTI International, Washington, District of Columbia*

Older people with disabilities in the United States currently receive care in a fragmented and uncoordinated

financing and service delivery system, both within and between the health and long-term care systems. Financing for acute care is largely the responsibility of Medicare and the federal government, while long-term services and supports (LTSS) is dominated by Medicaid and state governments. As a result, no organization is responsible for managing all aspects of care for a person. The fragmented financing and delivery system has negative consequences for older people, including high levels of hospitalization and potentially avoidable hospitalizations. This presentation will review past and current initiatives to integrate care, including Social/ HMOs, the Program for All-inclusive Care for the Elderly (PACE), Dual Eligible Special Needs Plans (D-SNPs) and the Centers for Medicare & Medicaid dual eligible demonstrations.

LONG-TERM CARE INSURANCE VS. TAXATION: POLICY IMPLICATIONS TOWARD AN INTEGRATED CARE

Y. Lee¹, Y.W. Glavin², 1. *Institute of Health and Welfare, National Yang-Ming University, Taipei, Taiwan*, 2. *Case Western Reserve University, Cleveland, Ohio*

World Health Organization (WHO) global strategy calls for fundamental paradigm shift to a people-centered integrated health system to improve quality, responsiveness, efficiency and financial sustainability. The elderly in Taiwan will grow from 12.6% in 2016 to 41% in 2036. Current Ten-Year Long-Term Care Plan provides home and community services to 35.7% elderly by tax. Government has been working on a universal Long-Term Care Insurance implemented under the existing National Health Insurance Administration to foster an integrated care delivery through seamless financing, uniform assessment/management and IT linkages. The new administration switches to a tax-based financing. This presentation will compare social insurance vs. tax-based financing affecting the creation of an integrated and comprehensive care system. Conclusions derived from policy analyses, need/budget projections & public opinions from national LTC surveys will be discussed relating system design (single payer vs. local government administration), financial sustainability, population and benefit coverage and incentives for integrations.

POLICY CONSIDERATIONS IN SUPPORTING CARE INTEGRATION IN CHINA BASED ON A HOME CARE SURVEY IN CHENGDU

S. Liu, B. Dong, S. Wang, *West China Hospital, Sichuan University, Chengdu, China*

Integration of medical services and personal care is top national policy in China. This presentation will address issues and considerations of Integrated Care development based on findings from the Comprehensive Home Care Survey conducted in City of Chengdu (from January to June 2016) with (n=490) included in the study. Study indicates standardized care and quality monitoring are lacking. General services provided are food preparation, ADL assistance, house-keeping, companion to Dr's appointments and injections. Home care staff often lack of professional training and comprehensive assessments are rarely conducted. The study encourages collaboration between hospitals and home care agencies but should go beyond structure merge or hospital service expansions. The strategies should be staff education

and collaboration ensuring standardized care, early disease detection, health promotion, polypharmacy management and quality of life improvement. Due to resource limitation, University Medical Center is exploring providing patient consultation, staff education and administrative services through internet.

INTEGRATION AS POLICY IN JAPAN'S LONG-TERM CARE SYSTEM

J.C. Campbell¹, N. Ikegami², 1. *Political Science, University of Michigan-Ann Arbor, Oakland, CA, Cabo Verde*, 2. *St. Luke's International University, Tokyo, Japan*

Japanese older people with disabilities receive community-based and institutional care services under the public, mandatory Long-Term Care Insurance (LTCI) system that started in 2000. Levels of provision are among the highest in the world. LTCI includes home nursing, physical therapy and oversight by physicians, but most medical care is covered by health insurance. Integration is a current policy focus, as a means to reduce demand for institutional care by providing "24-hour care" in the community. Specifically, home doctor visits have been encouraged by increasing payments under health insurance, and organizational experiments are being carried out in many localities to improve communication between physicians and LTC care managers. A particular challenge, given the continuing need to control costs, is efficient management of health care and LTC for older people with the heaviest needs. The presentation will discuss integration in the context of distinctive features of Japan's LTCI system.

SESSION 4030 (SYMPOSIUM)

ELDER ABUSE PREVENTION: LESSONS FROM FOUR INITIATIVES

Co-Chair: F.K. Ejaz, *Benjamin Rose Institute on Aging, Ohio*

B. Olsen, *University of Southern California*

Discussant: H. Lamont, *Health and Human Services*

The Administration for Community Living awarded five cooperative agreements to support elder abuse prevention initiatives. This symposium describes findings from four of those agreements.

The discussant is Helen Lamont from Health and Human Services.

Dr. Burnett will describe a 12-month medication adherence intervention developed for victims who were substantiated for self-neglect by Texas Adult Protective Services (APS). Findings revealed 65% of victims had > 9 medications, with complex medication regimens. Those completing at-least two assessments were more likely to comply with medication adherence.

Dr. Ejaz will discuss how two APS workers who were embedded in a healthcare system in Texas trained 826 primary care clinicians in 63 clinics. Clinicians had significant improvements in knowledge of abuse and its reporting from pre-to-post training but not at follow-up. Of 7,000+ patients screened for abuse, only 34 reports of suspected abuse were made to APS. Clinicians consulting with APS liaisons during

the same time period reported 500+ cases of suspected abuse to APS.

Dr. Breckman will discuss the implementation of Enhanced Multidisciplinary Teams that included forensic accountants and gero-psychiatrists to address financial exploitation. An end to exploitation was reported in 69% of cases. In upstate NY, the project realized \$530,000 in court-ordered restitution.

Dr. Olsen will discuss the Abuse Intervention/Prevention Model study. 76 older adults with dementia/caregiver dyads were administered assessments of abuse risk at baseline, given resource referrals to mitigate those risks, and reassessed at three month follow-up. Analyses examined pre-post changes in risk profiles, service utilization rates, and APS engagement.

IMPROVING MEDICATION ADHERENCE IN SELF-NEGLECTING OLDER ADULTS: LESSONS LEARNED FROM THE BLACK BOX

J. Burnett, S.R. Abada, L.E. Clark, R.J. Flores, C.B. Dyer, *University of Texas Health Science Center at Houston, UTHealth, McGovern Medical School, Division of Geriatric and Palliative Medicine, Houston, Texas*

Medication adherence is a significant problem among older adults who self-neglect and, although likely linked to increased morbidity and mortality in this population, it remains understudied. This is the first study to pilot a 12-month medication adherence intervention in older adults with Adult Protective Services substantiated self-neglect. Findings indicated that complex medication regimens, polypharmacy and medication contraindications were common and thus, required a novel and intensive screening process to ensure participant safety. No participants reported high adherence. The majority (65%) were considered hyperpolypharmacy (i.e. >9 medications), regimen complexity predicted adherence levels independent of memory and executive function and among those who completed at least two medication adherence assessments there was a trend towards increased self-reported medication adherence. This study provides rich data and critical lessons to support future medication adherence studies in this population.

IDENTIFYING AND REPORTING OLDER PATIENTS AT RISK OF ABUSE TO ADULT PROTECTIVE SERVICES

F.K. Ejaz¹, M.S. Rose¹, L. Borato¹, D. Billa², R. Kirsch³, 1. *Benjamin Rose Institute on Aging, Cleveland, Ohio*, 2. *WellMed Charitable Foundation, San Antonio, Texas*, 3. *Texas Department of Family and Protective Services, Austin, Texas*

Texas Adult Protective Services (APS) collaborated with WellMed, a healthcare provider, to develop interventions focused on identification and reporting of abuse among patients. Two APS workers were embedded in WellMed and helped train 826 staff in 63 primary care clinics on abuse and the Elder Abuse Screening Index (EASI).

Results from 532 staff who participated in pre-post training surveys indicated significant improvements in knowledge of abuse and its reporting. After a one-year follow-up, these improvements were not maintained.

Over 7,000 patients had 11,000+ EASI screenings completed on them, which resulted in only 23 suspected victims reported to APS. However, APS staff who participated in case conferences concerning high-risk older patients helped to identify and report 500+ suspected abuse cases to APS.

The discussion will center on the usefulness of the EASI compared to the role played by APS staff in identifying and reporting abuse; and its implications for practice.

ENHANCED MULTIDISCIPLINARY TEAMS ADDRESS CASES OF FINANCIAL EXPLOITATION OF OLDER ADULTS IN NEW YORK

R. Breckman¹, P.L. Caccamise², 1. NYC Elder Abuse Center, New York, New York, 2. Lifespan of Greater Rochester, Rochester, New York

Through an ACL grant to NYS Office for the Aging in 2012, multiple partners implemented Enhanced Multidisciplinary Teams (E-MDTs) that included forensic accountants and geropsychiatrists to address cases of elder financial exploitation in two pilot locations in Manhattan and seven counties in upstate NY. This presentation will address findings regarding the efficacy of E-MDTs in investigating and intervening in cases of elder financial exploitation. Outcomes examined included recovery of assets and asset protection.

Of the 221 cases reviewed by E-MDTs in both sites between 4/2013 through 12/2015, key outcomes were documented in 103 cases. Reduction of exploitation of assets was reported in 81.5% of cases; an end to exploitation in 68.9% of cases, and restitution or recovery of assets in 16 cases. In the upstate site, the project realized \$530,000 in court-ordered restitution and formal repayment agreements. Findings demonstrate the importance of including forensic accountants and geropsychiatrists in E-MDTs.

ABUSE INTERVENTION/PREVENTION MODEL AMONG PERSONS WITH DEMENTIA AND THEIR CAREGIVERS

B. Olsen, A. Nguyen, A. Coulourides Kogan, C. Weber, S. Hirst, L. Mosqueda, University of Southern California, Alhambra, California

76 community dwelling older adults with dementia/caregiver dyads were recruited from APS, clinics, and community agencies for the Abuse Intervention/Prevention Model (AIM) study. Participants were administered in-home baseline assessments of abuse risk, given resource referrals to mitigate those risks, and reassessed at 3-month follow-up. All dyads met at-least one criterion for abuse risk. 32.9% (25 dyads) utilized referrals by follow-up. Caregivers who utilized referrals had more education ($p=.03$), greater perceived burden ($p=.04$) and anxiety ($p=.05$), and lower quality of life ($p=.01$). Compared to baseline, follow-up risk scores for caregivers did not change. Care recipients had lower scores for cognitive function ($p=.04$) and ADL difficulty ($p<.01$), and higher empathy scores ($p=.04$). 25 dyads were engaged with APS. APS-engaged caregivers reported greater burden ($p=.02$) and less social support ($p<.01$). APS-engaged dyads reported lower quality of relationship ($p=0.03$). Service utilizers were 63% less likely to be APS engaged compared to non-utilizers ($p=0.07$).

SESSION 4035 (SYMPOSIUM)

ALTERNATE MODELS OF PUBLIC LONG-TERM CARE IN THE UNITED STATES

Chair: L. Polivka, Claude Pepper Center, Tallahassee, Florida

Co-Chair: R.A. Applebaum, Miami University, Oxford, Ohio

Over the last decade several different models of publicly funded long-term care (LTC) programs, mainly through the state and federal Medicaid program, have emerged in states across the US. Presenters in this symposium will discuss four different models of LTC services that characterize the LTC systems of most states. Baozhen Luo will describe the origins and current operations of the LTC system in Oregon and Washington, which are both non-profit Aging Network (Area Agencies and service providers) administered fee-for-service models of public LTC and analyze why LTC experts rank these two LTC systems highly. Jung Kwak will present findings from her historical case study of the Wisconsin LTC system (Wisconsin Family Care), which is the only non-profit Aging Network administered managed LTC system in the US. Her paper will include an analysis of the conflict between aging advocates and the Wisconsin governor over the latter's proposal to give control of the LTC system to for-profit HMOs. Larry Polivka will discuss a third LTC model in his presentation on Florida's LTC system which became fully administered by for-profit HMOs in 2013 and assess the implications of this model for the future of the Aging Network and its role in LTC. The Fourth model will be presented by Robert Applebaum who will discuss Ohio's hybrid system of public LTC services. This system is designed to include a prominent front-end role for the Area Agencies on Aging, while the service delivery and case management functions are administered by HMOs.

A PUBLIC LONG-TERM CARE SYSTEM FULLY ADMINISTERED BY PRIVATE, FOR-PROFIT HMOs—THE FLORIDA MODEL

L. Polivka, Claude Pepper Center, Tallahassee, Florida

Until 2013 the home and community-based services part of Florida's public long-term care (LTC) system was administered by the Area Agencies on Aging and non-profit service providers. In 2013, however, most of the publicly funded HCBS programs were folded under HMOs run by large insurance companies such as United Health Care which received contracts to administer all Medicaid funded LTC programs including the nursing home program. This paper includes a description of the political forces at both the state and federal levels that played major roles in the transition to a full scale managed LTC system in Florida, an analysis of the major problems encountered during the transition from both consumer and organizational perspectives, the impact of the new system on costs and quality of care outcomes through 2016, and the impact of MLTC on the Florida Aging Network, in terms of its role(s) in the state's public LTC system.

AGING NETWORK ADMINISTERED PUBLIC LONG-TERM CARE SYSTEMS—THE OREGON AND WASHINGTON MODELS

B. Luo, *Sociology, Western Washington University, Bellingham, Washington*

Oregon pioneered the development of publicly funded long-term care (LTC) systems administered by non-profit Aging Network organizations (Area Agencies on Aging and service providers) in the early 1980s. Washington adopted the same model a few years later. Since then both systems have become recognized as among the best public LTC systems in the USA with comparatively high levels of cost effectiveness and person centered services. This paper will briefly describe the administrative operations of both systems, quantitative measures of costs and outcomes for both and the implications of these measures for LTC policy in other states and nations. The paper will conclude with a discussion of the major challenges facing both systems over the next decade.

AGING NETWORK MANAGED LONG-TERM CARE, DOES IT HAVE A FUTURE?

J. Kwak, *Social Work, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin*

Wisconsin Family Care (WFC) is the only non-profit aging network (area agencies on aging and service providers) administered managed long-term care (LTC) program which is publicly funded in the U.S. Wisconsin Family Care was essentially made a statewide program in 2006 following a rigorous evaluation that produced findings supporting the program's cost-effectiveness. The program has continued to show positive results in the years since and is now regarded as one of the best public LTC systems in the country. This impressive performance, however, has not kept WFC free of controversy and political conflict. In 2016, the state governor and legislative leaders proposed to convert WFC to a for-profit managed LTC program administered by a few large HMOs. This presentation will describe advocacy efforts against this proposed change and discuss its implications for the future of non-profit LTC and the aging network in other states.

INTEGRATING ACUTE AND LONG-TERM SERVICES THROUGH MANAGED CARE ORGANIZATIONS: INNOVATION OR IDEOLOGY

R.A. Applebaum, *Scripps Gerontology Center, Miami University, Oxford, Ohio*

States across the U.S. are faced with ever increasing long-term services expenditures in the context of a large growth in the number of older people likely to need such support. One state level policy response involves requiring all older people relying on the means tested Medicaid program, who are also Medicare eligible, to enroll in an integrated care demonstration. Ohio's MyCare program enrolled 120,000 dual eligible persons starting in May of 2014. . Analysis of the policy and implementation issues will be done in the context of previous efforts to integrate long-term and acute services such as the Social/Health Maintenance Organization, the Program of All Inclusive Care for the Elderly and the Medicaid Long-Term Services initiatives. There are a number of important reasons to integrated acute and long-term services, but previous

work has indicated there are also numerous barriers to the success of these endeavors.

SESSION 4040 (SYMPOSIUM)

GERIATRIC TELEHEALTH—DELIVERING SUSTAINABLE 21ST CENTURY HOSPITAL CARE MODELS

Chair: M. Martin-Khan, *The University of Queensland, Woolloongabba, Queensland, Australia*

Discussant: S.R. Counsell, *Indiana University-Purdue University--Indianapolis*

There are two primary forms of telehealth described here: store and forward, and video conference. Published accounts of geriatric telehealth have been available for over a decade. These services have either been descriptions of research projects outlining the reliability of geriatric telemedicine or boutique, specialised health services provided from tertiary centres. This has begun to change.

Increasingly, with lower equipment costs, improved technology, greater distances and demands on the workforce, telehealth is being recognised as an option for standard health service delivery by technologically savvy health care districts.

Telehealth, with the elimination or reduction in travel, benefits elderly people who either live a distance from the hospital (such as those living in the country who would travel to see a specialists) or those who are too frail to travel (i.e. long term care residents).

This symposium presents four working telehealth systems (from three countries) that are operating within health care systems that consider the telehealth mode as part of 'standard care'. Challenges in implementation have been overcome as part of change management processes. The specific geriatric medicine approaches are used in residential care, general practice, community assessment, memory clinic, and/or acute care.

TELEHEALTH AND RESIDENTIAL CARE

M. Weiner, *Indiana University, Bloomington, Indiana*

Telehealth has important uses in both urban and rural environments, when distance otherwise creates barriers to diagnosis or treatment. Telehealth includes aspects of electronic health information exchange (HIE), geographically dispersed referrals and consultations, and direct communication among clinicians, or between patient and clinician.

The U.S. Department of Veterans Affairs (VA) has a robust telehealth program that includes community-based HIE, clinician-to-clinician consultation, and patient-to-clinician telehealth for homebound patients. Residential care inside and outside the VA creates special challenges, because residents receive care from clinicians who are usually off site. Many of the residents' acute medical problems are thus handled by telephone, but the limited information available often hinders medical decision-making and can increase costs of care when patients are referred for emergency services. We discuss these dimensions of telehealth, unique challenges of remotely managing patients in residential care, an approach to videoconferencing that led to improvements, and issues surrounding sustainability.

TELEHEALTH AND INTER-HOSPITAL SUPPORT

S. Freeman¹, F. Flood², 1. *University of Northern British Columbia, Prince George, British Columbia, Canada*, 2. *Northern Health, Prince George, British Columbia, Canada*

Northern Health in British Columbia (BC) has 7 large telehealth service providers and several individual telehealth projects that form part of the health service. Telehealth in BC is for clinical, educational, and administrative purposes. Videoconferencing (mobile or desktop) is the primary tool. Clinical sessions use patient carts, which include devices that allow collection and observation of patient indicators. Triage and home-monitoring is steadily increasing.

In BC, telegeriatrics is part of the out-patients ambulatory care patients unit at The University Hospital of Northern British Columbia, Prince George. Consultations take place at smaller sites (more than 20 locations in the BC area). There are challenges to ensuring an integrated sustained system relate to systemic and technology issues.

Limited published information found on best practices, however, work with telehealth service representatives in BC identified key influences which included 4 key areas which lead to a review to improve utility across the province.

TELEHEALTH AND COGNITIVE ASSESSMENT

M. Martin-Khan, *Centre for Research in Geriatric Medicine, The University of Queensland, Woolloongabba, Queensland, Australia*

Videoconferencing (VC) provides a way to link a specialist physician with a patient in a remote location for the purpose of diagnosing dementia. Older adults with complex memory problems benefit from comprehensive cognitive assessment provided by specialists who often work in major population centers.

The Princess Alexandra Hospital (PAH) Telehealth Centre (PAH-TC) seeks to provide a whole-of-hospital telehealth service using videoconferencing and store-and-forward capabilities for a range of specialties. Queensland health (Australia) introduced this new centralised telehealth coordination service to improve the scope of telehealth from five medical disciplines, in the year before the establishment, to 34 disciplines two years after the establishment.

Recommendations from community assessment teams, are followed up by a referral from a General Practitioner, to the Memory Clinic at the PAH. Using telehealth, the geriatrician is able to carry out a full cognitive assessment for the diagnosis of dementia or seek additional cognitive testing if required.

TELEHEALTH AND COMPREHENSIVE GERIATRIC ASSESSMENT

L.C. Gray, *The University of Queensland, Brisbane, Queensland, Australia*

The procedure of comprehensive geriatric assessment is a cornerstone of geriatric medicine and aged care. The requirement for participation of geriatricians and multi-disciplinary teams often precludes its applications outside of major centres.

Our team has developed, evaluated and implemented on a large scale a telehealth methodology to deliver CGA at a distance from a University health service. The approach involves: Case preparation by a trained nurse at the patient

end; use of a structured system to record and interpret clinical observations (the interRAI AC-CGA); online case review using a web-based application by geriatricians; and direct patient consultation via video-conference. This model has been applied in small rural hospitals, long term care facilities and in primary care practices.

Our research demonstrates that the process is not associated with loss of diagnostic fidelity. There is good patient acceptance, and a reduction in assessment time for geriatricians due to the extensive case preparation.

SESSION 4045 (SYMPOSIUM)**PRESIDENTIAL SYMPOSIUM: OLDER ADULTS DURING DISASTERS: FACILITATORS AND BARRIERS IN LESS AND MORE DEVELOPED COUNTRIES**

Chair: L.M. Brown, *Palo Alto University, Palo Alto, California*

Discussant: K. Hyer, *University of South Florida*

Disasters are catastrophic events that suddenly and adversely affect populations. International humanitarian support is routinely offered after disasters to alleviate human suffering and facilitate the recovery process. Policymakers and responders use their knowledge and experiences to develop and implement systematized strategies that can be followed during disasters. Yet despite these efforts, the rate of disaster-related morbidity and mortality for older adults remains significantly higher than the general population. Because disasters occur without warning it is difficult to test and enhance strategies and protocols that are intended to mitigate threats and hazards and to quickly and effectively resolve their negative consequences. By identifying persistent challenges encountered during disasters and considering issues facing an aging population, organizations responsible for disaster response may be better attuned to the changing needs of the population and more able to address older adults in their planning and training processes. This symposium will feature five speakers representing Cameroon, Jamaica, Japan, New Zealand, Nepal, Philippines, and the United States. Presentations will describe actual disasters and the challenges and opportunities for preparing and responding to older adults during disasters in countries with varied financial, material, and human resources. Older adults displaced during disasters, assistance during displacement, as well as during return and reintegration after the event will be described. Finally, we will discuss why so many identified problems remain unresolved over time and how disaster managers might adapt lessons learned into processes so that they are culturally sensitive, relevant, and useful in affected regions.

REBUILDING COMMUNITY IN POST-DISASTER REGIONS: ELDERS LEADING THE WAY TO RESILIENCE

T. Patterson¹, E. Kiyota², 1. *LeadingAge Center for Applied Research, Washington, District of Columbia*, 2. *Ibashi, Washington, District of Columbia*

The present study focused on the effects of the Ibashi model of resilience and community engagement on social capital in the communities of Ofunato, Japan after the

Great East Japan Earthquake, Ormoc province, Philippines after Typhoon Haiyan, and Kathmandu, Nepal after the Earthquake of 2015. The Ibasho approach provides a long-term, sustainable model of incorporating elders more fully into their communities to create more resilient communities that are better prepared to withstand future natural disasters and the impacts of global aging. A mixed-methods approach was employed to evaluate the effect of model on social capital among community members, its impact on the community's perception of the recovery process, and on general well-being. Current findings revealed a positive impact on community-level social capital, self-efficacy, social network, sense of belonging, and community perceptions of disaster recovery. Further discussion will address the recent translation and evaluation of the model in Nepal.

DISASTER AND AGEING IN CAMEROON

E.N. Njuakom, *Ageing, CDVTA Cameroon, Bamenda, NWR, Cameroon*

This paper analysis elderly resilient livelihoods and share best practices for promoting disaster risk reduction response mechanisms among vulnerable older people and their communities. The paper highlights elderly vulnerabilities like limited mobility, exclusion, nutrition, health needs, and difficulties in enhancing major livelihoods, security and social protection issues. Older people are valuable resources for resilient livelihoods and can make invaluable contributions towards disaster risk reduction and should be included and consulted in developing disaster risk reduction strategies. In Cameroon, elderly contributions included community knowledge, knowledge on environmental patterns and established networks of elderly groups supported by volunteers, caring for the sick, meeting cost for medicines, providing food, clothing, shelter and income activities. Older people share wisdom and knowledge of past emergencies and can help prepare for future disasters. The paper concludes that elderly resilient activities strengthened elderly capacities, reduced vulnerability and built on elderly centered involvement in developing age-friendly resilient communities.

JAPANESE OLDER ADULTS' EXPERIENCES FROM EARTHQUAKES AND TSUNAMI

J. Otani, *Graduate School of Human Sciences, Osaka University, Suita, Osaka, Japan*

Japan has the highest proportion of older adults relative to other developed nations. This demographic change results in serious concerns about the economic impacts and the abilities of social service agencies to meet the growing needs of older adults. Japan has experienced numerous natural disasters during the past decade. Older adults have not only constituted a high proportion of casualties during each event, but disaster-triggered illnesses have disproportionately affected this subgroup during the recovery phase. This presentation will discuss lessons learned from Japan's experiences, focusing on physical and mental health, issues concerning evacuation centers, temporary shelter housing, and public reconstruction housing, as well as changing living arrangements such as declining multi-generation households. We will also discuss care for people with dementia, people living in isolation, lack of traditional family support, and *Kodokushi* (dying alone), with decent Japanese society's

transitional emphasis from family responsibility to neighborhood and community.

LESSONS LEARNED FROM OLDER PEOPLE IN CHRISTCHURCH, NEW ZEALAND, IN THE 2010—2011 EARTHQUAKE SEQUENCE

S. Keeling, *Health and Ageing Research Team, Massey University, NZ, Christchurch, New Zealand*

From the perspective of six years after the earthquake sequence which hit the city of Christchurch, New Zealand, this paper reviews a series of research studies on the effects experienced by older people. Immediate, medium and longer term effects show that lessons can be drawn from how these played out over time, and in relation to different sub-groupings of older people. First, the experiences of relocated rest home and hospital residents within the first year related to disrupted support links with family and carers. Second, older community residents reported both short-term negative mental health effects but also demonstrated immediate and longer term resilience through engagement in reconstruction and social support networks. Supportive ties are reported nationally as well as locally. Finally, other national processes for sharing the learning from these events will be discussed, following the metaphor of major ripple effects extending across a relatively small national population.

INCLUDING THE NEEDS OF OLDER PERSONS IN DISASTER PLANS: A FOCUS GROUP APPROACH

D. Eldemire-Shearer^{1,2}, J.G. McKoy Davis^{1,2}, 1. *Community Health & Psychiatry, University of the West Indies, Mona, Kingston, Jamaica*, 2. *Mona Ageing & Wellness Centre, Kingston, Jamaica*

The Caribbean including Jamaica, which will be highlighted, is very vulnerable to disasters particularly hurricanes which are an annual event. Older persons are often primary homeowners and without available financial and physical resources to mitigate the effects of disasters. The presentation will discuss the inclusion of older persons in national disaster plans. Focus groups and community surveys were used to identify both the needs and strengths of older persons especially with regard to hurricanes. Older persons are now recognized in national disaster planning activities and the process of including them will be explored as well as additional resources required.

SESSION 4050 (SYMPOSIUM)

IAGG ASIA AND OCEANIA REGION: RESPONDING TO AGEING IN THE ASIA/OCEANIA REGION—DIVERSITY, ACTION, AND OUTCOMES

Chair: K.D. Hill, *Curtin University, Perth, Western Australia, Australia*

Discussant: P. Assantachai, *Faculty of Medicine Siriraj Hospital, Bangkok, Thailand*

Most of the world's older people live in the Asia/Oceania region, which includes a diversity of countries at different stages of economic development, and different stages and pace of demographic and epidemiological transition. Japan, Korea and Australia are economically advanced countries, with significant proportions of their populations already

aged over 65. Other countries such as China, India and Indonesia are experiencing a rapid pace of population ageing. Over the next 15 years, the proportion of the population aged 65 and over is projected to rise from 9.5 to 16.2 % in China, from 5.5 to 8.2 % in India and from 5.4 to 9.2 % in Indonesia. These countries have a small window in which to respond to changing population needs, taking advantage of lower fertility rates and better health, preventing a rise in chronic disease, promoting and supporting healthy ageing and participation, and providing for the care of increasing numbers of frail older people. This symposium presents perspectives from the Asia/Oceania region considering the vast demographic change and diversity across many countries at different stages of development and transition, as well as economic diversity and health inequity among people within different countries. We will also debate the regional and local responses to population ageing, and how these are playing out across the region to enable optimal health and participation by older people and to maximize the potential for future generations to age well.

AN OVERVIEW OF AGING IN THE ASIA/OCEANIA REGION: DEMOGRAPHY, PROJECTIONS, UNIQUE ELEMENTS

D. Peng, *Renmin University, Beijing, China*

Most of the world's older people live in the Asia/Oceania region, which includes a diversity of countries at different stages of economic development, and different stages and pace of demographic and epidemiological transition. Japan, Korea and Australia are economically advanced countries, with significant proportions of their populations already aged over 65. Other countries such as China, India and Indonesia are experiencing a rapid pace of population ageing. Over the next 15 years, the proportion of the population aged 65 and over is projected to rise from 9.5 to 16.2 % in China, from 5.5 to 8.2 % in India and from 5.4 to 9.2 % in Indonesia. This presentation will provide an overview of these population trends, similarities, differences and challenges for this highly diverse region, setting the scene for subsequent presentations.

AGEING AND CHRONIC DISEASE IN INDONESIA—ASSESSING AND RESPONDING TO INEQUITY

Y. Christiani, *Credos Institute, Jakarta Selatan, Jakarta, Indonesia*

Indonesia is experiencing a rapid pace of population ageing. From the current proportion of 7.6%, it is projected that the proportion of older people aged 60 years or over in 2045 will reach 28.7%.

Despite the increasing proportion, the health of older people is relatively poor, with chronic disease as the most common health problem experienced by older people. Additionally, the inequality in health infrastructure, local income, socioeconomic, and development stage between provinces and districts, has led into the inequalities in health among older people.

This session will describe the burden of chronic disease among older people in Indonesia, and the inequalities between regions/provinces, gender, and socioeconomic group. Next, policies and programs to improve older people's health, and their potential impact, will be presented. These include the

community-based health program for older people, and the newly endorsed Ministry of Health's strategic plan for a healthy ageing program.

WPRO REGIONAL FRAMEWORK FOR AGEING AND HEALTH: FROM POLICY TO PROGRESS

A. Bhushan, *World Health Organization | Regional Office for the Western Pacific, Manila, Philippines*

The *Regional framework for action on ageing and health in the Western Pacific Region, 2014–2019* guides WHO's technical collaboration with Member States in the Region to prepare for population ageing and ensure that efforts towards universal health coverage include adequate responses to older people's health and related needs. The framework contains recommended actions across four pillars: (i) fostering age-friendly environments through action across sectors; (ii) promoting healthy ageing over the life-course and preventing functional decline and disease among older people; (iii) reorienting health systems to respond to the needs of older people; and (iv) strengthening the evidence base on ageing and health.

RESPONDING TO GENERATIONAL CHANGE IN OLDER PEOPLE'S NEEDS: A CASE STUDY OF POLICY REFORM

J. Byles, *Research Centre for Generational Health and Ageing, The University of Newcastle, Newcastle, New South Wales, Australia*

In 2010–11, the Australian Productivity Commission conducted an inquiry into caring for older Australians, consulting widely with older people, their carers, aged care providers, government agencies and other interested parties. The findings prompted major reforms to the delivery and funding of aged care, including an increased emphasis on community care for frail older people living at home, and the introduction of consumer directed care. The reforms look to improve access to care, better meet individual needs, and foreshadow a generational shift in expectations of independence in later life. This presentation will consider some of the major issues identified by the productivity commission, how the reforms are designed to address these issues, and how they fit with the projected needs and expectations of older people.

SESSION 4055 (SYMPOSIUM)

UNDERSTANDING AND ADDRESSING SOCIAL ISOLATION AND LONELINESS AMONG OLDER PEOPLE

Chair: C. Waldegrave, *Family Centre Social Policy Research Unit, Lower Hutt, Wellington, New Zealand*

Co-Chair: T. Scharf, *Newcastle University, Newcastle upon Tyne, United Kingdom*

This symposium will explore the social processes and impacts of Social Isolation and Loneliness (SI&L) on the health and wellbeing of older citizens across differing countries and contexts. There is a growing body of research that links SI&L to greater ill-health and shorter life spans (Holt-Lunstad et al 2015).

Considerable scientific attention has been given to lifestyle (e.g smoking) and environmental (e.g. pollution) factors

as risks to mortality, but far less scientific attention has been accorded to social factors despite known significant associations between loneliness and specific mental health (e.g. depression) and physical health (e.g. systolic blood pressure) conditions. The growing international evidence on the impacts of SI&L has profound implications for positive health status and substantially reduced health and welfare budgets.

For these implications to be realised, new studies are required to enable the early detection of pathways in and out of SI&L. The four presentations, involving recent research projects from New Zealand, England, Belgium and Italy present a broad range of new evidence from differing contexts, including quantitative and qualitative datasets, pathways in and out of SI&L and policy implications. Focus will be given to multiple domains of SI&L, including spatial contexts, social relations, community participation, health and well-being, economic trends, elder abuse and ethnic dimensions.

After attending this symposium, participants will have a clear understanding of SI&L in terms of: (1) the broad contextual dimensions; (2) the measurable negative impacts, (3) pathways in and out of SI&L, and (4) useful policy dimensions.

RECENT TRENDS ON SOCIAL ISOLATION AND LONELINESS AMONG OLDER PEOPLE IN ITALY

G. Lamura¹, M. Melchiorre, E. Cela³, 1. INRCA - National Institute of Health and Science on Ageing, Ancona, Marche, Italy, 3. Università Politecnica delle Marche, Ancona, Marche, Italy

This presentation will provide a basic understanding of how social isolation and loneliness in older age are experienced in Italy. Through the use of both national data and findings from comparative studies, it will be highlighted how social and economic trends are affecting older Italians in this regard, including relationships and contacts with family members, neighbours, friends and the wider society. The connection with elder abuse will be also analysed, as a clear association has been found between social isolation and elder abuse. Finally, recent evidence suggests also that migrants might experience these phenomena differently than native Italians. In particular, findings concerning the Albanian and Moroccan ethnic groups (two of the largest in the country) show that their relatively large networks of close family members and other relatives protect them from social isolation, but not from loneliness, due to the lack of relationships with non-kin co-ethnic peers.

UNEQUAL SOCIAL RELATIONSHIPS: EVIDENCE FROM ENGLAND

T. Scharf¹, S. Bamford², B. Beach², 1. Institute of Health & Society and Institute for Ageing, Newcastle University, Newcastle, United Kingdom, 2. ILC-UK International Longevity Centre, London, United Kingdom

Growing evidence points to the influence of social relationships on morbidity and mortality outcomes in later life. With the quantity and quality of individuals' social relationships increasingly a concern for public health, this paper explores the scale and nature of inequalities that

characterise the social relationships of people aged 50 and over in England. A central focus is on social isolation and loneliness. The paper draws on evidence from a multi-stage scoping review of inequalities in later life, conducted within the methodological framework suggested by Arksey and O'Malley (2005). The review explores inequalities in terms of personal social relationships that are associated with the characteristics of gender, age, ethnicity, socio-economic status, and place of residence. The review process assesses not only the quality and strength of evidence concerning unequal social relationships in later life, but also identifies promising opportunities for interventions to narrow inequalities in such relationships.

SOCIAL RELATIONS ACROSS THE LIFE COURSE: PATHWAYS TO AND FROM SOCIAL EXCLUSION

S. Van Regenmortel, A. Smetcoren, D. Verté, B. Fret, D. Lambotte, S. Dury, L. De Donder, Vrije Universiteit Brussel, Brussels, Belgium

Research on old-age social exclusion seldom takes a life course perspective into account. Therefore, this study aims to explore how older adults experience social relations across the life course and how inclusion in or exclusion from social relations is associated with other social exclusion dimensions (e.g. material resources and participation). Data were collected through 44 life story interviews with older adults (60+) living in Belgium. The interview scheme was based on McAdam's life story method (2008). Findings reveal that social relations can help to cope with experiences of exclusion and might protect from exclusion (e.g. material resources). Besides, exclusion from meaningful social relations earlier in life has lifelong influences. As social relations and events in social networks affected older adults' social exclusion, the principle of linked lives was supported by this study. Conversely, life stories also revealed older adult's influence on other lives.

HEALTH AND WELL-BEING IMPACTS OF BOTH SOCIAL CONNECTION AND LONELINESS AMONG OLDER PEOPLE

C. Waldegrave, Family Centre Social Policy Research Unit, Lower Hutt, Wellington, New Zealand

There is a growing body of research that links loneliness and isolation to greater ill-health and shorter life spans. This presentation will provide results from the New Zealand Longitudinal Study of Ageing (NZLSA). Amartya Sen's capabilities approach has formed the conceptual basis of the theoretical framework of this research programme (Sen, 1999). Two survey waves of a national random sample in excess of 3,000 older New Zealand citizens aged between 50 to 86 years have been carried out, which included scales and various questions on health, well-being, social connections and loneliness. The results demonstrated highly significant relationships between the domain scales and the health and well-being scores. Higher loneliness scores were strongly associated with lower health and well-being scores, whereas higher social connection scores were strongly associated with higher levels of health and well-being. The analysis and conclusions include attention to likely causal connections and policy implications.

SESSION 4060 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: A GLOBAL PERSPECTIVE ON WORK, AGING, AND COGNITIVE FUNCTIONING—TYPE OF WORK MAKES A DIFFERENCE

Chair: U.M. Staudinger, *Columbia University, New York, New York*

Co-Chair: A. Börsch-Supan, *Max Planck Institute for Social Law and Policy, Munich, Germany*

Discussant: M. van der Waal, *International Longevity Center Netherlands, Leyden, Netherlands*

Work is an important environment shaping the aging processes during the adult years. In that regard its characteristics and their cumulative as well as acute effects on physical and mental health in later life deserve great attention. Given that population aging has become a global trend with ensuing changes in the global labor market, increased attention is paid to investigating the effects of the timing of retirement around the world and the macroeconomic benefits often associated with delaying retirement. It will be essential for societies with aging populations to maintain productivity given an aging workforce and for individuals it will be crucial to add healthy and meaningful years rather than just number of years to their lives. The symposium presents first results from a unique international consortium of researchers from 8 countries pursuing the same analytical scheme and using harmonized data sets. During the symposium we will first discuss latest data on labor-force participation of older workers in eight countries, will discuss the influences that might govern labor-force participation of older adults, and thirdly present evidence from the same eight countries with regard to association between working at later ages and cognitive functioning as a function of type of job and of the amount of control available at the job.

WORK, AGING, AND COGNITIVE FUNCTIONING IN GERMANY AND THE UK: TYPE OF WORK MAKES A DIFFERENCE

B. Beach¹, F. Hanemann^{2,3}, 1. *International Longevity Centre - UK, London, United Kingdom*, 2. *Munich Center for the Economics of Aging (MEA), Munich, Germany*, 3. *Max-Planck-Institute for Social Law and Social Policy, Munich, Germany*

As part of a collaborative cross-national study which explores the health effects of retirement, we present early findings from analyses of the English Longitudinal Study of Ageing (ELSA) and the Survey of Health, Ageing, and Retirement in Europe (SHARE). We examine the relationship between age, occupational factors, retirement, and cognitive function in the comparative context of Germany and England. Cognitive function is measured by immediate and delayed word recall, an established measure for memory performance.

Results suggest that cognitive decline in later life is influenced not only by age but also by occupation type and working status, while country-specific results are related to institutional settings and to national labour market circumstances. The findings demonstrate that age alone is

insufficient to explain the cognitive decline, whereas work-related and institutional factors play a substantial role.

WORK, AGING, AND COGNITIVE FUNCTIONING IN FRANCE: TYPE OF WORK MAKES A DIFFERENCE

D. Halimi^{1,2}, M. Brieu^{1,2}, J. Salord¹, F. Forette^{1,2}, 1. *International Longevity Center-France, Paris, France*, 2. *Paris Descartes University, Paris, France*

ILC-France promotes health and activity in the aging population and its recent studies have shown that delaying by one year the retirement in self-employed persons is associated with a decrease in the incidence of Alzheimer Disease. In this country-comparative study, we first inspected the labor force participation of the 50+ in France in 2014: it has been very low. France is the only country with no gender difference in LFP. Most men are in high-skilled white-collar jobs, most women in high-skilled white and blue-collar jobs.

Regarding the association between work and cognitive performance, the French data from the 4 SHARE waves (N=15479, age 50–70) show that retirement hurts white and blue-collar workers alike with very similar slopes at different levels of performance. Multivariate analyses demonstrated that cognitive decline in later life is influenced not only by age but also by education and to a lesser degree control at work.

WORK, AGING, AND COGNITIVE FUNCTIONING IN THE CZECH REPUBLIC

I. Holmerova, *CELLO Faculty of Humanities, Charles University in Prague, Praha 8, Czech Republic*

People in the Czech Republic retire usually at the age of statutory retirement which is relatively low. One third retires even earlier. Only 15 % people after this age work. Women in the Czech Republic leave the labour market earlier due to different statutory retirement age for each gender (62.5 for males, 60.5 for females). With recent changes of the retirement system, the statutory retirement age will gradually increase and more people with cognitive decline will stay at work. Results from SHARE data suggest that cognitive decline in later life is influenced not only by age but also by occupation type and working status. The interference of age, work and cognitive decline has many facets that should be addressed. It is not only issue of prevention of cognitive decline but also of involvement and support of older people in general, older people with cognitive decline and dementia at their work.

WORK, AGING, AND COGNITIVE FUNCTIONING IN ISRAEL: TYPE OF WORK MAKES A DIFFERENCE

S. Carmel¹, A. Tur-Sinai², I. Klein-Avraham¹, Y. Bachner¹, 1. *Public Health, Ben-Gurion University, Beer-Sheva, P.O.Box 653, Israel*, 2. *The Max Stern Yezreel Valley College, Yezreel Valley, Israel*

We used data collected in two waves of interviews (2009-T1 and 2013-T2) from the Survey of Health, Aging and Retirement in Europe (SHARE). We included 679 participants out of the Israeli sample (N=1645), who retired from work (early/on time/late), and completed T1 and T2-interviews. The memory score was calculated as the mean of 10 words

recalled in two memory tests (immediate/delayed), ranging 0–20. Significant predictors of memory decline (MD) in a hierarchical regression analysis (Model-1) were: total words remembered at T1, T1-ADL, T1-depression, depression change, T1-age, and T1-education. Early retirement and work type, added to Model-2, were found significant predictors as well, increasing significantly the explained variance of MD (from $R^2=0.28$ to $R^2=0.44$). We conclude that early retirement and work type are significant predictors of MD even when controlling for socio-demographic characteristics, health/function status and changes in health/function. Appropriate interventions to reduce decline in cognitive capabilities should be developed.

WORK, AGING, AND COGNITIVE FUNCTIONING IN JAPAN: TYPE OF WORK MAKES A DIFFERENCE

D. Watanabe, *Seikei University, Musashino, Tokyo, Japan*

This study aims to examine relationship between type of work, retirement process and cognitive functioning in old age. I used macro statistics and panel data from the Japanese Study of Aging and Retirement (JSTAR) to compare with other countries' data (HSR, SHARE, and ELSA). Cognitive function is measured by word recall test.

Based on national statistics, Japanese labor force participation is somewhat higher than European developed countries. The result of descriptive analysis and panel data analysis of JSTAR data is that the cognition score of high-skilled white collar is better than blue collar's one, however is not different from not-working. Additionally, small educational differences exist.

The result is very contrast to European developed countries' evidences. The results suggest the importance of social and institutional aspects of an employment management system and a well-developed inner labor market in Japan.

SESSION 4065 (SYMPOSIUM)

ELDER-CENTERED COMMUNITY CARE: REVISING AND STRENGTHENING CAREGIVING IN ALASKA NATIVES

Chair: R.M. Rosich, *University of Alaska, Anchorage, Anchorage, Alaska*

Co-Chair: J.P. Lewis, *University of Alaska Anchorage, Seattle, Washington*

Discussant: M.C. Crouch, *University of Alaska Anchorage, Wasilla, Alaska*

There is a growing field of research on the health impacts for caregivers and the available and needed support services in rural and tribal communities. Research has mostly focused on a specific western definition of caregiver (i.e., primary caregiver) and the pre-supposed supports needed for these individuals based on a dominant paradigm. In the dominant, western caregiver dyads, there tends to be the individual with Alzheimer's Disease and Related Disorders (ADRD) and their primary caregiver whose role is to take charge of their care, finances, support, and so on. In many cases, it is a family member who assists a person with dementia and their Activities of Daily Living (ADLs). However, the current field of research recognizes that cultural frameworks are an important influence in a family's and community's

approaches to caring for their loved one with dementia. This symposium will discuss the current western models of caregiving dominant in the United States and Alaska, focusing on person centered care, and how they differ from the community-based elder-centered models of care found to be emerging in rural Alaska. We will also share findings from a study to discuss the cultural beliefs of Alaska Native caregivers and Elders around (ADRD) and caregiving. In addition, we will also highlight how these findings can influence policy change to encourage rural and urban agencies and service providers to provide more culturally sensitive and meaningful care.

PERSON-CENTERED CARE AND ALZHEIMER'S DISEASE AND RELATED DISORDERS: ALASKA NATIVE CAREGIVING

R.M. Rosich, *School of Allied Health, University of Alaska, Anchorage, Anchorage, Alaska*

It has been difficult to access prevalence rates for ADRD's within Alaska Natives, however a study focusing upon Alaska Native Elder perceptions of memory functioning/dementia is indicating that is occurring. This study is also indicating that there is a need to understand the health experiences of Alaska Native communities from non-native perspectives in order to develop and implement culturally appropriate and effective supports for Alaska Native primary caregivers dealing with dementia. Within the United States, as well as regionally within Alaska, person centered care (PCC) is an approach that is being utilized with caregivers in meeting the needs of persons with dementia. Although PCC as a concept holds universal appeal, it holds a different meaning for Alaska Natives. This presentation will focus upon person centered care from a western perspective and sets the stage as to how it differs from a community-based elder-centered model of care emerging within rural Alaska.

CAREGIVING AND THE ALASKA NATIVE ELDER: SPIRITUALIZING AND INDIGENIZING SYSTEMS OF CARE

M.C. Crouch, *University of Alaska Anchorage, Anchorage, Alaska*

Alaska Native (AN) peoples represent eight distinct tribal groups comprised of over 220 federally recognized tribes. The diversity and complexity of AN culture is vast and ubiquitous. However, in the face of tribal autonomy, AN peoples share common beliefs, goals, and challenges to care which are made manifest by geography, cultural expectations, access to resources, and the predominance of Western systems of care and caregiving. Preliminary, qualitative analyses of interviews with AN Elders (n =11) concerning indigenous perspectives on Alzheimer's disease and dementia resulted in perceptions rooted in cultural belief systems, spirituality, and holistic approaches to systems of care and familial caregiving. Findings reflect the imperativeness of indigenizing care for AN Elders that represents their lived realities, cultural practices, and accounts for geographic location, cultural diversity, and community-focused, collectivist approaches to the AN lifecycle. Healthcare systems providing services to AN populations could benefit from Elder-centered conceptualizations and approaches to caregiving.

HOW ELDER-CENTERED CAREGIVING MODELS IN RURAL ALASKA INFLUENCE POLICY TO IMPROVE CAREGIVING

J.P. Lewis, 1. *University of Alaska Anchorage, Anchorage, Alaska*, 2. *WWAMI School of Medical Education, Anchorage, Alaska*

With the growing diversity of the US population in both rural and urban settings, the need for more culturally sensitive and meaningful frameworks and models of caregiving is growing. Based on the experiences of Alaska Natives, this presentation will discuss the need for cultural approaches to policies and programs targeting urban and rural caregivers. We will discuss recommendations for organizations and communities to modify policy and programs to effectively meet the unique family and community approaches to caregiving. The findings of this presentation have relevance for other racial and ethnic minority communities who provide caregiving from a community-based, elder-centered approach. These findings can influence policy change to encourage rural and urban agencies and service providers to provide more culturally sensitive and meaningful caregiving services.

SESSION 4070 (SYMPOSIUM)

CUMULATIVE ADVANTAGE AND ECONOMIC WELL-BEING: CHALLENGES OF WIDENING LATE-LIFE INEQUALITY

Chair: C.E. Bishop, *Brandeis University, Weston, Massachusetts*

Co-Chair: S. Crystal, *Rutgers University, New Brunswick, New Jersey*

As concentration of income and wealth at the top of the income distribution attracts increasing concern, this symposium focuses on income and health inequalities among current and future older adults in the US. Late-life well-being reflects the cumulative effects of life chances and choices as they interact with institutional structures. Outcomes evolve from health and economic status at birth through educational attainment, marital trajectory, labor market outcomes, and own/family health. Social insurance programs buffer cumulative disadvantage but leave substantial disparities, especially because those with lower lifetime incomes face poorer health and survival.

The first presentation examines the changing profile of economic inequality by age and cohort over three decades using a comprehensive measure of economic well-being. Results demonstrate rising old-age inequality and presage even higher future rates of inequality as high-inequality cohorts now at midlife reach old age.

The second presentation draws attention to financial factors, including access to pensions and escalating personal debt, that combine to widen income disparities for older adults. Differential longevity magnifies the impact of these trends.

The third presentation estimates the impact on health disparities at older ages of disparate access to opportunity in young adulthood and of childhood disadvantage, stressing changes for successive cohorts of Americans.

The final presentation projects future late-life inequality, highlighting the impact of out-of-pocket spending for

medical and long-term services and supports on economic well-being. Social insurance reforms, including changes to Social Security and Medicare and new insurance programs for older adults with disabilities, could improve outcomes for low-income seniors.

GLOBALIZATION, CUMULATIVE ADVANTAGE, AND INEQUALITY: IMPLICATIONS FOR RETIREMENT INCOME SYSTEMS

S. Crystal¹, D.G. Shea², A. Reyes², 1. *Rutgers University, New Brunswick, New Jersey*, 2. *Pennsylvania State University, State College, Pennsylvania*

Structural changes in economic systems have driven increased income inequality across developed nations in recent decades. Despite much attention to overall increases in income inequality, there has been less attention to the impact of these forces on late-life economic inequality and the age distribution of economic well-being. These developments have powerful implications for retirement income systems, which can either buffer or magnify the impacts of processes of cumulative advantage and disadvantage over the lifecourse. This presentation will examine these issues, drawing on an analysis of evolving patterns of economic inequality by age and cohort between the mid-1980s and the current decade in the U.S., using a comprehensive measure of economic well-being. Results demonstrate rising old-age inequality over this period and presage even higher rates of inequality in coming decades, as high-inequality cohorts now at midlife reach old age. Implications for retirement income policies will be discussed in international context.

INEQUALITY IN WELL-BEING AT OLDER AGES: FOCUS ON FINANCES

T. Ghilarducci, *New School for Social Research, New York, New York*

Gaps in economic and health security, life satisfaction and happiness, and morbidity and life expectancy have grown among the elderly in the last 20 years and are expected to grow larger for the next cohort of retirees. Using data from the Health and Retirement Survey and other supplemental surveys -- including the Survey of Consumer Finance -- this paper documents the growth of inequality for American elders along many dimensions. Factors related to the increasing inequality among the elderly include the erosion of employee pensions and gaps in gains to longevity by race and sex. Increasing debt levels among elderly in the middle- and lower-income groups also contribute to inequality in wealth, income, and economic security. This paper provides a template for other nations to assess well-being inequality in a nation and among groups by gender, class and other pertinent categories that identify subaltern groups.

COHORT SHIFTS IN PATHWAYS TO LATE-LIFE FUNCTIONAL LIMITATIONS AMONG BLACK AND WHITE MEN

J.A. Kelley-Moore¹, R.J. Thorpe², D. Dannefer¹, 1. *Case Western Reserve University, Cleveland, Ohio*, 2. *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

In the discourse of life course and inequality, little research has examined how shifting opportunity structures

across cohorts have contributed to the rapid expansion of later-life health disparities in past decades. We use data from five cohorts of the *Health and Retirement Study*, with a two-stage selection modeling process, to examine how differential access to social institutions in early adulthood (education, work, military), leads to later-life functional limitations among Black and White men via midlife morbidity and income. In early cohorts, race drives access to these social institutions, thus is a key indicator of functional disparities in late life. However, in later cohorts, racial disparities diminish while childhood dis/advantage becomes the primary determinant of functional limitations via access to early adulthood institutions. We discuss social forces that have suppressed social mobility, effectively “locking in” men to the social class of their family of origin, with implications for health disparities.

ASSESSING POLICY OPTIONS TO ADDRESS WEALTH AND HEALTH INEQUALITY AT OLDER AGES

R.W. Johnson, *The Urban Institute, Washington, District of Columbia*

Ongoing social, economic, and demographic trends have increased economic inequality among working-age families. These trends are also raising inequality at older ages, because income and wealth in later life depend largely on how much people earned at younger ages. The growing cost of medical care and long-term services and supports accentuates late-life inequality because people with few financial resources often have more serious health problems than wealthier adults. This study examines how the distribution of late-life income and wealth will likely evolve over the next 40 years and shows how alternative public policies could shift outcomes. Results show that carefully targeted reforms to Social Security, Medicare, and Supplemental Security Income and new financing options for long-term services and supports could reduce late-life inequality. Simulations come from DYNASIM, a dynamic microsimulation model that incorporates the latest economic, demographic, and health data.

SESSION 4075 (SYMPOSIUM)

FALL INJURIES IN OLDER MEN AND WOMEN: NOVEL ASSESSMENTS AND PREDICTORS

Chair: E.S. Strotmeyer, *University of Pittsburgh, Pittsburgh, Pennsylvania*

Discussant: D.M. Buchner, *University of Illinois, Champaign, Illinois*

Falls are associated with reduced physical function in older adults. However few large epidemiologic cohort studies have characterized fall injuries that were self-treated or all injuries treated in outpatient and inpatient settings. The Study of Osteoporotic Fractures in Men (MrOS) is an ongoing cohort of ambulatory men (N=5,994; 10% minorities; 2000–02 enrollment) aged ≥ 65 years at 6 U.S. sites. The Study of Women's Health Across the Nation (SWAN; N=3,302; 53% minority; 1996 enrollment) is an ongoing multi-racial/ethnic cohort of women from 7 U.S. sites followed through menopausal transition for 20 years and now in early old age. The Health, Aging and Body Composition (Health ABC) Study enrolled well-functioning, ambulatory

Medicare beneficiaries, aged 70–79 years (N=3,075; 52% women, 42% black) at 2 U.S. sites in 1997–98. Each study collected self-reported falls and fall injuries, including non-fracture and fracture injuries. Additionally Health ABC linked Medicare Fee-For-Service claims from denominator, inpatient, outpatient, physician/supplier, and carrier files to treated fall injuries and fractures over 8 years. Perceived fatigue levels will be associated with fall risk in MrOS men (Welburn). Sensory peripheral nerve impairments will be described as fall and fall injury risk factors in SWAN women (Ylitalo). Quadriceps strength will be related to incident fall injuries in Health ABC (Winger). Medicare payments will be compared pre- vs. post-injury for non-fracture and fracture fall injuries in Health ABC (Strotmeyer). The Discussant (Buchner) will focus on the importance of all fall injuries, including self- or outpatient-treated, as these may be early signs of late life decline.

ASSOCIATION BETWEEN FATIGUE AND INCIDENT FALLS IN OLDER MEN: THE OSTEOPOROTIC FRACTURES IN MEN STUDY

S.C. Welburn¹, A.J. Santanasto¹, T. Blackwell², N. Lane³, E. Orwoll⁴, J.A. Cauley¹, N.W. Glynn¹, R. Boudreau¹, 1. *Department of Epidemiology, University of Pittsburgh Graduate School of Public Health, Pittsburgh, Pennsylvania*, 2. *California Pacific Medical Center Research Institute, San Francisco, California*, 3. *Departments of Medicine and Rheumatology, University of California Davis Medical Center, Sacramento, California*, 4. *Bone and Mineral Unit, Oregon Health and Science, Portland, Oregon*

Fatigue is a component of frailty; both fatigue and frailty are associated with lower physical function. Frailty is a known fall risk, but the independent contribution of fatigue to fall risk is unclear. This association was examined in 5,994 men aged 64–100. Fatigue was measured “during the past four weeks, how much time did you feel energetic?” then classified (fatigued=none, little, some; non-fatigued=good bit, most, all). Incident falls were captured using triannual questionnaires over three years. Men with fatigue (25%) were older (75.1 ± 6.2 vs. 73.2 ± 5.7 years), less active (Physical Activity Scale for Elderly= 118.7 ± 62.1 vs. 155.9 ± 67.7), and lower functioning (narrow walking speed= 1.05 ± 0.27 vs. 1.18 ± 0.26 m/s) than non-fatigued (all $p < 0.0001$). Fatigued versus non-fatigued men had 26% higher fall risk (RR=1.26, 95%CI:1.15, 1.40) adjusted for demographics, fall history, medications, activity, and function. Perceived fatigue is an important risk factor of falling and, if reduced, may lessen the burden of falls in older men.

PERIPHERAL NERVE IMPAIRMENT PREDICTS INCIDENT INJURIOUS FALLS: THE SWAN STUDY

K. Ylitalo¹, C.A. Karvonen-Gutierrez², Q. Peng², 1. *Baylor University, Waco, Texas*, 2. *University of Michigan, Ann Arbor, Michigan*

Falls and related injuries are an important public health concern but are underappreciated in non-elderly populations. This study examined the association between peripheral nerve impairment (PNI) and falls among mid-life women. Women (n=297) from Michigan SWAN completed a neuropathy symptom questionnaire and 10-g standard monofilament testing in 2012; PNI was defined as report of

≥4 symptoms or monofilament insensitivity. Falls and injurious falls in the previous 12 months were assessed in 2013. Women with PNI were more likely to report a fall (35.0% vs. 19.0%, $p<0.01$) and injurious falls (26.7% vs. 9.7%, $p<0.001$) as compared to women without PNI. Women with PNI had 3 times increased odds ($OR=3.38$, 95% CI 1.65–6.92) of injurious falls as compared to women without PNI; this association persisted in stratified analyses among women with and without diabetes. Clinical neuropathy screening instruments may identify mid-life women with and without diabetes at high risk for fall injury.

QUADRICEPS STRENGTH AND FALL INJURIES IN MEDICARE CLAIMS: THE HEALTH ABC STUDY

M. Winger¹, R. Boudreau¹, A. Newman¹, J.A. Cauley¹, P. Caserotti², T. Harris³, T. Waters⁴, E.S. Strotmeyer¹, 1. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *University of Southern Denmark, Odense, Denmark*, 3. *National Institute on Aging, Bethesda, Maryland*, 4. *University of Tennessee, Memphis, Tennessee*

Lower extremity quadriceps strength is an important risk factor for falls and may be related to fall injury. We examined baseline quadriceps strength with a Kin-Com isokinetic dynamometer in 1997–98 for 2,058 Health ABC Study participants (52% women, 37% black; aged 73.4 ± 2.8 years) and total fall injuries (28.3%), non-fracture fall injuries (6.7%) and fractures (21.6%) in Medicare Fee-For-Service Parts A and B claims over 8.7 ± 3.3 years. In Cox proportional hazards regression models adjusted for age and race, 1 Nm/kg lower quadriceps strength/kg was associated with higher fall injury risk ($HR=1.7$; 95%CI=1.4–2.0), though became non-significant with further adjustments for sex ($HR=1.2$; 95%CI=0.9–1.5), as well as height, site, education, diabetes, total medications and cognition ($HR=1.1$; 95%CI=0.8–1.4). Results were consistent for non-fracture fall injury ($HR=0.9$; 95%CI=0.6–1.5) and fractures ($HR=1.1$; 95%CI=1.0–1.1). Weaker quadriceps strength/kg body weight was associated with higher fall injury risk, though not independent of demographics and disease-related factors.

MEDICARE PAYMENTS FOR NON-FRACTURE AND FRACTURE FALL INJURIES: THE HEALTH ABC STUDY

E.S. Strotmeyer¹, R. Boudreau¹, L. Xue¹, J.A. Cauley¹, J.M. Donohue¹, T.B. Harris², A. Newman¹, T. Waters³, 1. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *National Institute on Aging, Bethesda, Maryland*, 3. *University of Tennessee, Memphis, Tennessee*

Fall injuries are prevalent in older adults. Whether higher costs occur after both non-fracture and fracture fall injuries is unknown. Medicare payments for 1,790 Health ABC participants (53% women, 37% black; 76.5 ± 2.9 years), were examined 12 months before and after incident fall injuries over 8 years. Non-fall injury participants were matched on utilization in fall injury claim month, with payments/month calculated for 12 months prior vs. after index date. Increased payments/month occurred after vs. prior to total ($N=473$, 26.4%; \$2,602 vs. \$1,530), non-fracture ($N=102$, 5.7%; \$2,520 vs. \$1,523), and fracture ($N=371$, 20.7%; \$2,624 vs. \$1,532) fall injuries (all $p<0.01$). In generalized linear regression with centered outcomes and gamma distributions, fall

injuries (total, non-fracture or fractures) were not associated with higher increases in payments/month vs. other utilization, adjusting for demographic/lifestyle, body composition, medication and comorbidity factors. Fall injuries were not independently associated with higher Medicare payments after injury vs. other events.

SESSION 4080 (SYMPOSIUM)

DETECTING FRAIL OLDER PEOPLE: A VARIETY OF DOMAINS AND WHY WE SHOULD NOT FOCUS MERELY ON DEFICITS

Chair: J. Schols, *Maastricht University, Maastricht, Netherlands*

Co-Chair: G. Zijlstra, *Maastricht University, Netherlands*

Discussant: A.E. Stuck, *Department of Geriatrics,*

University Hospital, University of Bern, Bern, Switzerland

Detection is a crucial first step in treating frailty in older people. Over the past decades, many screening tools have been developed to identify frailty in older people. Despite the importance of multiple domains, only a small number of instruments take different frailty domains into account. Nonetheless, by measuring frailty in a multidimensional manner, treatment plans could be more tailored. Therefore, instruments addressing multiple domains having good psychometric properties are crucial.

This international symposium with presenters from Belgium and the Netherlands will give an overview of the development and improvement of screening tools for multidimensional frailty. Our first presenter will present frailty profiles according to the Comprehensive Frailty Assessment Instrument (CFAI). This self-administering instrument measures physical, psychological, social, and environmental frailty. Our second presenter will explain why and how to add the domain of cognitive frailty to this instrument. Since frailty can be considered as a balance between deficits and resources, the third presenter will discuss the relevance of balancing factors in measuring frailty. The fourth presenter will compare performance-based assessments of physical frailty with questionnaire outcomes. Finally, our last presenter will discuss the administration of the Maastricht Frailty Screening Tool for Hospitalized Patients (MFST-HP) in an acute hospital setting, from a nursing point of view. Our discussant, Andreas Stuck from Switzerland, will reflect on the presented instruments and their added value for daily clinical practice. The audience will be invited to participate in the discussion.

CREATING INDIVIDUAL FRAILTY PROFILES USING THE CFAI

N. De Witte, 1. *Faculty of Education, Health and Social Work, University College Ghent, Ghent, Belgium*, 2. *Faculty of Psychology and Educational Sciences, Vrije Universiteit Brussel, Brussels, Belgium*

The Comprehensive Frailty Assessment Instrument (CFAI) was developed in 2013 in order to assess frailty in community dwelling older people. This multidimensional, self-administered instrument measures the physiological, psychological, social and environmental domain of frailty. Based on the dataset of the Belgian Ageing Studies,

performed in over 142 communities in Belgium, 22.9% of community dwelling older people was classified as 'very frail' and 33.9% as 'mild frail'. For the subdomains, 16.5% was very physically frail, and 9.0, 20.6% and 14.8% were very frail on the psychological, social and environmental domain, respectively. An innovative aspect of the CFAI is that for each individual, a specific frailty profile can be created, showing the total level of frailty and the level of frailty in the four domains (no, mild, high). As a consequence, tailor-made and individualized interventions can be developed, including preventative for those domains where the individual scores no or mild frail.

DETECTION OF COGNITIVE FRAILTY WITH THE COMPREHENSIVE FRAILTY ASSESSMENT INSTRUMENT

E.E. DeRoeck^{1,2}, N. De Witte^{2,3}, S. Dury², M. Bjerke¹, P. De Deyn¹, S. Engelborghs¹, E. Dierckx², D-SCOPE Consortium², 1. *University of Antwerp, Antwerp, Belgium*, 2. *vrije universiteit brussel, Brussels, Belgium*, 3. *HoGent, Gent, Belgium*

The Comprehensive Frailty Assessment Instrument (CFAI) measures four domains of frailty: physical, psychological, social and environmental frailty. The absence of cognitive frailty can be seen as a shortage. Therefore we conducted a study in which we administered to 355 older adults (mean age 77.62) the CFAI, The Montreal Cognitive Assessment (MoCA) and 6 questions about cognition that were chosen by an expert panel and based on the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE). Based on multivariate analysis with SIMCA software and Receiver operating curves two uninformative questions were excluded. The sum of the four remaining questions forms the new cognitive frailty domain. This domain shows good concurrent validity with the MoCA and with the added questions the reliability of the CFAI remains good (Cronbach's alpha: .789). So in sum, cognitive frailty can be added to the CFAI.

DEVELOPING AN INSTRUMENT TO MEASURE FRAILTY BALANCE IN COMMUNITY-DWELLING OLDER PEOPLE

A. van der Vorst¹, G. Zijlstra¹, N. De Witte^{2,3}, J. Schols^{1,4}, G. Kempen¹, D-SCOPE Consortium³, 1. *Department of Health Services Research, Care and Public Health Research Institute (CAPHRI), Maastricht, Netherlands*, 2. *Faculty of Education, Health and Social Work, University College Ghent, Ghent, Belgium*, 3. *Faculty of Psychology and Educational Sciences, Vrije Universiteit Brussel, Brussels, Belgium*, 4. *Department of Family Medicine, Care and Public Health Research Institute (CAPHRI), Maastricht, Netherlands*

While existing frailty instruments focus merely on deficits, it is important to assess resources and competences as well to gain insight into the actual care needs of frail older people. To get more insight into possible 'balancing factors' in frailty, 121 community-dwelling people aged ≥60 years were interviewed. Multidimensional frailty was measured using the Comprehensive Frailty Assessment Instrument (CFAI), and subsequently a qualitative interview focusing on issues that matter for older people to maintain their quality of life, despite being frail, was held. Initial findings indicate that various coping mechanisms

(e.g. optimization, selection, and compensation; and reassuring thoughts), formal and informal care, the physical (e.g. home adaptations) and psychological (e.g. attachment to home) environment, social support, and spirituality may play an important role in this frailty balance. Future research is needed to specify the most important balancing factors, after which these can be incorporated into a frailty balance measurement tool.

CAN SELF-REPORT QUESTIONS REPLACE FRIED'S PHYSICAL FRAILTY PERFORMANCE MEASURES? A VALIDATION STUDY

L. Op het Veld^{1,2}, H. de Vet³, G. Kempen², E. van Rossum^{1,2}, A. Beurskens^{1,2}, S. van Kuijk⁴, 1. *Centre of Research Autonomy and Participation for Persons with a Chronic Illness, Zuyd University of Applied Sciences, Heerlen, Netherlands*, 2. *Maastricht University, Maastricht, Netherlands*, 3. *VU University Medical Center, Amsterdam, Netherlands*, 4. *Maastricht University Medical Centre, Department of Clinical Epidemiology and Medical Technology Assessment, Maastricht, Netherlands*

Fried's phenotype frailty criteria include three self-report questions (weight loss, exhaustion and low physical activity) and two performance-based measures (slowness (walk time) and weakness (handgrip strength)). The present study investigates whether the two performance-based criteria could be replaced by self-report questions. A cross-sectional validation study was conducted among 135 community-dwelling older people (65+) with different stages of frailty. Eleven questions related to walk time and ten questions about handgrip strength were selected. Both the self-report questions and performance-based measurements of walk time (time needed to walk 15 feet at own pace) and handgrip strength (maximum handgrip strength using a hand dynamometer) were assessed. Backward logistic regression analyses showed that four questions for walk time and two questions for handgrip strength were optimal. This indicates that it seems possible to replace the two performance-based measures by a small set of self-report questions, which can particularly be helpful in large-scale research.

THE MAASTRICHT FRAILTY SCREENING TOOL FOR HOSPITALIZED PATIENTS: A NEW SCREENING TOOL FOR NURSES

R.M. Warnier^{1,2}, E. van Rossum^{1,4}, S.M. Kuijk³, W. Mulder², J. Schols¹, G. Kempen¹, 1. *Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands*, 2. *Department of Integrated Care, Elderly Care, Maastricht University Medical Centre, Maastricht, Netherlands*, 3. *Clinical Epidemiology and Medical Technology Assessment, Maastricht University Medical Centre, Maastricht, Netherlands*, 4. *Zuyd University of Applied Sciences, Heerlen, Netherlands*

Due to an aging society, nurses in acute hospitals care for increasing numbers of frail older patients. Early identification of potential frailty risks may help to improve the quality of geriatric care. To reduce registration burden of nurses in acute hospitals we developed a frailty screening tool that is fully integrated in the initial nursing assessment. We studied the inter- and intra-rater reliability and feasibility of this tool. The tool showed to be reliable and feasible in nursing

practice. The ICC was 0.92 (95% CI: 0.85 - 0.96) for inter-rater reliability, and 0.93 (95% CI: 0.87 - 0.97) for intra-rater reliability. The administration time of the tool was 2.6 minutes on average (sd = 0.9). Data on predictive validity in a cohort of 2,691 hospitalized older patients will be available soon and reported as well.

SESSION 4085 (SYMPOSIUM)

STRIDE: A PRAGMATIC TRIAL OF A MULTIFACTORIAL APPROACH TO REDUCE SERIOUS FALLS INJURIES

Chair: D.B. Reuben, *University of California, Los Angeles, Los Angeles, California*

Co-Chair: T.M. Gill, *Yale School of Medicine, New Haven, Connecticut*

Discussant: S. Lamb, *University of Oxford, Oxford, United Kingdom*

Among older adults, falls are the leading cause of both fatal and nonfatal injuries. In 2014, the Patient-Centered Outcomes Research Institute (PCORI) and the National Institute on Aging (NIA) funded a pragmatic trial to develop and test an intervention that would be integrated into the provision of clinical care in 10 US health care systems with the aim of reducing serious falls-related injuries.

Within the 10 health systems, 86 practices (43 intervention and 43 control) and 707 primary care physicians (348 intervention and 359 control) are participating. Both central and clinic-based screening are being utilized followed by centralized recruitment. By Spring 2017, STRIDE will have recruited 5322 participants aged 73 years or older and will follow them for an average of 2.5 years. The STRIDE intervention is patient-centered and based on identification and co-management of up to 8 personal risk factors (medications, postural hypotension, feet and footwear, vision, vitamin D, osteoporosis, home safety, and strength, gait, and balance impairment) by a registered nurse. Interventions for specific risk factors are evidence-based and can be implemented within health care systems and community-based organizations. Several approaches, including self-report, electronic health care records, and claims data, are being used to ascertain and verify the primary and several secondary outcomes.

At each step, barriers to conducting the study have surfaced and solutions to overcoming these barriers have been implemented. These study barriers and their solutions provide lessons for conducting pragmatic trials in older persons, implementing interventions, ascertaining outcomes, and diffusing research findings into clinical care.

STRIDE: EXPERIMENTAL AND STATISTICAL DESIGN CONSIDERATIONS

T. Trivison¹, M.E. Miller², H. Allore³, J. Dzura³, D. Esserman³, E. Greene³, 1. *Harvard University, Cambridge, Massachusetts*, 2. *Wake Forest Medical School, Winston-Salem, North Carolina*, 3. *Yale University, New Haven, Connecticut*

The cluster-randomized STRIDE trial features several design complexities warranting special attention to preserve validity, and to insure adequate statistical power to detect a hypothesized 20% reduction in serious fall injuries. The

relatively small number (n=86) and diversity of eligible practices necessitated a constrained randomization scheme preserving balance within and across healthcare systems. This scheme considered practice-level characteristics (e.g. practice size and geographic distribution) and participant-level characteristics (e.g. race and ethnicity). The resulting design and corresponding analytic plan take into account the estimated incidence of serious fall injuries in the target population; the prevalence of specific fall risk factors; the anticipated between-practice variation in number of participants eligible for enrollment; the intra-practice correlation in outcomes; and the potential for deaths and other competing risks to preclude event capture. Drawing upon the STRIDE framework, we will discuss implications for cluster randomized trials of practice-level interventions in older, at risk populations.

STRIDE: SCREENING AND RECRUITING OLDER PATIENTS AT RISK FOR SERIOUS FALL INJURIES

T.M. Gill¹, J. McGloin¹, P. Charpentier¹, K.L. Araujo¹, E. Skokos¹, N. Latham², A. Shelton¹, C. Lu¹, 1. *Yale University, New Haven, Connecticut*, 2. *Brigham and Women's Hospital, Boston, Boston, Massachusetts*

Age-eligible patients are recruited if they answer yes to: (1) have you fallen and hurt yourself in the past year? (2) have you fallen more than 2 times in the past year? and/or (3) are you afraid that you might fall because of balance or walking problems? Patients are screened via postal questionnaire at 9 of the 10 sites and in the clinic at the 10th site. Screen-positive patients are mailed a recruitment packet, and those who do not opt-out are called by study staff (blinded to practice intervention assignment) to confirm eligibility, obtain verbal consent, and complete the baseline assessment. Recruitment yield [(enrolled/screens attempted)*100] ranges from 2.9% to 8.8% across sites for central screening and is 2.9% for clinic screening. Strategies to increase the yield include sending out 2nd and 3rd postal questionnaires to non-responders, rescreening patients who were initially screen negative, and raising study visibility at the 86 participating practices.

THE STRIDE INTERVENTION: RISK FACTOR ASSESSMENT AND CO-MANAGEMENT TO REDUCE SERIOUS FALL INJURIES

D.B. Reuben¹, P. Gazarian², T. Storer², S. McMahon³, N.B. Alexander⁴, R.M. Leipzig⁵, P. Duncan⁶, 1. *Geriatrics, University of California, Los Angeles, Los Angeles, California*, 2. *Brigham and Women's Hospital, Boston, Massachusetts*, 3. *University of Minnesota, Minneapolis, Minnesota*, 4. *University of Michigan, Ann Arbor, Michigan*, 5. *Mount Sinai Hospital, New York, New York*, 6. *Wake Forest Medical School, Winston Salem, North Carolina*

The STRIDE multifactorial intervention consists of a co-management model using a registered nurse Falls Care Manager (FCM) and includes four major components: 1) standardized assessment of 8 modifiable risk factors (medications, postural hypotension, feet and footwear, vision, vitamin D, osteoporosis, home safety, and strength, gait, and balance impairment); 2) use of structured visit notes, protocols, and algorithms to develop an individualized Falls Care Plan that is presented to the patient's primary care physician for review, modification, and approval; 3) explanation of

identified risks to the patient (and caregiver) with a description of suggested interventions, using motivational interviewing to elicit patient preferences and readiness to participate in treatments; and 4) ongoing monitoring of response to treatment and reassessment of risk factors at scheduled intervals with revision of the Care Plan as needed. Custom-designed falls care management software facilitates recommendation and note generation, tracking of care, and implementation of recommendations.

STRIDE: ASCERTAINING SERIOUS FALL-RELATED INJURIES IN A PRAGMATIC TRIAL OF FALL PREVENTION

D. Ganz¹, A. Siu², J.S. Magaziner³, T. Trivison⁴, T.M. Gill⁵, N. Latham⁶, 1. *University of California, Los Angeles, Los Angeles, California*, 2. *Mount Sinai Hospital, New York, New York*, 3. *University of Maryland, Baltimore, Maryland*, 4. *Harvard University, Cambridge, Massachusetts*, 5. *Yale University, New Haven, Connecticut*, 6. *Boston University, Boston, Massachusetts*

The primary outcome in STRIDE is serious fall injury. We define and identify fall injuries that are important to patients, feasible to “pragmatically” ascertain and confirm, sufficiently frequent for power considerations, and free of ascertainment bias. Our definition of serious fall injuries combines evidence of a fall-related mechanism (generally based on the participant’s report) with clinical features of the injury (e.g., fractures, dislocation, etc.) and type of medical attention obtained. We are collecting data on falls, serious fall injuries, and other fall injuries every four months from all participants by telephone interview, which includes questions about the types of injuries incurred and medical attention received. To facilitate recall during the interview, participants are instructed to record their falls/injuries and related medical attention on a monthly fall calendar. Automated encounter information or medical records are obtained and reviewed to confirm participant reports and to identify injuries not reported by participants.

SESSION 4090 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: CONCURRENT GAIT AND COGNITIVE IMPAIRMENT AS AN EMERGING GERIATRIC SYNDROME

Chair: M. MonteroOdasso, *University of Western Ontario, London, Ontario, Canada*

Co-Chair: J.M. Hausdorff, *Tel Aviv Sourasky Medical Center, Tel Aviv, Israel*

Discussant: E. Marzetti, *Catholic University of the Sacred Heart School of Medicine, Rome, Italy*

Gait and cognitive impairments are ubiquitous in older adults and often coexist in the same individual, even in the clinical absence of overt neurological conditions. Both conditions represent independent risk factors for dementia, falls and disability. However, until recently, clinicians and researchers have evaluated and treated cognitive and mobility dysfunction in older individuals as separate problems. This approach has led to gaps in our understanding of the

motor-cognitive interactions and of the potential underlying mechanisms that can affect pathways to disability in aging. Emerging evidence indicates that gait is not a merely automated motor activity, but rather a task that requires executive function and attention as well as judgment of external and internal cues. Six recognized experts in the field from 3 different IAGG regions will participate in this symposium. First, we will examine clinical evidence from large-scale studies that demonstrate that individuals with cognitive and gait impairments in absence of overt neurological diseases may represent a phenotype with an increased risk of developing dementia, falls, and disability. Second, mechanistic evidence from brain structural and metabolic imaging studies and functional near infrared spectroscopy in healthy older adults and older adults with neurodegenerative diseases will be summarized. In conclusion, a roundtable debate will discuss whether there is sufficient evidence to support the idea that gait and cognitive impairments among older individuals in the absence of an overt neurological disease represent a distinct phenotype caused by shared mechanisms.

COGNITIVE AND GAIT IMPAIRMENT AND RISK OF DEMENTIA AND FALLS. LESSONS FROM THE MCR SYNDROME STUDIES

J. Verghese, *Albert Einstein College of Medicine, Bronx, New York*

This presentation will review evidence supporting the idea that Motoric-Cognitive Risk (MCR) syndrome (the combination of cognitive complaints with slow gait in the absence of dementia) may serve as a pre-dementia syndrome. Global pooled prevalence of MCR among older adults from countries around the world is 9.7%, with prevalence being similar in both men and women, but higher in those older than 75 years. Several studies have also revealed that those with MCR are about twice as likely as those without this diagnosis to develop dementia and they are also at increased risk of falls. Limitations, challenges and potential clinical applicability of the MCR concept will be discussed.

ALTERNATIVE FORMS OF GAIT AND COGNITION SYNDROMES. LESSONS LEARNED FROM THE GAIT & BRAIN STUDY

M. MonteroOdasso, *University of Western Ontario, London, Ontario, Canada*

This presentation will review longitudinal data which show that combining objective cognitive impairment with slow gait detect a group of older individuals at higher risk of progression to dementia syndromes, mobility decline and future falls. Appraisal of alternative forms of objective assessments of cognition and gait performance, including dual-task gait will be also presented to show variations of the “gait and cognition” combination as a distinct clinical entity.

Associations addressing the role of attention, memory, and executive problems with gait disturbances will be also reviewed. Comparison of “gait and cognition” syndrome, “cognitive frailty” construct, and MCR syndrome will be discussed with the goal to analyze overlapping, predictive validity for incident dementia and falls, and potential clinical applicability of the constructs.

GAIT AND COGNITIVE IMPAIRMENT SHARE COMMON MECHANISMS. BRAIN STRUCTURAL AND METABOLIC IMAGING STUDIES

C. Rosano, *University of Pittsburgh, Pittsburgh, Pennsylvania*

This presentation will review and update evidence from structural and metabolic (via PET) studies that supports a shared pathway underlying impairments in mobility and cognition. Focus will be on community-dwelling older adults free from clinically overt neurological complications or conditions. Age-related changes in the dopaminergic networks engaging fronto-striatal and medio-temporal areas will be examined in relationship to mobility and cognition. Brain areas related to motor control, spatial navigation and executive control function are known to be more vulnerable than other areas to changes in blood flow and oxygenation because of their localization within watershed areas; hence, associations between neuroimaging, gait and cognitive measures will be discussed in the context of cerebral microvascular dysfunction.

GAIT AND COGNITIVE IMPAIRMENT SHARE COMMON MECHANISMS. BRAIN FUNCTIONAL (FNIRS) STUDIES

J.M. Hausdorff^{1,2,3}, I. Maidan³, A. Mirelman^{3,4}, 1. *Department of Physical Therapy, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel*, 2. *Sagol School of Neuroscience, Tel Aviv University, Tel-Aviv, Israel*, 3. *Center for the Study of Movement, Cognition, and Mobility, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel*, 4. *Department of Neurology, Tel Aviv University, Tel-Aviv, Israel*

Functional near infra-red spectroscopy (fNIRS) is an emerging neuroimaging technique that can be applied in situations that involve movement (i.e., walking/exercise) to examine brain activity in the pre-frontal cortex during walking. Investigations using fNIRS to study the role of the pre-frontal cortex during gait in healthy young, healthy older adults, and patients with neurodegenerative disease will be presented. The results demonstrate that different patterns of frontal activation are observed during walking in aging and disease. In addition, the recruitment and activation of this “cognitive” brain region appears to be related to the complexity of the walking task, at least in healthy adults. These findings support the role of the pre-frontal cortex in the regulation of even normal walking in aging and neurodegeneration and its increasing importance during challenging gait conditions.

CAN WE SEE GAIT AND COGNITION RELATIONSHIP AS AN EMERGING GERIATRIC SYNDROME?

A ROUNDTABLE DEBATE

M. Cesari², M. MonteroOdasso¹, E. Marzetti⁴, M.L. Callisaya³, J.M. Hausdorff⁵, C. Rosano⁶, J. Verghese⁷, 1. *University of Western Ontario, London, Ontario, Canada*, 2. *Université de Toulouse III Paul Sabatier, Toulouse, France*, 3. *University of Tasmania, Hobart, Tasmania, Australia*, 4. *Catholic University of the Sacred Heart School of Medicine, Rome, Italy*, 5. *Tel Aviv University, Tel Aviv-Yafo, Israel*, 6. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 7. *Albert Einstein College of Medicine, Bronx, New York*

IAGG 2017 World Congress

A roundtable discussion and debate will summarize the evidence in favor of and against considering “gait and cognition” as an emerging geriatric syndrome. Specifically, we will discuss whether there is sufficient evidence to support the idea that gait and cognitive impairments among older individuals in the absence of an overt neurological disease represent a distinct phenotype caused by shared mechanisms. Potential clinical applicability of the construct will be discussed.

SESSION 4095 (PAPER)

INNOVATIVE MODELS OF GERONTOLOGY AND GERIATRICS EDUCATION

THE SUCCESSFUL AND INNOVATIVE UNDERSTANDING DEMENTIA MASSIVE OPEN ONLINE COURSE (UD MOOC)

A.L. Robinson, J. Vickers, L. Goldberg, A. Canty, F. McInerney, *Wicking Dementia Research and Education Centre, University of Tasmania, Hobart, Tasmania, Australia*

The world's population is rapidly ageing and dementia is set to escalate in prevalence. In response to documented dementia knowledge deficits in the community and in the healthcare workforce, the Wicking Dementia Research and Education Centre has developed the world's first Understanding Dementia Massive Open Online Course – the UD MOOC. Unlike most existing dementia education, the 3-unit, 9-week UD MOOC begins by introducing participants to the brain, using a distinctly neuroscience focus. The second unit explores the disease processes underlying dementia; the third addresses the person, the progression of the condition, and evidence-based care. Within each unit, participants engage in a range of interactive learning strategies, consider authentic cases, and access “ask an expert” discussion forums. The course targets a broad range of learners and was designed specifically to appeal to, and support, adult learners with limited educational backgrounds. Since 2013, it has been offered four times. The course has reached 70,604 enrollees in 147 different countries with record-breaking completion rates from 38–45%. Participants' level of education ranges from postgraduate study to elementary school. Those without a university education are as likely as those with a degree to successfully complete the course ($\chi^2 = 2.35$, $df = 6$, $p = 0.88$). Post-MOOC surveys indicate a significant increase in dementia knowledge across all participant groups with 76% of participants stating they already apply their MOOC learning in practice. This presentation argues our success is a result of both innovative learning design and the scale of unmet need for quality dementia education.

THE USE OF BLENDED LEARNING TO TEACH UNDERGRADUATE MEDICAL STUDENTS ABOUT THE MENTAL CAPACITY ACT

J. Pattinson¹, J. Mjojo¹, A. Gordon², A. Blundell¹, 1. *Nottingham university hospitals nhs trust, Nottingham, United Kingdom*, 2. *University of Nottingham, Nottingham, United Kingdom*

There are 850,000 people in the UK suffering from dementia. A challenge in management of these patients is the safeguarding of individuals who are no longer able to

make informed decisions. This led to the introduction of the Mental Capacity Act (MCA) in 2005. Mental capacity assessments are frequently carried out by junior doctors. Literature suggests they feel ill equipped to do so.

Delivery of MCA education within our Geriatric Medicine course has traditionally been via a didactic lecture as part of a wider ethics tutorial. This study, at a large UK hospital, introduced a blended learning program dedicated to delivering education about the MCA via e-learning plus bedside teaching. We compared the knowledge, skills and attitudes of students who had undertaken blended learning ($n=54$) with those experiencing the traditional approach ($n=35$). Knowledge was assessed using summative assessment scores. Mean marks were 12.4 and 13.3 for the control and intervention groups respectively ($p=0.01$; Mann Whitney rank sum test). Skills were assessed in the blended learning group using a pre -post open question answer format. Mean marks pre and post teaching were 10.95 and 16.36 respectively ($p<0.001$; Wilcoxon signed rank test). Attitudes were assessed using 5-point Likert scales and open feedback. Most students enjoyed the blended learning format with 100% agreeing that they had learnt a new skill. Attitudes to the topic remained similar across both groups.

Overall blended learning can be successfully deployed as a method of improving knowledge and skills in this important topic.

BUILDING INTRA-PROFESSIONAL COLLABORATION FOR OLDER ADULT PRACTICE THROUGH PROBLEM-BASED LEARNING

E.T. Jurkowski^{1,2}, S. Smaga^{1,2}, C. Kelly^{1,2}, M. Heitkamp^{1,2},
1. Southern Illinois University at Carbondale, Carbondale, Illinois, 2. SIU School of Medicine, Springfield, Illinois

Intra-professional collaboration across disciplines such as primary care medical practice, physician assistants, social workers and psychologists does not occur naturally, since educational programs are often taught in silos, or independently of each other. Ironically though, these professional disciplines are required to work collaboratively with each other. This poster presentation will illustrate a strategy employed within a rural based physician residency program which utilized case studies through a problem based learning approach to build intra-professional collaboration. Disciplines who participated in the process included Medical Residents, Social Work, Physician Assistant, Psychology and Nursing. Pre-Post test results indicated that there was some growth among participants and their awareness of how other disciplines viewed the case management and care planning process. Medical residents found the process useful in gaining understanding about the community based resources available and how to access these services. In addition, all groups found the process of understanding specific disciplinary goals and values helpful. This presentation will also address the process of building and establishing educational partnerships to build intra-professional collaborative activities on an ongoing basis, and as a part of an educational process.

INTERPROFESSIONAL GERIATRICS CASE COMPETITION FOR HEALTH PROFESSIONS STUDENTS

M.O. Little, H.W. Lach, M.L. Berg-Weger, *IM - Geriatrics, Saint Louis University, St. Louis, Missouri*

Health professions students often learn in professional silos, which reinforce the negative hidden curriculum of professional hierarchy, uni-disciplinary care, and fragmented communication. Team-based interprofessional (IP) care improves outcomes for older adults and is a major tenet of geriatrics practice. We describe a program that brought together students from eight health profession colleges to design a comprehensive care plan using a simulated geriatric patient case. Students attended an orientation and had access to a faculty mentor. Team presentations were scored on a rubric based on six of the core competencies for IP practice by a panel of IP faculty judges, representing the different colleges. Teams overall scored highest on 1) ability to identify patient and family as part of the care team, 2) identification of a "care manager" to ensure smooth team functioning, 3) use of humanistic language, and 4) presentation skills. Students rated experiences on a 5-point scale of poor to good (high). Ratings were positive: 76% good communication with team members, 80% good distribution of labor, 72% high commitment of team members, and 72% high rating of the experience. 92% of participants would recommend the experience to other students. Evaluations by judges, mentors and students indicated that students learned valuable lessons in group dynamics, team-based care, and geriatric care principles.

ENHANCING STUDENTS' LEARNING THROUGH FLIPPED WORKSHOPS IN A REQUIRED 4TH YEAR GERIATRIC CLERKSHIP

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Students favor active learning over traditional didactic teaching in our Geriatrics Clerkship. Accordingly, the authors have redesigned four traditional case-based didactic lectures/workshops via a flipped classroom format. The goal of this transformation is to improve students' satisfaction with their learning experiences and their learning performance.

A set of online learning modules was developed in MOODLE Learning Management System. This study adopted a retrospective cohort design. Students' ratings of the four geriatrics workshops and their OSCE scores were compared between the previous cohort(s) engaging in traditional learning and the Class 2017 students participating in the flipped classroom learning.

Results: Students' rated their satisfaction with each workshop on a scale of 1–5. Classes 2016 and 2017's average ratings for Workshop One were 4.22 and 4.08, respectively; their ratings for Workshop Two were 4.07 and 4.00; Workshop Three received the ratings of 4.30 and 4.27; and Workshop Four Class 2017 and 2015 was rated as 3.95 and 4.27. Although students' ratings tended to be slightly lower for flipped classroom than traditional didactic format, Class 2017's average OSCE score (85) after attending Workshop Four was superior to those of Classes 2016 (77), 2015 (77), and 2014 (80).

Conclusion: Flipped classroom teaching format did not seem to enhance students' workshop ratings. Through a recent expert evaluation of the online modules, some usability issues were identified, which might explain the result and inform our future instructional development. However, learners' OSCE performance has been significantly improved through engaging in flipped classroom format during one of the workshops.

SESSION 4100 (PAPER)

PHYSIOLOGICAL AND PERFORMANCE FACTORS AFFECTING COGNITION

SENIORWISE: BENEFITS OF MEMORY TRAINING FOR ADULTS WITH MILD COGNITIVE IMPAIRMENT

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In the NIH-funded Senior WISE© (Wisdom Is Simply Exploration) trial, there were 265 individuals tested who had no dementia at baseline. The sample was mostly female (79%), 71% Caucasian, 17% Hispanic and 12% African-American with an average age of 75 and had 13 years of education. They were randomized to twenty hours of either memory or health training. An MCI group was created by taking participants that scored 1-SD below the mean on memory performance for either the Rivermead Behavioural Memory (RBMT) or Hopkins Verbal Learning Delayed (HVLT) and who scored less than the mean on the complaint scale. This amnesic-MCI group had 39 participants (20 in control, 19 in treatment). Using multi-level modeling, we calculated a treatment x time interaction (on all 5 time points) and found a significant interaction for HVLT Delayed ($p = .04$) and Complaints ($p=.01$) such that the MCI memory training group had greater improvements in verbal memory performance and had more stable perceptions of their memory. The MCI treatment group maintained memory performance over 2 years regardless of initial performance, whereas the MCI control group showed decreased memory performance over the two years and this effect was greatest for individuals starting at high levels of baseline performance. In summary, the higher performing controls had a more precipitous decline in memory. In conclusion, those adults with MCI who participated in the Senior WISE memory training reduced the negative consequences of declining cognitive ability and maintained the benefit over twenty four months.

SUBJECTIVE MEMORY IMPAIRMENT AND GAIT VARIABILITY: WHICH ASSOCIATION?

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Gait disturbances, and more particularly increased stride time variability, have been associated with objective memory impairment in mild cognitive impairment (MCI). However, their association with subjective memory impairment (SMI) has not been reported yet. This study aims to examine the association of stride time variability while performing

single and dual tasking with SMI in cognitively healthy individuals. A total of 126 individuals (15 without SMI, 69 with SMI expressed by participants, 10 SMI expressed by participant's relative and 32 SMI expressed by both participants and participant's relative) were included in cross-sectional study. The coefficient of variation (CoV) of stride time and walking speed were recorded under usual condition and compared to walking while counting backwards, on an instrumented walkway. Age, gender, body mass index, number of drugs taken daily, use of psychoactive drugs, fear of falling, history of previous falls, and walking speed were used as covariates. Multiple linear regression models showed that CoV of stride time while backward counting, but not while single tasking, was associated with participant's relative SMI ($P=0.038$). This study found a specific association between SMI expressed by participant's relative and a greater CoV of stride time while dual tasking, confirming that gait variability may be considered as a marker of memory performance.

BRAIN VOLUMES AFTER RANDOM ASSIGNMENT TO TEN YEARS OF LIFESTYLE INTERVENTION

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Background: Adults with type 2 diabetes mellitus are at increased risk for brain atrophy and cerebrovascular disease that may lead to cognitive deficits, cognitive impairment, and dementia. Identifying effective prevention strategies for these individuals is critical: it is estimated that one of every 15 cases of dementia is attributable to diabetes.

Methods: We conducted an ancillary study in 3 sites in the Look AHEAD clinical trial. At baseline, participants had type 2 diabetes, were overweight or obese, and were aged 45–76 years. They were randomly assigned to an intensive lifestyle or a control condition of diabetes support and education. After 8–11 years of intervention, N=319 underwent standardized structural brain magnetic resonance imaging and standard tests of cognitive function, at one time-point, 10–12 years after randomization.

Results: Participants had achieved mean weight losses of -12.3% and -0.9% at year 1 and -7.1% and -5.7% at year 8 for intervention and control participants, respectively. Total brain and hippocampus volumes were similar between groups. The mean (standard error) white matter hyperintensity volume was 28% lower among lifestyle intervention participants compared to the control group: 1.59 (1.11) versus 2.21 (1.11) cc, $p=0.023$. The mean ventricle volume was 9% lower among these participants: 28.93 (1.03) versus 31.72 (1.03) cc, $p=0.037$. These differences were independent of apoE4 genotype and age, but were larger for those with longer duration of diabetes and who were heaviest at baseline.

Conclusions: Long-term weight loss intervention may reduce the adverse impact that diabetes and obesity have on brain structure.

BLOOD PRESSURE AND RISK OF COGNITIVE DECLINE IN A POPULATION SAMPLE

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The association of blood pressure with cognitive decline is of great public health significance. This association may be modified by the use of antihypertensive medications and the *APOEε4* allele. Using a large population-based sample of 3,857 participants (65% African Americans and 63% females), we examined the association of systolic and diastolic BPs with cognitive decline, and if the association was modified by antihypertensive medication use and the *APOEε4* allele. For every 20 mmHg increase in systolic BP, cognitive decline increased by 5% (95% CI= 2%-8%, $p=0.023$). However, the association of systolic BP with cognitive decline was nonlinear with an increase in cognitive decline by 17% (95% CI= 13%-21%) above systolic BP of 140 mmHg. This association appeared weaker among antihypertensive medication users, and stronger among those with the *APOEε4* allele. A similar pattern of association was observed for diastolic BP. The association of blood pressure with cognitive decline was nonlinear, and this association was modified by antihypertensive medication use and the *APOEε4* allele. Older adults with the *APOEε4* allele and not using any antihypertensive medications had substantially higher risk of cognitive decline.

MICROINFARCTS, MICROBLEEDS, AND CEREBRAL AMYLOID ANGIOPATHY: NEW KEY PLAYERS IN VASCULAR DEMENTIA?

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Recent findings in the XXIst century have revealed a high frequency of microscopic cerebral lesions including microinfarcts (MI) and microbleeds (MB). In order to determine their clinical impact on cognition, we have studied more than 300 cases that were evaluated cognitively and autopsied within 1 year.

We explored the correlation between global cognitive function rated according to the clinical dementia rating scale (CDR) and the presence of MI on post-mortem brain neuropathological examination of older individuals. We also assessed potential associations between MI, MB and cerebral amyloid angiopathy (CAA).

MI were a strong correlate of cognitive function explaining up to 36% of CDR variability. In mixed cases MI neuropathological scores and Braak neurofibrillary tangle stages predicted the presence of dementia with more than 80% accuracy. MB were extremely frequent (up to 93% of the cases) but less clearly related to cognition. MI were not related to CAA and many cases of MB, including lobar MB occurred in the absence of CAA.

Microscopic ischemic lesions, particularly MI are powerful determinants of cognition. They represent new and highly promising therapeutic targets and should lead us to review our understanding and current paradigms in vascular and mixed dementia.

SESSION 4105 (SYMPOSIUM)

HOW CAN ORGANIZATIONS PROMOTE PERSON-CENTERED CARE?: INTERNATIONAL AND CROSS-SETTING PERSPECTIVES

Chair: K. Wolf-Ostermann, *University of Bremen*

Co-Chair: M. Boltz, *Penn State University, Elkins Park, Pennsylvania*

Discussant: D. Edvardsson, *La Trobe University*

Person-centered care has emerged as a gold standard for aged care delivery. Experts have posited that this approach includes seeing the patient as a person, focusing on the person's strengths and capabilities, utilizing a bio-psychosocial perspective, and offering and respecting patient choices. As new organizational models offer the promise of improved quality of life for elders, there is growing international attention to the need to understand the measures, strategies, and organizational supports that promote the uptake and integration of a patient-centered philosophy. This symposium will offer four presentations that address this objective. The first presentation will address person-centered care in German shared-housing arrangements for people with dementia as an alternative non-residential care setting and investigates the relationship between care structures and quality of life. The second presentation will describe the organizational factors associated with person-centered care for elders in US hospitals. Next, a presentation will report on an oral care intervention for persons with dementia that evaluates emotional expression as an important (and innovative) person-centered, outcome measure in nursing homes. The final presentation will report on the Dutch "green farm" model as an alternative to nursing home care, describing outcomes with patient-centered measures. Finally, Dr. David Edvardsson will synthesize the research presentation findings, offer perspective on the conceptual similarities/dissimilarities across settings and geographies, and lead a discussion of future directions for policy and practice.

DOES PERSON-CENTERED CARE CONTRIBUTE TO QUALITY OF LIFE?: GERMAN SHARED-HOUSING ARRANGEMENT RESULTS

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German shared-housing arrangements (SHA) are alternative care settings, disconnected from traditional nursing homes and bound to the principle of normalization. They are often situated in ordinary apartment buildings and connected to the neighborhood. We investigated the amount and educational training of staff in relationship to residents' quality of life (QoL) which is hardly investigated yet. In a cross-sectional study in 58 SHA in Berlin/Germany with a total of 396 residents we assessed real data of present staff as well as residents' socio-demographics, QoL, challenging behavior and severity of dementia. Residents (78.4 years, 69.4% female) mostly (71%) had a medical diagnosis of dementia, predominantly with a severe stage. Nevertheless, QoL was on a moderate to good level. The staff-resident ratio for registered nurses was 0.2, for certified nursing assistants 0.6, which is

higher than in traditional nursing homes. Within SHA no association was found for QoL and staff-resident-ratio.

PERSON-CENTERED ACUTE CARE: WHAT ORGANIZATIONAL FACTORS MATTER?

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The hospital continues to play a major role in the continuum of care for older adults. Unfortunately, their health and well-being is often adversely affected by the acute care environment. In response, there is a small but growing movement through nurse-led initiatives to incorporate principles of person-centered care into hospital operations. These principles are incorporated into the Aging-sensitive Care Delivery Scale and include incorporating knowledge of person's preferences and history into care planning and delivery, patient/ family engagement in decision making, and a biopsychosocial approach. An understanding of the organizational factors that support these principles will help advance quality initiatives. In a national sample of 7,840 nurses from 27 US hospitals, linear mixed models demonstrated the following organizational factors were associated with nurse-reported aging-sensitive care: knowledge about dementia and delirium care ($p < .0001$), access to elder-specific resources ($p = .013$), and institutionalized values specific to elder care ($p < .0001$).

EMOTIONAL EXPRESSION AS EVALUATION OF PERSON-CENTERED DEMENTIA-SPECIFIC ORAL CARE FOR VETERANS

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Understanding emotional expressions of persons with dementia is fundamental to implementing person-centered care because emotional expression provides information about needs, preferences, and responses to care. Oral care is the most seriously neglected aspect of ADL care among nursing home residents with dementia. The purpose of this pilot study was to explore whether emotional responses to oral care, as indicated by positive and negative affective displays, represents a person-level influence on implementing individualized oral care among persons with dementia. There were no significant differences in positive emotional expressions before, during, and after oral care; however, negative emotional expressions increased during oral care, returning to baseline afterwards ($p < .001$). Observing emotional response to oral care is feasible. Negative affective display may be an unrecognized patient-level barrier to oral care that could be targeted to inform design of a larger study to determine how to enhance adherence to oral hygiene program.

GREEN CARE FARMS AS NURSING HOMES: QUALITY OF LIFE AND SOCIAL INTERACTIONS

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Dementia care models increasingly develop towards small-scale homelike environments aiming to provide person-centered care by enhancing residents' autonomy, social interaction and participation in activities. Green care farms (GCF's) as nursing homes combine agricultural with care activities. This study compared residents (N=115) living in GCF's with other nursing homes (large- and small scale) on several person-centered measures at baseline and 6-month follow-up. Questionnaires and ecological momentary assessments (16.860 observations) were conducted, assessing quality of life (QoL), affect, behavior and environmental factors. No differences were found between groups on overall QoL scores. Residents at GCF's scored higher than residents of traditional nursing homes on positive affect ($p < .05$). Furthermore, residents of GCF's had more positive social interactions during their days than residents of traditional nursing homes ($p < .05$), indicating that social interaction is more integrated in daily care practices at GCF's. Our results suggest that GCF's are a valuable addition to long-term care.

SESSION 4110 (PAPER)

GERIATRIC ASSESSMENTS

RELATIONSHIP BETWEEN CEREBRAL HEMODYNAMICS AND CEREBRAL WHITE MATTER HYPERINTENSITIES

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Aim of Study: It is supposed that White matter hyperintensities (WMHs) in the brain occur as a consequence of cerebral small vessel disease. Thus, altered blood flow in the cerebral arteries may be related to development of cerebral WMHs. Transcranial Doppler (TCD) ultrasound is a non-invasive measure of cerebral blood velocity profile, which reflects cerebral hemodynamics in real-time processing. In the present study, we investigated the relationship between cerebral hemodynamics estimated by TCD and WMHs.

Materials & Methods: One hundred and fifty patients (83 Males and 67 Females, 79 ± 7 y/o) were enrolled excluding those with a history of stroke and a major infarction.

All patients underwent diagnostic magnetic resonance imaging (MRI) and TCD ultrasound. In regard to WMHs, the periventricular hyperintensities (PVH) and the deep white matter hyperintensities (DWMH) were graded according to Fazekas scale. TCD ultrasound was used to assess cerebrovascular hemodynamics including middle cerebral artery (MCA) blood velocity (MCAV), cerebrovascular resistance index (CVRi), and Pulsatility Index (PI). A multiple regression analysis was carried out using the grade of PVH and DWMH as dependent variables and cerebrovascular hemodynamics as an independent variable, adjusted for age, sex, status of hypertension, and smoking.

Results: Multiple regression analysis identified significant negative correlations between the PVH grade and MCAVmean ($\beta = -0.216$, $p = 0.007$), and CVRi ($\beta = 0.160$, $p = 0.049$). Also, there were significant correlations between the DWMH grade and MCAVmean ($\beta = -0.241$, $p = 0.003$), and CVRi ($\beta = 0.218$, $p = 0.007$).

Conclusions: These results indicate that impaired peripheral circulation in the brain evaluated by TCD was associated with the severity of WMHs, consistent with idea WMHs as a consequence of cerebral small vessel disease.

SARCOPENIA SCREENED WITH SARC-F QUESTIONNAIRE IS ASSOCIATED WITH QUALITY OF LIFE AND MORTALITY

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There is no gold standard in diagnosing sarcopenia. We aimed to assess the validity of screening sarcopenia using SARC-F. This is a prospective cohort study in a community hospital in Taiwan. Community dwelling senior citizens were interviewed with a structured questionnaire annually. The questionnaire items were recoded into the five items of SARC-F (sluggishness, assistance in walking, rise from a chair, climb stairs, falls). In the baseline year, a subgroup was tested for grip strength and body composition. Healthcare utilization and mortality were based on self-report and hospital records. Our main outcome was four-year-mortality. Secondary outcomes included hospitalization, emergency care use, and quality of life (QOL) measured using the CASP-12 scale. There were 670 participants. The mean age was 76.1 (SD 6.36). Half were men (n=340 (50.7%)). The prevalence of sarcopenia was 6.1% (n=41). SARC-F scores were inversely associated with grip strength (p=0.001) and skeletal muscle composition (p=0.045). Sarcopenic participants were mostly women (p=0.005) and older (p<0.001). In univariate analysis, sarcopenia was associated with one- to four-year mortalities (p=0.033, 0.001, 0.001, <0.001, respectively), one year hospitalization (p=0.017), QOL at two and four years (both p<0.001) but not subsequent use of emergency care. In multivariate model, sarcopenia (odds ratio (OR)=7.35, 95% confidence interval (CI)=2.67–20.18), age (OR=1.19, 95% CI=1.09–1.29 for each year) and taking vitamin D supplements (OR=0.29, 95% CI 0.11–0.74) were factors associated with mortality. Sarcopenia screened using SARC-F was associated with subsequent QOL, one-year-hospitalization, and four-year-mortality. SARC-F can serve as a quick screening tool of sarcopenia.

EFFECTS OF ETHNICITY AND GEOGRAPHICAL LOCATION ON SARCOPENIA AND HAND GRIP STRENGTH: A PILOT STUDY

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Sarcopenia is gaining clinical recognition, due to the recent establishment of an ICD-10-CM code, however there is lack of clarity as to whether a single definition will be able to universally applied. We aimed to investigate the influence of ethnicity and geographical location on body composition related to sarcopenia and hand grip strength (HGS). Middle aged and older adults (n=111; 70.9±7.9yrs; 40% Hispanic, one-quarter male; 60% Caucasian, one-third male) were screened prior to taking part in the Golden Age exercise program in El Paso, USA. There were no significant differences in body composition measures or HGS between the two ethnic groups. Despite no significant difference in mean appendicular lean mass/height squared (ALM/ht²) (P=0.92), more than one-third of Caucasian females (16/45) were below the European Working Group on Sarcopenia in Older People (EWGSOP) cut-off for low muscle mass (<5.67kg/m²), but no Hispanic females were below this level. In contrast, similar proportions of men (22%) had ALM/ht² below the EWGSOP cut-off (<7.26kg/m²). A sub-group of El Paso Caucasians compared to age- (70.4±6.6yrs) and sex- (18/56 male) matched Caucasians from Melbourne, Australia, were significantly taller (P=0.019) and tended to be lighter (P=0.18), such that the Australian cohort had significantly higher BMI (P=0.004), and higher ALM/ht² (P<0.001), with only 4/38 females demonstrating low mass. Strong correlations between ALM/ht² and HGS were observed (P<0.001), yet no HGS difference existed between the cohorts (P=0.827), illustrating the complex interplay between lean mass, obesity and muscle strength that needs to be considered for any universal diagnosis of sarcopenia.

THE ASSOCIATIONS BETWEEN HANDGRIP STRENGTH AND ITS CHANGE ON CARDIOVASCULAR INCIDENCE

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Handgrip strength (HGS) is increasingly becoming a vital factor in physical capability. The last decade has seen a renewed importance in the association between HGS and diabetes, hypertension, and cardiovascular mortality rather than disability and mortality. As far as I known it is not yet known whether the HGS and its change associated with cardiovascular incidence among older adults in European countries. Data are drawn from the first four waves of the Survey of Health, Ageing and Retirement in Europe (SHARE) with information on HGS, health and demographic characteristics from 7,232 participants aged 50–79 across 10 European countries. HGS was transformed as the low HGS (LGS), the fastest decline in HGS (FDGS), and the combination of the LGS and the FDGS (CBGS). Logistic regression models adjusted for the potential confounders showed that the FDGS and the CBGS were significantly correlated with cardiovascular incidence. However, the LGS as the lowest quintile HGS at baseline Wave was not significantly different from the normal HGS (NGS) on cardiovascular incidence. Both sexes with FDGS would have higher odds of experiencing cardiovascular development (all, P<0.02). In the CBGS, men

with NGS&FDGS ($P=0.008$) and women with LGS&FDGS ($P=0.000$) were likely to have higher odds of having cardiovascular diseases. In conclusion, the decline in HGS and the CBGS should be considered as an indicator of incidence of cardiovascular disease among older adults. The further studies on the current topic are therefore suggested in order to establish in clinical setting.

DETECTING SARCOPENIA IN LONG-TERM CARE RESIDENTS

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Sarcopenia is characterized by decreased muscle mass with reduced strength and/or physical performance. Clinical assessment of sarcopenia is difficult in the elderly given the need for specialized testing for lean muscle mass and clinic time for functional testing. The SARC-F questionnaire, developed as a screening tool for sarcopenia, consists of five questions on physical abilities, and a summative score ≥ 4 indicates poor outcomes. We evaluated the accuracy of the SARC-F for identifying sarcopenia using the Foundation for the National Institutes of Health Sarcopenia Project (FNIH) and European Working Group on Sarcopenia in Older People (EWG-SOP) clinical definitions as gold standards. In our preliminary cohort of 43 women (age 86 ± 5.1), 6 (14%) had SARC-F ≥ 4 , but only 1 met FNIH guidelines. Five additional women fit FNIH criteria, but had SARC-F < 4 . Only 8 women (19%) met the EWG-SOP criteria, and all had SARC-F < 4 . Further refinement of the SARC-F may be necessary for better discrimination, but further study is needed for a more definitive recommendation.

SESSION 4115 (PAPER)

RISK, PREVENTION, AND MANAGEMENT OF DECLINE IN PHYSICAL FUNCTION AND FALLS

CHANGE OF FUNCTION AND PARTICIPATION DURING AND AFTER THE STAY IN THE NURSING HOME USING THE ICF

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ICF staging is a set of simple scales using ICF codes hierarchically arranged to a Guttman-type scale. The high validity of the scales with its high sensitivity and specificity to change enables us to measure the functional change of the elderly person over time; This study shows the change of function and participation for senior persons during their stay in the geriatric health services facilities in Japan (Roken facilities) after their return to home.

The participants were elderly persons newly admitted to the 177 Roken facilities that provides geriatric rehabilitation. The measurement included physical functions, activity and participation, behavior. This study measures continuously six times per person: on admission, just after returning home from the facility, after one week, one, three and nine months after returning home.

Related items are summed to obtain reference scores which were tested using the generalized linear model. Of

504 elderly person volunteered in the initial survey, 474 persons completed the one-month follow-up and 195 persons completed all five follow-ups. Although elder persons' functions and participations improved during their stay at Roken facilities, most of the functions began to deteriorate after discharge. In contrast, their social participation was maintained throughout the period after they returned home. Therefore, this study suggested the benefit and limitation of the geriatric rehabilitation. This result affirmed the sensitivity of the ICF scales to capture changes in various functional domains.

SOCIAL INEQUALITY IN DECLINE IN PHYSICAL FUNCTION AND MORTALITY AMONG OLDER ADULTS

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Due to differential vulnerability, low socioeconomic position (SEP) may lead to greater decline in physical function and mortality among older adults with few social relations. We investigated how older people's SEP combined with social relations was associated with decline in physical function and mortality. The study population included 4,060 older adults aged 75 or 80 years at baseline in 1998–1999. Information about social relations at baseline, and physical function at baseline and after 1.5, 3 and 4.5 years were obtained from questionnaires. SEP measured by financial asset at baseline and mortality during 5 and 10 years of follow-up were obtained from Danish nationwide registers. Generalized estimation equations and Additive hazard models were used to analyse associations between SEP combined with social relations and decline in physical function and mortality, respectively. Adjusted analyses showed that males, but not females, with low financial asset who lived alone or had no visits, no social activity, low family contact, or low social contact experienced the greatest decline in physical function. Yet, there was only significant interaction between financial asset and visits. Both males and females with low financial asset who lived alone, or had no visits, no social activity, low family contact, or low social contact had the highest mortality. Yet, there were only significant interactions between financial asset and visits for females and social activity for males. In conclusion, among older adults, especially males, low SEP implied a greater decline in physical function and higher mortality among those with few social relations.

A CONCEPTUALLY NOVEL PERFORMANCE-BASED BALANCE SCALE FOR USE WITH COMMUNITY-LIVING OLDER ADULTS

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Balance testing is critical for identifying fall risk and initiating preventive strategies for older adults. However, current balance assessments used with Community-Living Older Adults (CLOAs) have limitations, e.g., ceiling effects, lengthy administration time, and failure to include different postural

stability domains. Our objective was to develop a conceptually novel performance-based assessment to quantify balance ability of CLOAs that minimizes current limitations and decreases test time by using a non-fixed-item format that eliminates completing all items to obtain a score.

This methodological study consisted of 3 phases. In phase 1, we developed a 26-item, dichotomously-scored preliminary Performance-based Balance Scale (PBS) by (1) using an expert panel to build the scale by adapting items from existing balance measures and organizing items by difficulty into posture stability domains, (2) pilot testing, and (3) post-test revision. Phase 2 involved testing the preliminary PBS with 35 subjects (10 men, 25 women, mean age = 75.9, 60–91 yrs). Using Rasch dichotomous model analysis, we created a non-fixed-item PBS format and identified 2 items to serve as starting points for testing based on performance ability; thereby, eliminating the need to test all items. In phase 3, we re-tested the same subjects 4–8 weeks later. Spearman's rho was used to correlate the preliminary and non-fixed-item PBS to determine validity of the non-fixed-item format resulting in $rs = 0.94$.

In conclusion, the PBS is a novel, 20-item, non-fixed format clinical balance test with 2 entry points for CLOAs that minimizes ceiling effects, assesses different domains, and reduces test time.

INBED: INEXPENSIVE NODE FOR BED-EXIT DETECTION: A WEARABLE FALL PREVENTION SYSTEM

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Age-related falls are a widespread and expensive issue of society and with this a big challenge of gerontological research. Hence we present INBED - an inexpensive, modular and body-worn (medio-femoral) fall prevention system. Compared to existing solutions, INBED offers a more proper solution to prevent falls in clinical and elderly care environments.

The INBED detects several events such as getting up from a sitting or lying position. These events are broadcasted wirelessly to notify the nursing staff, so that they can assist the respective care recipient accordingly. In further consequence, highly critical fall events can be avoided due to the early alert of the nursing staff. The INBED can replace the commonly used belt or bed rail systems for high risk fall patients. Thus, the personal range of movement and the self-determination of the patient will be supported without reducing the sense of protection. INBED itself is a approx. 2x2cm wearable device that contains several sensors, a microcontroller unit and a wireless radio transceiver.

Development objectives were:

- development of a reliable and cost-effective solution for a sensor-based uprise-detection for fall prevention established by first research results with different sensor prototypes.

- apart from the function of immediate uprise-detection, the system can also recognize states of restlessness occurring in advance of patient's rising, so that the caregiver can intervene before the first uprise.

- in addition to above-mentioned functions, the system can be used to implement a virtual fence. Patients can be protected from risk areas, e.g. stairs, by sending a dedicated event.

SESSION 4120 (SYMPOSIUM)

THE INTERSECTION OF TRAUMA AND DISASTER BEHAVIORAL HEALTH

Chair: K.E. Cherry, *Louisiana State University, Baton Rouge, Louisiana*

Discussant: A. Gibson, *Winthrop University, Rock Hill, South Carolina*

Disasters bring catastrophic destruction with loss of life, homes, and property. The disaster science literature documents threats to health and well-being for directly affected individuals during the immediate impact period, although fewer studies have addressed psychological health among disaster survivors and indirectly affected disaster volunteers who assist with response and recovery in the years after a destructive environmental event. In this symposium, the intersection of trauma and disaster behavioral health will be examined from a lifespan perspective. Five papers will be presented that include behavioral data collected with samples of older adults exposed to four different environmental events: the 2015 South Carolina floods; the 2005 Atlantic Hurricanes Katrina and Rita, the 2007 wildfires in San Diego County, CA, and the 2010 BP Deepwater Horizon Oil Spill. Risk and resilience factors among survivors and disaster relief volunteers will be highlighted based on qualitative analyses of narrative text and quantitative analyses of survey and questionnaire data. Taken together, these five papers will provide new evidence concerning psychological and social factors that may lessen vulnerability and promote resilience for directly and indirectly affected older adults in the years after a natural disaster. Lessons learned from these prior disasters offer new insights into evacuation safety and the response and recovery phases of a disaster with an aging population. Implications for disaster preparedness and behavioral health and policy recommendations will be discussed.

AN INQUIRY INTO OLDER DISASTER RESPONDERS' SECONDARY TRAUMATIC STRESS

A. Gibson, *University of Kentucky's College of Social Work, Lexington, Kentucky*

Secondary Traumatic Stress (STS) symptoms are common among disaster responders. An exploratory study, using primarily qualitative methods was conducted to gain a better understanding STS in disaster response volunteers 60 and older. Fifty-eight older disaster responders involved with the 2015 South Carolina floods participated in this research effort. As part of this study, questions regarding STS were explored. STS levels among volunteer responders who provided care to victims of varying disasters varied substantially, but common themes emerged that represent both risk and protective factors for STS. Previous exposure

to trauma, availability of response organization's support post-deployment, previous experience responding to disaster, and availability of peer support were factors that influenced STS symptoms. Further, older volunteers may be an ideal population for disaster response work given their lifetime of developing coping skills resiliency. Presentation will conclude with recommendations for future research and suggestions for disaster mental health administration with older volunteers.

SOCIAL ENGAGEMENT AND HEALTH-RELATED QUALITY OF LIFE IN OLDER ADULTS AFTER MULTIPLE DISASTERS

K.E. Stanko¹, K.E. Cherry¹, L. Sampson², S. Galea², 1. *Psychology, Louisiana State University, Baton Rouge, Louisiana*, 2. *Boston University, Boston, Massachusetts*

Exposure to multiple catastrophic disasters, both natural and technological, is associated with extreme stress and long-term health consequences that are poorly understood. For older adults, vulnerabilities due to physical health, limited financial resources, and lack of social support may impact post-disaster well-being. We examined psychosocial predictors of health-related quality of life in 219 residents of south Louisiana who survived the 2005 Hurricanes Katrina and Rita and the 2010 BP Deepwater Horizon Oil Spill. Participants were non-coastal residents, current coastal residents, and current coastal fishers who were economically impacted by the oil spill. Logistic regressions indicated that age was inversely associated with SF-36 physical health scores. A reduction in perceived social support after Katrina was also inversely associated with SF-36 mental health scores. These results illuminate risk and protective factors that impact health after multiple disasters. Implications of these data for programs to mitigate adversity after multiple disasters will be discussed.

SOCIAL SUPPORT AND PSYCHOLOGICAL HEALTH OF ADULTS AFTER THE 2007 SAN DIEGO COUNTY WILDFIRES

J.M. Phillips, *Cal State Univ San Marcos, San Marcos, California*

Wildfires destroy property, plants, and animals, and may injure or result in the death of firefighters and community residents. Few studies have examined the impact of wildfires on those who live in the direct path of the wildfire or in a near-by area. This study addressed the long-term mental health consequences after the 2007 northern San Diego County wildfires. In all, 191 community-residing adults ranging in age from 30 to 94 years were assessed. Respondents varied in age, severity of exposure to the wildfire, and received social support. Analyses revealed that depressive symptomology differed among age groups, although prevalence of depressive symptoms was low overall. Received social support differed between the severity of wildfire exposure groups with primary victims receiving more social support than secondary or non-victims. Implications of these findings for promoting community-residing adults' long-term mental health recovery after a wildfire will be discussed.

A TRAUMA-INFORMED APPROACH TO DISASTER BEHAVIORAL HEALTH WITH OLDER ADULTS

M. Davis¹, N. Bellamy², K. Fountain¹, 1. *Social Work, George Mason University, Fairfax, Virginia*, 2. *Substance Abuse and Mental Health Services Administration (SAMHSA) Center for Mental Health Services (CMHS), Rockville, Maryland*

Older adults' experience during and post disaster may be impacted by traumatic events during their life course. Prior research suggests there are risks and protective factors associated with the number and timing of such events in the lives of older adults (Shrira, Shmotkin and Litwin, 2012). Pre-disaster life events also may have an impact on post-disaster physical and mental health. Shrira et. al (2014) describe vulnerabilities associated with lifetime trauma exposure in old age, while Eysenck's (1983) *inoculation hypothesis* suggests protective factors as a result of traumatic life events. Current disaster behavioral health content does not address these factors although some studies show a connection between traumatic life events and depression in old age and increased risk for PTSD post disaster (Shmotkin, 2003). A model for trauma informed approach to disaster behavior health will be presented. Perspectives from a Substance Abuse Mental Health Services Administration (SAMHSA) staff reflected.

PROMOTING DISASTER BEHAVIORAL HEALTH POLICY: LESSONS LEARNED FOLLOWING HURRICANE KATRINA

H.J. Osofsky, J.D. Osofsky, A.H. Speier, T.C. Hansel, *Louisiana State University Health Sciences Center, New Orleans, Louisiana*

Many lessons have been learned about how to successfully address evacuation, response and recovery phases of a disaster with aging population groups. Data collected in a 2011 study indicated that older populations reported more PTSD and physical health symptoms compared to younger populations. Experiences following Hurricane Katrina and Deepwater Horizon Oil spill, while providing interventions across the life span, suggest that a common factor associated with disaster preparedness and recovery includes a belief in one's self efficacy and sense of personal control among survivors. A major lesson learned is that if disaster relief personnel interact with survivors assuming incompetence, those people will demonstrate helplessness and begin to believe they cannot help themselves. Alternatively, if one assumes people are competent and recovery is supported, they are able to bounce back, showing resilient outcomes. Examples of response models for disaster behavioral health and policy recommendations will be presented.

SESSION 4125 (SYMPOSIUM)

THE PROMISE: HOT TOPICS

Chair: C.L. Estes, *University of California, San Francisco, Healdsburg, California*

Advances in biological, social, behavioral, and policy sciences challenge the limits of the health and lifespan globally for all ages. Breakthroughs render the unimaginable, possible. Yet, growing barriers exist, as science affirms deepening

health inequalities by risk factors of age, gender, race, ethnicity, (dis)ability, economic status, and education.

Dr. Koenig will open the panel discussing end of life and bioethics; Dr. Glymour will address lifecourse determinants of healthy aging and health disparities, suggesting improved data for causality; Dr. Covinsky will ask what is possible, given our hope for longevity free of disability and current knowledge of advanced-age elders, and Dr. Epel will address the achievability of healthspan extension, linking childhood experience and toxic stress, neighborhood health and behaviors, and social policies. Dr. Estes will close with observations on the intersection of science, policy and society in which aging is a women's issue.

MORTALITY IN AN AGING SOCIETY: MANAGING NEW PATHWAYS TO DEATH

B. Koenig, *Institute for Health & Aging, UCSF Bioethics; University of California, San Francisco, San Francisco, California*

California, Colorado, and Canada have recently enacted physician aid-in-dying (PAD) legislation. Almost one fifth of the US population now lives in a state where patients can ask their physician for assistance with ending their lives. How will that "option" play out in an aging society plagued by ever-increasing inequality? California is the most diverse locale to enact PAD as a routine practice. There are 1.75 million residents of color over the age of 65. A state-wide group convened by the UCSF Bioethics Program has worked to provide guidance about the End of Life Option Act's implementation to clinicians throughout the state. This presentation will report on these efforts, highlighting the unique ethical challenges for patients living in residential long term care facilities and for providers caring for an aging populace.

LIFECOURSE DETERMINANTS OF HEALTHY AGING AND HEALTH DISPARITIES: NEW DATA SOURCES TO IMPROVE CAUSAL EVIDENCE

M. Glymour, N. Adler, *University of California, San Francisco, San Francisco, California*

Strong evidence has accumulated to demonstrate that social and behavioral factors across the lifecourse predict cognitive and physical impairments in old age. Translating that evidence to practical applications to improve healthy aging requires evaluating whether those associations are causal and determining which exposures are most relevant. Opportunities for true randomization are limited and we will need to rely primarily on quasi-experimental studies. New approaches and data sources including large, representative samples with detailed residential histories are enabling rigorous quasi-experimental studies on the impact of social exposures on adult health outcomes. Our research program focuses on how educational experiences influence healthy aging of black and white adults. We discuss results in the REasons for Geographic and Racial Disparities in Stroke (REGARDS) cohort, where we are evaluating the influence of educational attainment, educational quality, and racial inequalities in education, on late life health and health disparities. We will show how extensions based on synthetic pooling of multiple data sets will improve statistical power and generalizability.

IS OLDER AGE DISABILITY REALLY PREVENTABLE?

K.E. Covinsky, *University of California, San Francisco, San Francisco, California*

Funding for geriatric research often focuses on preventing the syndromes and disabilities of aging. But is it logical to believe that age related disabilities are preventable? Does epidemiologic evidence support the contention that survival to advanced age free of disability is common? This talk will present evidence to suggest that our hope for longevity free of disability should be balanced by the actual experiences of elders of advanced age. The implications for clinical care, health policy, advocacy, and research funding will be discussed

EXTENDING OUR HEALTHSPAN: THE PROMISE OF BRIDGING BIOLOGICAL, SOCIAL, BEHAVIORAL AND POLICY SCIENCES

E. Epel, *University of California, San Francisco, San Francisco, California*

When we see the future demographics of our aging society, we see that many more of the children born today will likely live to 100.

What will those years be like, in terms of mental health, cognitive function, and physical health? This largely depends on the bridges we make between biological, social, and policy sciences. While radical life extension is out of reach, vibrant healthspan is achievable. This requires strong reliance on understanding the factors that promote healthy aging, including the biology of aging and how it interacts with childhood experience and toxic stress, neighborhood health, and behaviors. These in turn are shaped by social policies. We will have a discussion of how to most strategically achieve healthspan extension for population health.

SESSION 4130 (SYMPOSIUM)

THE PROJECT TALENT AGING STUDY: A NEW LIFECOURSE STUDY OF COGNITIVE, PHYSICAL, AND PSYCHOSOCIAL AGING

Chair: T.L. Gruenewald, *University of Southern California, Los Angeles, California*

Co-Chair: C. Prescott, *University of Southern California*

This symposium will showcase emerging findings and highlight research opportunities of the recently initiated Project Talent Aging Study. Project Talent began as a nationally-representative cohort study of over 375,000 high school students across the U.S. in 1960. Subsets of the original cohort were followed over an 11-year period to examine adolescent predictors of early adult economic, educational and occupational conditions and psychosocial and physical well-being. Our symposium will provide an overview of the reenvisioning of this original cohort study into a longitudinal study of socioeconomic, cognitive, physical and psychosocial aging. Gruenewald will provide an overview of the development of the Project Talent Aging Study. Achorn will detail findings from a pilot study designed to test the feasibility of computerized cognitive assessments and surveys of health and well-being via both the internet and tablet computers sent to, and retrieved from, older adult participants across the country. Prescott will share findings from

pilots of recently developed computerized adaptive assessments of cognitive function developed for use in the Project Talent Aging Study and other longitudinal studies of aging. Lapham will provide an overview of the recent linkage of over 200,000 Project Talent participant records to Centers for Medicare and Medicaid Services (CMS) records to assess how adolescent and early adult conditions predict health and health care utilization and cost in later life. Future plans for the Project Talent Aging Study and opportunities for use of the data by the greater scientific community will be shared.

COMPUTERIZED COGNITIVE, HEALTH AND PSYCHOSOCIAL ASSESSMENT IN OLDER ADULTS VIA THE WEB AND TABLETS

D. Achorn, D. Battle, M. Zhang, S. Lapham, *American Institutes for Research, Washington, District of Columbia*

The University of Southern California and American Institutes for Research are conducting a pilot study to determine the feasibility of conducting large-scale assessments of older adults by computer. Drawing from individuals who participated in Project Talent in 1960 and who are now aged 71–74, we sampled 500 participants to complete cognitive and survey assessments, either by web survey or a mail out/mail back tablet computer method. The sample was primarily selected based on computer usage survey in the 2011–12 pilot mail survey. Those with little or no computer experience were selected for the tablet, while those with experience were assigned to web. We recently completed the first of four waves of the tablet and web pilot study. Preliminary results indicate that older adults with limited computer experience are able to, and report a positive experience with, the use of tablets to complete cognitive assessments and lengthy health and well-being surveys.

SELF-ADMINISTERED ADAPTIVE TESTS OF COGNITIVE ABILITIES BY COMPUTER TABLET AND THE INTERNET

C. Prescott¹, T.L. Gruenewald¹, K. Peters¹, D. Achorn², M. Gatz¹, J. McArdle¹, 1. *University of Southern California, Los Angeles, California*, 2. *American Institutes for Research, Washington, District of Columbia*

We developed adaptive versions of three cognitive measures used in the 1960 Project Talent assessment: Vocabulary, Abstract Reasoning, and 3D Spatial Visualization, representing markers of crystallized ability (Gc), fluid ability (Gf), and visuospatial reasoning (Gv). The adaptive measures have 6 items, take 5 minutes, and are self-administered via computer tablet or on the web to participants in the Project Talent Aging Study. Other measures include immediate and delayed memory, verbal fluency, and numeracy, providing a crosswalk between the 1960 measures and assessments used in other large-scale aging studies. We will provide an overview of results from pilot investigations designed to validate the psychometric properties of the assessments and testing for effects of administration mode (tablet vs internet) and participant characteristics. Our substantive goals include: characterizing current functioning on a profile of cognitive abilities; measuring 56-year change in measures of Gc, Gf, and Gv; and estimating change in other cognitive abilities.

PROJECT TALENT: INVESTIGATING EARLY-LIFE DETERMINANTS OF LATER LIFE MORBIDITY VIA MEDICARE LINKAGES

S. Lapham¹, D. Achorn¹, T.L. Gruenewald², C. Prescott², 1. *American Institutes for Research, Washington, District of Columbia*, 2. *University of Southern California, Los Angeles, California*

AIR linked approximately 200,000 Project Talent (PT) records to Medicare data to obtain information about health, health care utilization and cost maintained by Centers for Medicare and Medicaid Services (CMS). We will provide researchers with an overview of this important new data resource and emerging findings from analyses examining early life predictors of later life health and healthcare utilization. Health-related PT measures from 1960 high school assessments include general health status, symptoms, BMI, musculoskeletal conditions, allergy and infectious diseases, dermatological symptoms, vision, hearing and speech conditions, accident history, sleep habits, diet and exercise, and prescription drug use. Medicare data include demographic, enrollment characteristics, chronic conditions, cost and utilization for each participant. The PT-Medicare linkage also provides claims data (e.g., inpatient, outpatient, skilled nursing, durable medical equipment). We will provide an overview of efforts to examine adolescent determinants of later life cognitive and physical health, morbidity and mortality.

SESSION 4135 (SYMPOSIUM)

IRVING S. WRIGHT & VINCENT CRISTOFALO “RISING STAR” AWARDS PRESENTATION, LECTURE, AND RECEPTION

Chair: S. Lederman, *American Federation for Aging Research*

Co-Chair: H. Herman, *American Federation for Aging Research, New York, New York*

AFAR presents two scientific awards annually to members of the aging research community whose outstanding work advances the field of aging research. The honorary scientific awards are named for visionary scientists whose leadership made AFAR and aging research what it is today.

2017 Irving S. Wright Award of Distinction Winner: Mark S. Lachs, MD, MPH, Psaty Distinguished Professor of Clinical Medicine, Weill Cornell Medical College

Talk Title: “*More Alike Than You Think: What Elder Abuse Research Has Taught Me About The Integration of Biological and Social Sciences In Aging*”

About the Wright Award: In 1981, Dr. Irving S. Wright, a noted cardiologist, brought together a group of far-sighted scientists and lay people to found AFAR. The Irving S. Wright Award of Distinction is named in honor of the founder of AFAR and is intended to honor exceptional contributions to basic or clinical research in the field of aging by member of the scientific community.

2017 Vincent Cristofalo “Rising Star” Award in Aging Research Winner: Dongsheng Cai, MD, PhD, Professor of Molecular Pharmacology, Albert Einstein College of Medicine

Talk title: “*Hypothalamic inflammation in neural control of aging*”

About the Cristofalo Award: The late Vincent Cristofalo devoted his professional career equally to two pursuits: Doing aging research, and encouraging younger scientists to investigate important problems in the biology of aging. Vince set an example of wise leadership, sophisticated judgment, and solid accomplishment that remain an inspiration to all who knew him. In his honor, AFAR established the Vincent Cristofalo “Rising Star” Award in Aging Research.

ELDER ABUSE RESEARCH: THE INTEGRATION OF BIOLOGICAL AND SOCIAL SCIENCES IN AGING

M.S. Lachs, *Weill Cornell Medical College, New York, New York*

In this lecture I will argue that elder abuse is a prototype for examining the intermittent but unnecessary tensions between august researchers who study the basic biology of aging and those who choose to study clinical and psychosocial determinants of aging and quality of life, as well as those researchers who fall in the continuum between those poles.

Many advisors and potential funders suggested that clinical and/or patient oriented research was “unscientific”. Soon this trend reversed, with my basic biology colleagues arguing that a growing emphasis on “patient oriented research” was a short-sighted strategy that would ultimately undermine the generation of new hypotheses and ideas that could revolutionize the science and medicine of human aging.

To improve quality of life for older people and the people who care about them we must stand should to shoulder, not only for political and pragmatic reasons, but for highly substantive scientific ones as well.

HYPOTHALAMIC INFLAMMATION IN NEURAL CONTROL OF AGING

D. Cai, *Albert Einstein College of Medicine, New York, New York*

In this talk, I will discuss the relationship between hypothalamic inflammation and neuroendocrine pathways in aging development as well as related metabolic syndrome. First, I will provide an overview on neuronal control of aging and lifespan in different species. Second, I will describe the involvement of hypothalamic pro-inflammatory IKK-beta and NF-kappaB pathway and related stress response in the development of aging and metabolic syndrome. Finally, I will discuss the impact of hypothalamic inflammation on hypothalamic neuroendocrine systems and therefore the influence on hypothalamic regulation of physiology which contributes to aging and lifespan changes. Altogether, inflammation-induced hypothalamic dysfunction represents a neural mechanism of aging.

SESSION 4140 (PAPER)

DISABILITY, CHRONIC CONDITIONS, AND PAIN

DISABILITY-FREE LIFE EXPECTANCY AMONG OLDER ADULTS IN HIGH LONGEVITY POPULATIONS

C. Payne¹, C. Chiu², L. Rosero-Bixby³, Y. Saito⁴, W.H. Dow⁵, 1. *Harvard University, Cambridge, Massachusetts*, 2. *Academica Sinica, Taipei, Taiwan*, 3. *University of Costa Rica, San Jose, Costa Rica*, 4. *Nihon*

University, Tokyo, Japan, 5. *University of California, Berkeley, California*

Japan has the highest life expectancy in the world, but Rosero-Bixby (2008) has surprisingly found that when examining remaining life expectancy at age 90, Costa Rican men outperform even Japan. The United States (U.S.) is well-known to under-perform in life expectancy, with Costa Rica having higher life expectancy at birth than the U.S., but at age 90 the U.S. reduces this gap and achieves similar remaining life expectancy as in Japan. Prior work suggests that these findings are not an artifact of poor data. In this paper we explore two alternative phenomena to help understand these surprising results. First, we exploit harmonized longitudinal surveys in Costa Rica (CRELES), Japan (NUJLSOA), and the U.S. (HRS) in order to extend these analyses to comparisons of Disability-Free Life Expectancy (DFLE). We compare DFLE by sex at age 65 and then among the oldest-old at age 90, in order to explore whether the relative life expectancy patterns also hold for DFLE. Second, we explore evidence on mortality selection in order to better understand the extent to which differential rates of early life mortality could affect these life expectancy comparisons.

EDUCATION AND ACCUMULATION OF CHRONIC CONDITIONS AFTER AGE 50 AMONG IMMIGRANTS TO THE U.S.

Z. Gubernskaya, *Sociology, University at Albany--SUNY, Albany, New York*

In 2014, 6.1 million (about 13%) of the Americans age 65 and over were foreign-born. An increasing diversity of this group calls for a better understanding of the health disparities among the older immigrants. The research uses 11 waves of the Health and Retirement Study (HRS) to explore patterns of accumulation of chronic conditions (hypertension, diabetes, cancer, heart disease, lung disease, stroke, psychiatric conditions, arthritis) after age 50 by nativity and age at migration. The results from the random intercept Poisson regression models show a sizable health advantage over the U.S.-born at age 50 for both non-Hispanic white and Mexican immigrants. Among the older non-Hispanic whites, those who migrated as young adults (age 18–34) were able to preserve their health advantage well beyond age 65, but older age at migration was associated with faster accumulation of chronic conditions. In contrast, among Mexicans, both young adult and early middle aged immigrants experienced faster accumulation of chronic conditions vis-à-vis the native-born Mexicans. Further analysis shows that these differences are explained by education. Poorly educated older foreign-born who migrated as young adults, both non-Hispanic white and Mexican, experience a steeper increase in the number of chronic conditions after age 50 compared to the native-born with similar levels of education. Because the majority of older Mexican immigrants came to the U.S. as young adults and are poorly educated, the pattern is present for the entire group.

RACE, SLOW WALKING SPEED, AND PAIN

J.L. Walker¹, L. Parker², S.L. Szanton¹, R.J. Thorpe², 1. *Johns Hopkins University School of Nursing, Baltimore, Maryland*, 2. *Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland*

When older African Americans experience pain they often have higher rates of functional limitations and disabilities than older non-Hispanic Whites. There has been little work done on the relationship between pain and walking speed and if it varies by race. Slow walking speed is related to poorer quality of life and less independence in older adults. Using data from the 2011 National Health and Aging Trends Study we examined the relationship between pain and slow walking speed, and if this relationship varies by race among 6,689 community dwelling older adults. Slow walking speed was defined as walking speed 1.0 meters per second or below. Older adults who reported pain in the last month had a higher odds of slow walking speed (OR= 1.38, 95% CI= 1.10- 1.73) than those who did not report pain in the last month, after controlling for multiple chronic conditions, dementia, race, and other covariates of interest. Although 94% of older African Americans had slow walking speed, compared to 85% of older non-Hispanic Whites ($p < 0.001$), the relationship between pain and slow walking speed did not vary by race (interaction $p = 0.6$). This work provides evidence that addressing pain may improve walking speed.

TRENDS IN PAIN PREVALENCE AMONG OLDER ADULTS IN THE UNITED STATES: 1992 TO 2012

Z. Zimmer, *Family Studies and Gerontology, Mount Saint Vincent University, Halifax, Nova Scotia, Canada*

This analysis will first examine population trends in pain prevalence amongst older Americans across a twenty-year period and second assess the degree to which these trends are explained by changing socio-demographic composition and health characteristics. Pain is an important indicator of overall health among older adults and is related to many physical and psychosomatic conditions and disorders. While specific sources and proximate causes are not easy to identify, the negative consequences of pain for functional health are evident. Consequently, understanding trends in pain allows insight into changes in quality of life. Moreover, despite increased literature on trends in disability and other functional health disorders, few studies have monitored whether pain trends correspond with these. This study relies on over 150,000 observations from the Health and Retirement Study. This is an ideal data source since pain items have been measured consistently across most survey waves from 1992 to 2012. Deconstructing pain into mild, moderate and severe forms, the paper first evaluates trends in any and severity of pain over time. Preliminary results indicate rising trends for both males and females. Using binary and ordered logistic regression, the analysis then examines predictors of these rising trends. The conclusion will compare trends and predictors to the much more established literature on disability. In sum, despite presence of pain items in several national level surveys, little research has monitored trends over time, and as an indicator of population health, pain has been virtually ignored. The current study fills this gap.

HEALTH CARE STEREOTYPE THREAT AND INCIDENCE OF CHRONIC DISEASE IN THE UNITED STATES

F. Wheaton¹, C. Roman², C.S. Thomas³, C. Abdou Kampervien², 1. *Aging Studies, Bethune-Cookman University, Daytona Beach, Florida*, 2. *University of*

Southern California, Los Angeles, California, 3. *University of California, Los Angeles, Los Angeles, California*

Healthcare stereotype threat (HCST), or the fear of being judged or personally confirming negative group-based stereotypes in healthcare settings, has been linked to poorer physical and mental health in cross-sectional studies. However, to date no studies have examined whether HCST predicts chronic disease incidence longitudinally. Using data from the 2012 and 2014 waves of the Health and Retirement Study (N=1,479), we examined whether experiences of HCST reported in 2012 were predictive of the development of chronic disease two years later using logistic regression models, which controlled for sociodemographic characteristics. We found that HCST, assessed in 2012, was predictive of development of diabetes and lung disease by the 2014 HRS wave among people who did not previously have these conditions. HCST, assessed in 2012, was not significantly associated with incidence of hypertension, heart conditions, or stroke, nor with mortality in 2014; nevertheless, odds ratios were in the expected direction and the relatively small sample size likely contributed to lack of significance. Findings demonstrate that HCST is negatively associated with poor mental and physical health not just cross-sectionally, but also with the development of certain chronic conditions over time.

SESSION 4145 (SYMPOSIUM)

POLICY AND PRACTICES FOR SUPPORTING SEXUAL EXPRESSION AMONG OLDER NURSING HOME RESIDENTS

Chair: G. Doll, *Kansas State University, Manhattan*
Discussant: P.A. Lichtenberg, *Wayne State University, Detroit, Michigan*

Contrary to societal beliefs, older people living in nursing homes continue to have desires for, and interest in, being sexual (Frankowski & Clark, 2009). However, the right and need to engage in intimate relationships are often ignored in nursing homes, which err on the side of safety and prohibiting intimacy. This is due to the complexities of sexual expression and dementia, lack of training/education, staff attitudes, and the lack of adequate or any policies to guide staff (Villar et al., 2014). Recent studies have shown great need for policy development in sexual expression that balances a right to autonomy with protection from oneself and others, particularly in the context of dementia (American Medical Directors Association, 2013; Tarzia, Fetherstonhaugh, & Bauer, 2012). Within this presentation, we will examine sexual expression practices and policy from international perspectives, highlighting the need for flexible approaches to support sexual expression among older people in nursing home care. First, we will discuss the status quo of sexual expression policy among nursing homes in Australia, contrasting the findings with "best practice." Implications for development and training will be discussed. Second, we will emphasize the importance of resident-informed sexual expression policy; taking into account resident rights and wishes along with administrators and laws/regulations. Data from two studies conducted in the US will be highlighted. Third, we will present a clinical perspective showing how a sexual expression policy was developed and is being implemented in a healthcare

system in Canada. A description of policy development and illustration with case studies will be included.

HOW TO ADDRESS SEXUALITY IN AGED CARE? POLICIES—GOOD, BAD, AND NONEXISTENT!

M. Bauer, D. Fetherstonhaugh, *La Trobe University, Melbourne, Victoria, Australia*

Living in an aged care facility does not diminish the importance of sexuality or the need to express it. To promote an optimal quality of life for people living in aged care, aged care organizations need policies which clearly and consistently address the sexuality needs and activities of residents. This presentation reports data from a sexuality survey sent to all Australian aged care facilities ($n = 2,766$), which indicated that meaningful sexuality policies are lacking and policy frameworks inadequate. The policy landscape as depicted by our data will be examined in light of the introduction of a best practice Sexuality Assessment Tool (SexAT) for aged care facilities. Organizational support for sexuality with respect to policy development, residents' needs, staff education and training, information and support for residents and families and the environment, safety and risk management will be discussed.

RESIDENT-INFORMED SEXUAL EXPRESSION POLICY: AN EXAMINATION OF FUTURE CONSUMERS OF NURSING HOME CARE

M. Syme, G. Doll, L. Cornelison, E. Yelland, J.L. Poey, *Center on Aging, Kansas State University, Manhattan, Kansas*

There is a notable lack of sexual expression policy in nursing homes. Without formal policy, homes determine what is "best," which may not consider the rights/wishes of the resident. We will present two studies conducted in the US underscoring the importance of resident-informed sexual expression policy. The first study is a content analysis of public comments about sexual expression and dementia, in reaction to a *New York Times* article. Comments revealed what factors the public felt should be considered for their future care, including: status/history of the relationship, potential harm, assent, privacy, and others. The second study examines older adults' evaluations of hypothetical sexual activities among nursing home residents. Different levels of each factor (assent, relationship status, cognition) are randomly assigned within vignettes. Appropriateness ratings are examined via a series of ANOVAs. Results are compared with the public comments to further illustrate factors important in crafting policy that is resident-centered.

CLINICAL APPLICATIONS FOR SEXUAL EXPRESSION POLICY AND PROCEDURES IN LONG-TERM CARE HOMES

D. Steele, 1. *Providence Care Mental Health Services, Brockville, Ontario, Canada*, 2. *Lanark Leeds Grenville, Brockville, Ontario, Canada*

Sexual expression is a complex clinical issue within residential care. The noted lack of policies and training for staff and administration has resulted in practices that are often prohibitive with a nursing home setting, and may not support the resident(s) rights and needs for intimacy. This presentation presents a clinical point of view on sexual expression

in long-term care, highlighting case illustrations and the development of a resident-centered policy within a long-term care network in Ontario, Canada. Cases will review common challenges in supporting sexual expression for residents, such as resident-to-resident relationships (where one or both have a spouse/partner), a spouse/partner visiting the nursing home resident and engaging in sexual/intimate behavior, and examples of how different behavioural expressions are (mis)perceived as having sexual intent and suppressed by administration/staff. These cases will be discussed in light of the policy and procedures developed as part of the Lanark, Leeds, and Grenville working group.

SESSION 4150 (SYMPOSIUM)

INNOVATIVE INTERVENTIONS IN ELDER ABUSE PREVENTION AND MITIGATION

Chair: G.M. Gutman, *Simon Fraser University, Vancouver, British Columbia, Canada*

Discussant: C. Thomas, *National Academies of Sciences, Engineering and Medicine, Rockville, Maryland*

Since the mid-1970s when elder abuse first came to public attention in the most developed countries, many interventions have been developed by government agencies, NGOs, and other concerned bodies to address abuse and neglect of older adults. In this symposium researchers from Ireland, Israel and Canada will highlight innovative approaches to awareness raising, case identification, mitigation and prevention, training and tool development in their respective countries. In the case of Canada, there are two presentations. One focusses on the province of Quebec where there is no specific public agency to counter elder abuse. A project, funded by the Social Sciences Research Council of Canada, aimed at understanding the actions of NGOs and especially volunteer actions to counter elder abuse is described. The second Canadian presentation and those from Ireland and Israel highlight strengths and weaknesses and/or changes over time of selected interventions implemented in health-care and community-based settings and services.

INNOVATIVE INTERVENTIONS IN ELDER ABUSE PREVENTION AND MITIGATION: AN IRISH PERSPECTIVE

A. Phelan, *University College Dublin, Dublin, Ireland*

Responding to elder abuse in Ireland occurred relatively late as compared to other countries. The first national policy document, *Protecting our Future* was published in 2002 with a bespoke response service being established in 2007. One of the policy recommendations was the establishment of the National Centre for the Protection of Older People (NCPOP) in University College Dublin to generate Irish based research on elder abuse. This presentation examines the work of the NCPOP and will use selected studies including the piloting of elder abuse screening tools as both a preventative and intervention mechanism and the development of a multi-foci response system to financial abuse of older people. After attending this session, participants will be able to understand elder abuse as a defined problem in Ireland. In addition, participants will identify how baseline data from NCPOP studies has contributed to the development of national responses to elder abuse.

MEANS OF PREVENTION OF ELDER ABUSE—THE ISRAELI EXPERIENCE

A. Lowenstein, *Max Stern Yezreel Academic College, Haifa, Israel*

Israeli society is unique among the worlds' developed countries. Comprised of Jews, Muslims, Christians and Druze, it is a modern country with developed education, health, technology and industry systems, but also with strong religious, traditional, familial and cultural values. Elder abuse and neglect (EA) were recognized only after data from the first National Community Study were released. This paper focusses on two innovations developed to cope with EA: 1) Interdisciplinary Violence Committees established in large hospitals, to receive information from all hospital departments, follow-up and report to the Ministry of Health, and devise links for continuity care after patients are released and 2) within Social Welfare services, Special Units established in each municipality to tackle EA, based on a multi-systematic model for treatment and prevention with interdisciplinary teams staffed by social workers, psychiatrists and medical geriatric experts who provide direct interventions to abusers and victims, raise awareness, and support professionals.

NON-GOVERNMENTAL ORGANIZATIONS AND VOLUNTEER ACTIONS TO COUNTER ELDER ABUSE

M. Beaulieu, *University of Sherbrooke, Sherbrooke, Quebec, Canada*

Non-Government Organisations (NGOs) play an important role in the province of Québec's continuum of services to counter elder abuse (EA) where there is no specific public agency to counter EA. They work in collaboration with police, public health services, victim's assistance centres, etc. This paper describes research aimed at understanding these NGOs and especially their volunteers' actions to counter EA. Multiple case studies (Yin, 2014) of 5 NGOs dedicated to EA including content analysis of administrative documents, 49 interviews (coordinators, practitioners, volunteers and older adults), 5 focus groups (board members) were conducted. Results: Although NGOs perform sensitisation, detection and follow-up of cases, volunteers are more involved in sensitisation/prevention activities. But, based on their past work experience (e.g. police officers, bank managers) volunteers play a crucial role in informing older adults of different possibilities of problem solving. Conclusion: Main challenges for NGOs are precarious funding, recognition of their mission, volunteer turnover.

INTERVENTIONS AND TRAINING TO PREVENT ELDER ABUSE: CANADIAN EXAMPLES

G.M. Gutman, *Gerontology, Simon Fraser University, Vancouver, British Columbia, Canada*

This presentation compares and contrasts federal government awareness raising campaigns conducted in 2009 under the banner "What Every Older Canadian Should Know About Elder Abuse" and in 2010 under the banner "Elder Abuse: It's Time to Face the Reality" with more recent initiatives delivered federally or by Provincial government agencies such as Elder Abuse Ontario which, while including print materials and videos, have tended to be more interactive whether delivered via the Internet or via face-to-face seminars. Selected campaigns delivered by NGOs

will also be highlighted including the "Be a Savvy Senior" campaign developed and delivered by the Canadian Centre for Elder Law in partnership with the Centre for Public Legal Education Alberta and the Government of Canada's Canadian Anti-Fraud Centre.

SESSION 4155 (SYMPOSIUM)

TERMINAL CHANGE IN WELL-BEING: FURTHER EVIDENCE AND NEW INSIGHTS

Chair: O.K. Schilling, *University of Heidelberg, Heidelberg, Germany*

Discussant: M.K. Diehl, *Colorado State University, Fort Collins, Colorado*

Research in geropsychology increasingly considered late-life development in terms of time-to-death-related changes in diverse areas of psychological functioning, including subjective well-being (SWB). By now, accumulated evidence confirmed terminal changes in SWB, so that time-to-death research might increasingly aim for differentiation of and closer insight into terminal processes that involve human well-being. This symposium brings together four papers which address current research questions in the study of terminal changes of SWB, concerning specific processes of time-to-death-related changes involved in SWB, as well as potential variability of the unfold of terminal change in well-being. Thus, the studies present methodological advancements and add to a more nuanced picture of terminal development of SWB.

Schilling & Deeg examined population heterogeneity of time-to-death-related trajectories of depressive symptoms and present a statistical model to include longitudinal study participants that have not died by the end of the study period into the estimation of time-to-death effects. Hülür et al. analyzed dyadic associations of SWB from a time-to-death perspective; i.e. the terminal change of well-being in couples approaching the death of one partner. Wettstein et al. examined differences between close-to-death changes in different facets of well-being within individuals that died at very old age. Palgi et al. addressed terminal change in affective experience in terms of changes of emotional complexity that associated with closeness to death.

Manfred Diehl will discuss the four presentations, highlighting their theoretical and methodological contributions, and considering challenges and opportunities of research on terminal development of SWB outcomes.

MODELING TRAJECTORIES OF TERMINAL DROP OF AFFECTIVE WELL-BEING WITH TIME-TO-DEATH RIGHT-CENSORED

O.K. Schilling¹, D.J. Deeg², *1. Institute of Psychology, Department of Psychological Ageing Research, University of Heidelberg, Heidelberg, Germany, 2. Vrije Universiteit Amsterdam, Amsterdam, Netherlands*

Recent findings suggest that affective development in old age unfolds more time-to-death- than age-related and promote the notion of terminal drop of affective well-being. However, this general picture might have been distorted by the exclusion of longitudinal study survivors in modeling time-to-death-related trajectories and the potential

heterogeneity of dying processes. Therefore, this study presents a longitudinal mixed modeling approach to analyze terminal drop of affective well-being, treating time-to-death as right-censored variable to include the study survivors, and an exploratory analysis of potential heterogeneity of time-to-death-related patterns. Depressive symptoms (CES-D) from the Longitudinal Aging Study Amsterdam ($N = 3107$, 6 measurement occasions, 3-year intervals) were analyzed. The findings confirm a crucial terminal drop dynamic even when those who survived the observation period are included. Moreover, the analyses revealed evidence of considerable heterogeneity of time-to-death-related trajectories, in terms of amount and shape of terminal change in depressive symptomatology.

DYADIC ASSOCIATIONS IN WELL-BEING IN THE LAST YEARS OF LIFE

G. Hülür¹, F.J. Infurna², N. Ram³, D. Gerstorf¹, 1. *Humboldt University, Berlin, Germany*, 2. *University of Arizona, Tempe, Arizona*, 3. *Pennsylvania State University, University Park, Pennsylvania*

Research on terminal decline has generally focused on how the last years of life are being experienced individually. Here, we take a different approach by studying how well-being changes in couples as one partner approaches death. Specifically, we examine how well-being trajectories of the surviving partner are associated with the well-being trajectories of the dying partner. We used annual longitudinal data obtained over 30 years in the German Socio-Economic Panel from 2,156 couples with 20,513 longitudinal observations. Results revealed that late-life well-being trajectories were indeed linked within couples: Yearly well-being fluctuations of the surviving partner were closely associated with yearly well-being fluctuations of the dying partner. The strength of such within-couple links differed between partners and follow-up analyses will target the contributing role of individual and partnership variables. We discuss factors that contribute to within-couple well-being associations and the role of close social relationships in the last years of life.

TERMINAL DROP OF WELL-BEING IN VERY OLD AGE

M. Wettstein, O.K. Schilling, *Institute of Psychology, Department of Psychological Ageing Research, University of Heidelberg, Heidelberg, Germany*

Those who survive into oldest-old age may expect and have developed resilience towards terminal processes, hence showing less terminal decline in well-being than evidenced with samples with a broader range of age-at-death. The present study analyzed time-to-death-related change in a broad range of facets of well-being (affective, eudaimonic, death-related fears), making use of longitudinal oldest-old data ($N=125$, aged 87–96 at baseline) that provides up to 18 measurements with short (3–6 month) intervals, hence enabling observation of changes in close proximity to death. Confirming our expectations, terminal drop did not unfold de-differentiated across all facets of well-being, but appeared pronounced only for indicators of positive affect. Further analyses suggest that this terminal drop was driven by loss of functional abilities. Altogether, the findings point at the oldest-olds' resilience towards terminal experiences – except

the interruption of positive affect due to terminal loss of behavioral competences which are needed for prohedonic activities.

AGE-RELATED AND DEATH-RELATED DIFFERENCES IN EMOTIONAL COMPLEXITY

Y. Palgi¹, A. Shrira², M. Ben-Ezra³, T. Spalter⁴, G. Kave⁵, D. Shmotkin⁶, 1. *University of Haifa, Haifa, Israel*, 2. *Bar-Ilan University, Ramat Gan, Israel*, 3. *Ariel University, Ariel, Israel*, 4. *University of Toronto, Toronto, Ontario, Canada*, 5. *The Open University, Raanana, Israel*, 6. *Tel Aviv University, Tel Aviv, Israel*

Emotional complexity, as seen in covariation between retrospective judgments of positive and negative affects, has shown mixed evidence. We propose that emotional complexity may remain intact or even increase in old age, and yet it decreases in light of functional deterioration shortly before death.

We used 3 large-scale databases: 2 cross-sectional (SHARE, $N=17,437$, $M_{age}=64$; HRS, $N=6,032$, $M_{age}=67$) and 1 longitudinal (CALAS, $N=1,310$, $M_{age}=83$). Hierarchical multiple regressions and multilevel models showed that respondents who perceived themselves as closer to death or were actually closer to death showed lower emotional complexity (a stronger negative correlation between positive and negative affects). Age and emotional complexity were unrelated or positively related, depending on the sample. The results indicate that both subjective and objective closeness to death are associated with lower emotional complexity. This death-related decrease in emotional complexity is discussed within current theories of aging.

SESSION 4160 (SYMPOSIUM)

UNDERSTANDING ALCOHOL USE IN OLDER ADULTHOOD: PSYCHOSOCIAL CORRELATES AND CONSEQUENCES

Chair: P. Sacco, *University of Maryland, Baltimore, Maryland*

Discussant: A. Kuerbis, *Hunter College/CUNY, New York, New York*

Alcohol is the most commonly used substance among adults aged 65 and older, and the prevalence of alcohol consumption is likely to increase in coming years as the baby-boom generation reaches older adulthood. Even though alcohol use is ubiquitous among older adults, aging research specific to alcohol use is limited. In particular, limited research has evaluated factors that drive consumption among older adults as well as psychosocial correlates of use. This symposium will discuss psychological and social factors associated with alcohol use including qualitative data on use, the role of self-medication as a motive for drinking, the relationship of alcohol consumption and elder abuse and alcohol use in long term care settings.

Dr. Haighton will review research focused on self-identified reasons for drinking among older adults, and will discuss her qualitative research directed at understanding reasons for drinking among older adults in the United Kingdom. Using Dr. Haighton's work as a foundation, Drs. Canham and Mauro will delve specifically into the self-medication

theory of drinking among older adults with particular attention toward methodological challenges in studying self-medication. Drs. Teaster and Brossoie will discuss ways in which alcohol use and elder abuse may intersect with a specific focus on how alcohol can contribute to vulnerability to abuse, and Drs. Wolf and Castle will explore an understudied area, alcohol consumption in long term care settings. Discussant Alexis Kuerbis will reflect on current knowledge in psychosocial research focused on alcohol and aging, and identify future directions in research.

PSYCHOLOGICAL AND SOCIOLOGICAL REASONS FOR DRINKING IN OLD AGE: A QUALITATIVE STUDY FROM THE UK

K. Haighton, *Northumbria University, Newcastle upon Tyne, United Kingdom*

Alcohol problems occur in later life and are associated with notable social, psychological, physical and economic consequences. With an ageing population worldwide and a reported increase in alcohol consumption in older people there is growing concern over this public health issue. In order for health professionals to successfully intervene with older people who are experiencing alcohol problems it is important to understand the underlying factors that may increase consumption of alcohol. This presentation will combine data from a UK based qualitative study aimed at understanding older people's reasoning about drinking in later life with key academic literature in order to identify psychological and sociological reasons for drinking in old age. Alcohol use has been associated with stressful life events, self-medication, boredom, loneliness, isolation, and homelessness as well as enjoyment and socialization. The direction of causality in the relationship between alcohol use and many of these factors is often in doubt.

ALCOHOL SELF-MEDICATION AMONG MIDDLE-AGED AND OLDER ADULTS

S.L. Canham¹, P.M. Mauro², *1. Gerontology Research Centre, Simon Fraser University, Vancouver, British Columbia, Canada, 2. Columbia University, New York, New York*

Middle-aged and older adults use alcohol for various reasons, including to self-medicate. Self-medication is the use of alcohol or other substances to relieve discomforting physical/mental health symptoms or to cope with negative affect. Understanding the reasons why middle-aged and older adults use alcohol and providing alternatives to alcohol are important steps toward reducing the morbidity of alcohol use disorders in this population. The goals of this presentation are to review: the prevalence of self-medication with alcohol among adults in mid- and late-life; reasons for self-medication with alcohol; and potential outcomes of self-medication with alcohol in later life. We propose a conceptual model to help synthesize the literature and aid in hypothesis development and testing. We then review measurement issues, including how to identify middle-aged and older adults who may be self-medicating with alcohol, and discuss treatment and prevention opportunities. This presentation concludes by highlighting avenues for future research.

EXPLORING THE INTERSECTION OF ELDER ABUSE AND ALCOHOL MISUSE

P.B. Teaster, N. Brossoie, *Human Development, Virginia Polytechnic Institute & State University, Blacksburg, Virginia*

Life experiences in older adulthood may be more heterogeneous than at any other time across the lifespan; adults' daily activities typically transition from full-time employment and family responsibilities to retirement and increased leisure activities. For some, older adulthood may be a time when persons are increasingly reliant upon others for help, especially if physical or mental health declines. One consequence of increased vulnerability may be a heightened increased risk for abuse, neglect, and exploitation, a vulnerability exacerbated if alcohol is being misused in the home setting. In this presentation, we explore the intersection of elder abuse and alcohol misuse, beginning with definitions of elder abuse followed by theoretical constructs and frameworks for conceptualizing both problems. Next, we examine settings of abuse and scholarly literature on victims and perpetrators, specifically what is known about the contribution of alcohol to the problem. We then discuss responses to the problems of elder abuse and alcohol misuse and conclude with recommendations for future for research and practice.

ALCOHOL USE DISORDERS (AUDS) AND MISUSE FOR SENIORS LIVING IN LONG-TERM CARE (LTC)

D.G. Wolf¹, N.G. Castle², *1. Health Services Administration - PACE, Barry University, Delray Beach, Florida, 2. University of Pittsburgh, Pittsburgh, Pennsylvania*

Alcohol use disorders (AUDs) and misuse for seniors living in long-term care (LTC) settings (i.e., assisted living facilities, nursing homes, and senior high-rise communities) will be examined during this session. AUDs among seniors has been called the "invisible epidemic" and have long been advocated as a priority area for attention and action. LTC residents with AUDs and misuse of alcohol are more likely to suffer from illness and may also have a higher mortality rate along with significantly greater use of health services. AUDs often goes undetected in these LTC populations, therefore detection will be discussed. Moreover, seniors with AUDs also present a variety of challenges for LTC staff, thus caregiving options will also be discussed. Given the potential importance of AUD and misuse on the health and quality of life for seniors, more research in this area is warranted and future implications for this research will also be examined.

SESSION 4165 (SYMPOSIUM)

TECHNOLOGY TO SUPPORT HEALTH, WELL-BEING, AND PRODUCTIVITY OF OLDER ADULTS: PERSPECTIVES FROM CREATE

Chair: W.R. Boot, *Florida State University, Tallahassee, Florida*

Discussant: C.C. Quinn, *University of Maryland School of Medicine, Baltimore, Maryland*

Technology enriches and enhances our everyday lives and can support health, wellbeing, and productivity. Unfortunately, barriers exist that prevent many older adults

from taking full advantage of the potential of technology. The Center for Research and Education on Aging and Technology Enhancement (CREATE) is dedicated to understanding and overcoming barriers to technology use so these benefits can be realized by everyone, regardless of age. This symposium will focus on technology to support older adults and factors related to older adult technology use and adoption in a variety of contexts. W. Rogers will present an overview of older adult technology use derived from representative U.S. samples and important factors influencing technology adoption. W. Boot will discuss the critical role of technology proficiency in adoption and how to quickly and easily assess proficiency with respect to desktop and tablet-based computers in older adult samples. In the domain of work, J. Sharit will discuss the implications of rapid changes in technology for older workers, and the promises and pitfalls of technology in the workplace. In the domain of medicine, N. Charness will present studies related to the successful adoption of telehealth devices in different populations (healthy older adults and older adults with heart failure). S. Czaja will present CREATE data related to the potential of technology to support social engagement and support for older adults at risk for social isolation. Discussant C. Quinn will highlight common themes across talks and provide additional insight into the potential of technology.

UNDERSTANDING INDIVIDUAL AND AGE-RELATED DIFFERENCES IN TECHNOLOGY ADOPTION

W.A. Rogers⁴, T.L. Mitzner¹, W.R. Boot², N.H. Charness², S.J. Czaja³, J. Sharit³, 1. *Georgia Institute of Technology, Atlanta, Georgia*, 2. *Florida State University, Tallahassee, Florida*, 3. *University of Miami, Miami, Florida*, 4. *University of Illinois Urbana-Champaign, Champaign, Illinois*

Older adults, as a group, tend to be slower than younger adults to adopt new technologies. These differences are well illustrated in the Pew data sets, which we will summarize briefly. However, within each age group, there are individual differences in rates of adoption. We will provide an overview of the factors that predict technology adoption early (i.e., related to perceptions of ease of use or usefulness) as well as over time. The PRISM trial provided a unique opportunity to assess predictors of use over the course of one year. We will present these data, as well as other examples, to identify predictors of technology adoption across and within age groups. Understanding these individual and age-related differences can provide guidance for the deployment of new technologies that may be beneficial to users in terms of health benefits, social interaction, or cognitive engagement.

OLDER ADULT TECHNOLOGY PROFICIENCY AND TECHNOLOGY ADOPTION

W.R. Boot¹, N. Roque¹, N.H. Charness¹, W.A. Rogers², T.L. Mitzner², S.J. Czaja³, J. Sharit³, 1. *Department of Psychology, Florida State University, Tallahassee, Florida*, 2. *Georgia Institute of Technology, Atlanta, Georgia*, 3. *University of Miami, Miami, Florida*

Older adults with low technology experience may not have the proficiency to take advantage of technology to support wellbeing, independence, and productivity. Low proficiency may then reinforce the decision not to adopt technology.

This talk will discuss the critical role of technology proficiency with respect to adoption and how to measure proficiency across common computing platforms (desktop and tablet computers). Data from two large intervention studies will explore the proficiency of socially isolated older adults and how proficiency relates to previous and subsequent technology use. New brief measures of proficiency designed for research and training purposes will be highlighted.

TECHNOLOGY AND WORK: IMPLICATIONS FOR OLDER WORKERS AND ORGANIZATIONS

J. Sharit, S.J. Czaja, *University of Miami, Miami, Florida*

Two demographic trends are shaping today's work environment: the rapid influx of technology and the increase in the number of older workers. Technology is reshaping work processes, the content of jobs, where work is performed, communication strategies, and the delivery of education and training. These workplace changes are creating both opportunities and challenges for older workers. For example, telework offers people the opportunity to work at home with more flexible work schedules. However, continual evolutions in technology mean that workers need to continually engage in training and update their skills. This presentation will discuss the potential impact of the continual deployment of technology in the workplace on older workers. Data will be presented from the Center for Research on Aging and Technology Enhancement (CREATE) on barriers older adults confront when seeking employment, studies examining training older workers to learn new technology skills, and managerial attitudes towards older workers as teleworkers.

CONSTRAINTS ON TELEHEALTH ADOPTION AND USE BY OLDER ADULTS

N.H. Charness¹, W.R. Boot¹, J. Evans¹, R. Best¹, J. Taha², J. Sharit², S.J. Czaja², 1. *Florida State University, Tallahassee, Florida*, 2. *University of Miami, Miami, Florida*

Telehealth technologies have the potential to deliver effective health care more affordably and conveniently than in-person delivery, particularly for managing chronic conditions affecting 75% of seniors age 65+ yr. We report on factors affecting acceptance (watch comfort study), system and human reliability (remote monitoring), and usability (health portal). For the watch comfort study, results suggest that designing for comfort and aesthetics can facilitate acceptability for all age groups. In the remote monitoring study, older adults with and without heart failure reliably used telehealth components daily at least 70% of the time over a 6-month interval and system availability exceeded 90%. For the health portal study, 86% of older adults indicated willingness to use a health portal and Individual differences in numeracy and Internet experience predicted their performance on simulated health portal tasks. Results underline the importance of design and training for telehealth adoption and use.

THE ROLE OF TECHNOLOGY IN SUPPORTING SOCIAL ENGAGEMENT AND SOCIAL SUPPORT AMONG OLDER ADULTS

S.J. Czaja¹, J. Sharit¹, W.R. Boot², N.H. Charness², W.A. Rogers³, 1. *Psychiatry and Behavioral Sciences, University of Miami, Miami, Florida*, 2. *Florida State*

University, Tallahassee, Florida, 3. University of Illinois, Champagne Urbana, Champagne Urbana, Illinois

Social isolation is prevalent among community dwelling older adults especially those who live in rural locations, have mobility restrictions and live alone. It is also common among older adults living in assisted living facilities or other types of residential institutions such as nursing homes. Technology applications such as the email, social media sites and online support groups hold promise in terms of enhancing engagement and providing support to older people in various contexts and enhancing their quality of life and ability to live independently. This paper will present findings from CREATE and other trials regarding the access to and use of these applications among older adults and the resultant impact on the social connectivity, loneliness and social support. Barriers to access and challenges regarding the use of these applications will also be discussed as well needed areas of future research to maximize the benefits for technology to enhance social engagement.

SESSION 4170 (SYMPOSIUM)

THE GERMAN AGEING SURVEY: RECENT FINDINGS FROM A COHORT SEQUENTIAL STUDY ON THE SECOND HALF OF LIFE

Chair: C. Tesch-Roemer, *German Centre of Gerontology (DZA)*

The German Ageing Survey (DEAS) is the most important study on individuals in the second half of life in Germany. DEAS is a nationwide representative, thematically broad survey of the German population aged 40 and older, combining cross-sectional and longitudinal data. The aim of the symposium is to present the diversity of topics and analytical opportunities of the DEAS-data which are available to the scientific community. Each presentation has a different approach to the data and will use a different analytical strategy. Wolff et al. present on cohort differences in several aspects of health over a period of 18 years. Huxhold et al. show how the dynamic interplay of health problems and successful ageing differs by socio-economic status. Mahne makes use of the three-generation perspective in DEAS to analyze financial transfers to grandchildren. Klaus and Baykara-Krumme develop a typology of late-life parent-child relationships comparing migrant and non-migrant families. Looking at the transition to retirement, Wetzel analyzes who has difficulties in adjusting to this central event in later life.

COHORT DIFFERENCES IN HEALTH: HOW HEALTHY ARE FUTURE GENERATIONS OF OLDER ADULTS IN GERMANY?

J.K. Wolff, S. Nowossadeck, S. Spuling, *German Centre of Gerontology, Berlin, Germany*

Whether the increasing life expectancy in countries experiencing population aging is accompanied by compression or expansion of morbidity is an ongoing debate. The current study investigates one important factor in this debate: the development of health status in subsequent generations. Data from four cross-sectional samples aged 40–85 of the German Ageing Survey were used to estimate cohort differences in

three health facets (number of diseases, functional health, and depressive symptoms) and one health behavior (physical activity) across 18 years (1996–2014). Logistic regression models showed positive trends for people currently aged 65 and older with better health and more physical activity in younger cohorts. However, for individuals aged 40–65 functional health decreased whereas depressive symptoms increased from 2008 to 2014. Results indicate that later-born cohorts do not necessarily show better health status. Possible explanations such as increases in work stress or multiple demands of family and work are discussed.

THE DOUBLE JEOPARDY OF HEALTH-IMPAIRED ADULTS OF LOW SOCIO-ECONOMIC STATUS

O. Huxhold¹, S. Spuling¹, M. Wetzel², J.K. Wolff¹, 1. *Research, German Centre of Gerontology, Berlin, Berlin, Germany*, 2. *University of Cologne, Cologne, Germany*

Numerous studies have found social inequality in health in older ages. Furthermore, a low socio-economic status also indicates limited access to resources for coping with health impairments. Thus, older adults of with a low socio-economic status may show more negative reactions to health problems across a variety of indicators of successful aging. Using data from the German Aging Survey (DEAS) we examined the interacting dynamics of physical health problems with self-rated health, positive affect, and activities. In line with our expectations, physical health influenced self-rated health more strongly in lower educated than in higher educated adults. Positive affect was increasingly impaired by health problems with advancing age but only in adults with low education. Similarly, health impairments in retirement limited the engagement in activities only if the education level was low. Summing up, multimorbidity may pose a particular threat for successful aging of older adults with a low socio-economic status.

TIGHT KNIT OR DETACHED? PARENT-CHILD RELATIONSHIPS IN MIGRANT AND NON-MIGRANT FAMILIES IN GERMANY

D. Klaus¹, H. Baykara-Krumme², 1. *German Centre of Gerontology, Berlin, Germany*, 2. *University of Duisburg-Essen, Duisburg, Germany*

We compared parent-adult child relationships in migrant and non-migrant families in Germany. Most research in this field considers single dimensions of the intergenerational solidarity paradigm, but little is known about family types based on multiple dimensions. The typological approach enabled us to test two opposing hypotheses about the impact of migration on families: Does migration enhance or weaken family ties? We used the German Ageing Survey (2008, 2014) which includes non-migrants and migrants aged 40 to 85. We aimed at replicating existing typologies of late-life parent-child relationships for migrants in Germany. Moreover, we tested whether differences in the prevalence of family types across our groups prevailed after controlling for socio-demographic and socio-economic variables. Preliminary findings suggest a similar structure of family types, but also strong impacts of origin and migration: In migrant families tight-knit relations are more common and rates of detached relationships are lower than in non-migrant families.

IS IT DIFFICULT TO ADJUST FOR EVERYONE? EXPLAINING RETIREMENT ADJUSTMENT WITH LIFE COURSE DATA

M. Wetzel, *Institute of Sociology and Social Psychology (ISS), University of Cologne, Cologne, Germany*

Adjustment to retirement is crucial for successful ageing. However, not everybody has the same chance to adapt well. Following a life course approach, different facets may predict the success, in particular previous life experiences, timing of retirement, interdependence with others, and access to resources. Using data of the German Ageing Survey (DEAS) allows us to use a broad range of life course characteristics for predicting whether or not a retiree reports difficulties in adjustment. Preliminary results show that about 30 percent of retirees age 60 to 75 reported difficulties in adjusting. While timing, disrupted employment biographies and access to resources showed high prevalences, early child adversity and having other people around did not predict difficulties. Different effects were found by gender and education, while effects differed only marginal by period. We discuss these findings in respect to other findings in retirement adjustment.

SESSION 4175 (SYMPOSIUM)

A SAMPLE OF QUALITY OF LIFE RESEARCH FROM THE CANADIAN CONSORTIUM ON NEURODEGENERATION IN AGING

Chair: K. McGilton, *Toronto Rehabilitation Institute - University Health Network, Ontario, Canada*

Discussant: K. Rockwood, *Dalhousie University*

The Canadian Consortium on Neurodegeneration in Aging (CCNA) provides the infrastructure and support that facilitates collaboration amongst Canada's top dementia researchers. By accelerating the discovery, innovation, and the adoption of new knowledge, the CCNA positions Canada as a global leader in increasing understanding of neurodegenerative diseases, working in the areas of prevention, treatment and quality of life.

The goal of the CCNA is to offer a collaborative and synergistic space that attracts the best researchers in the field. Together, researchers work on transformative ideas to positively impact the quality of life and the quality of services for individuals living with neurodegenerative diseases. In fact, seven research teams are dedicated to one of CCNA's overarching themes, quality of life.

This symposium will focus on showcasing the work of 5 teams within the Quality of Life theme all of whom focus on persons with dementia. Specifically, researchers from Team 16 will share a driving cessation decision-making and coping framework and toolkit. Team 17 will describe how dual sensory and cognitive loss influence every day functioning and quality of life. Team 18 will discuss a group psychotherapy intervention to support dementia family carers in managing work-life conflicts. Team 19 will present the impact of primary care interventions on the knowledge attitudes and practices of clinicians and their association with quality of dementia care. Finally, Team 20 will discuss the implementation of community based participatory action research to

improve approaches to dementia care in Indigenous populations in Canada..

A DRIVING CESSATION DECISION-MAKING AND COPING FRAMEWORK AND TOOLKIT FOR PEOPLE WITH DEMENTIA

G. Naglie^{1,2,3}, S. Sanford¹, M.J. Rapoport^{4,2}, 1. *Baycrest Health Sciences Centre, Toronto, Ontario, Canada*, 2. *University of Toronto, Toronto, Ontario, Canada*, 3. *Toronto Rehabilitation Institute, Toronto, Ontario, Canada*, 4. *Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada*

We have developed an evidence-based intervention framework to support drivers with dementia and their caregivers when they make decisions about driving, and navigate the process of driving cessation. A range of knowledge creation and synthesis activities were employed, including reviews on relevant topics such as driving cessation interventions, and psychotherapeutic interventions for older adults with cognitive impairment. The study also employed qualitative methods to explore the perspectives of key stakeholders on strategies supportive of the transition to non-driving. Following a meta-synthesis of the findings, we have developed a framework to organize interventions according to different thematic content areas (e.g., awareness-raising, mobility support, emotional support). Tools and resources that address driving cessation have also been collected, reviewed and organized according to content areas. These will comprise a toolkit that can inform health professionals about how to support drivers and ex-drivers with dementia and their caregivers as they transition to driving cessation.

SENSORY AND COGNITIVE FUNCTION IN DEMENTIA: IMPLICATIONS FOR ASSESSMENT AND QUALITY OF LIFE (QOL)

N. Phillips¹, D.M. Guthrie², P. Mick³, M. Pichora-Fuller⁴, W. Wittich⁵, 1. *Psychology, Concordia University, Montreal, Quebec, Canada*, 2. *Wilfred Laurier University, Waterloo, Ontario, Canada*, 3. *University of British Columbia, Kelowna, British Columbia, Canada*, 4. *University of Toronto-Mississauga, Mississauga, Ontario, Canada*, 5. *Universite de Montreal, Montreal, Quebec, Canada*

Older adults with hearing loss (HL), visual loss (VL), and/or cognitive impairment (CI) have poorer health outcomes. There is a strong relationship between HL, VL, CI, and incident dementia. Potential mechanisms include common biological substrates, exhaustion of cognitive reserve, and/or increased social isolation from communication difficulties. Our team examines co-relationships between HL/VL and CI in persons with dementia in the Canadian Consortium for Neurodegeneration in Aging (CCNA). We will review our recent work which has: 1) examined the relationship between CI and sensory loss on quality of care in home care; 2) examined the relationship between HL, VL, social network diversity, social participation, social support, and loneliness in the Canadian Longitudinal Study of Aging (CLSA); and 3) examines the incidence of HL and VL and their relationship with CI in CCNA participants. We will discuss the

implications of our findings using these unique datasets for function and well-being.

A GROUP PSYCHOTHERAPY INTERVENTION SUPPORTING DEMENTIA FAMILY CARERS IN MANAGING WORK-LIFE CONFLICTS

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The Reitman Centre Working CARERS Program (RCWCP) is an evidence-informed, small-group therapy intervention designed for individuals juggling employment and dementia caregiving. A series of research is underway to ascertain its clinical effectiveness, perceived impact, and rural adaptability. Here, we present a qualitative study employing the life-course role identity theoretical framework. In-depth interview data from 30 former RCWCP participants was analyzed using the narrative analysis approach. Findings indicated that the extent to which knowledge and skills acquired from RCWCP may be applied is related to the working carer's lived experience, which is shaped by gender-role identity, dyadic relationship, and work-life conflicts. Rich narratives also revealed conflicting demands across the roles of employee and carer. Targeted and tailored carer interventions such as the RCWCP can proactively respond to the shifting demographics and needs of this diverse sub-population of dementia family carers. Our findings will guide the national dissemination and adaptation of RCWCP.

ALZHEIMER'S PLAN: IMPACT ON CLINICIANS' KNOWLEDGE, ATTITUDES AND PRACTICE AND QUALITY OF DEMENTIA CARE

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In 2013, the Quebec government implemented an Alzheimer Plan (AP) to improve dementia patients' management in primary care. We aimed to evaluate the impact of this intervention on the clinicians' knowledge, attitudes, and practices (KAP) and their association with the quality of dementia care. To this end, clinicians' questionnaires were distributed between 2014 and 2015 to all clinicians in the 42 participating family medicine groups (FMGs) and two sets of retrospective patients' charts were extracted from 13 of those FMGs: one pre-AP (2011–2013) and one post-AP (2014–2015). Overall, clinicians showed excellent clinical knowledge and competency, positive attitudes toward dementia, patient care, and the AP while the chart review revealed a significant increase of the quality of dementia care after the AP. The association between those variables will be further discussed. Decision-makers plan to use these results to refine the AP before province-wide dissemination.

IMPLEMENTING COMMUNITY-BASED RESEARCH TO ADDRESS DEMENTIA CARE IN INDIGENOUS POPULATIONS IN CANADA

K. Jacklin¹, C. Bousassa², 1. *Human Sciences, Northern Ontario School of Medicine, Sudbury, Ontario, Canada*, 2. *First Nations University of Canada, Regina, Saskatchewan, Canada*

Dementia diagnoses have been increasing in Indigenous populations for over a decade and have now surpassed rates in non-Indigenous Canadians. This trend along with community-driven research priorities serve as the rationale for a program of research addressing dementia care in Indigenous communities that is embedded as "Team 20" within The Canadian Consortium on Neurodegeneration in Aging (CCNA). In this paper we describe the community-based participatory action research strategy we have implemented in Canada to begin to address this emerging health issue. We incorporate a health equity lens and "Two Eyed Seeing" in our strategy to address power imbalances between knowledge systems and to ensure the prioritization of Indigenous knowledge. At a time when concepts such as patient-engagement, patient-oriented research, community engagement and socially accountable medicine gain momentum internationally, the work of "Team 20" serves as a valuable example of community-based research informed by Indigenous knowledge within a national dementia research strategy.

SESSION 4180 (PAPER)

LONELINESS AND SOCIAL ISOLATION IN LATER LIFE

A THEORETICAL APPROACH OF SOCIAL ISOLATION: MECHANISMS OF EMERGENCE AND PERSISTENCE

A. Machiels, *University of Humanistic Studies, Utrecht, Netherlands*

In this paper a theory on social isolation is developed, that offers insight in the emergence and persistence of social isolation, and in the possibilities for solutions and improvements of the situation of socially isolated elderly. Giddens' structuration theory is used to unravel in which way the socially isolated perpetuate or even aggravate their situation. A deeper analysis is made of several basic concepts of Giddens' theory, which are very useful for a theoretical approach to social isolation. Selection of these concepts is based on theoretical considerations and on the knowledge and insights that empirical research into social isolation has produced. Concepts such as practical and discursive consciousness, rules and resources, routinization and unintended consequences of actions can offer a better understanding of the mechanisms on which the emergence and persistence of social isolation are based. It becomes clear that the emergence and persistence of social isolation is the unintended consequence of patterns that people follow in their actions. The socially isolated elderly act mainly on the basis of their practical consciousness, thus sliding further away from the goals they want to realize for themselves. This strategy often lands them in greater isolation. To arrive at a theory that provides points of reference for policy and interventions, this theoretical approach is as necessary as the very explanations and experiences of socially isolated of the socially isolated themselves.

OLDER ASIAN IMMIGRANTS' LONELINESS IN NEW ZEALAND

V.A. Wright-St Clair¹, S. Nayar², 1. *AUT Centre for Active Ageing, Auckland University of Technology, Auckland, New Zealand*, 2. *University of Greenwich, London, United Kingdom*

New Zealand operates a family reunification program for older adults, but without formal resettlement assistance. This grounded theory study explored how older Asian immigrants participate in communities. Seventy-four older Chinese, Indian, and Korean immigrants, resident in New Zealand for at least six months, were recruited through community intermediaries. Data were gathered in the participants' language of choice through nine ethnic-specific focus groups, three within each ethnic community. Then, fifteen participants who had engaged in the focus group interviews, five from each ethnic community, were theoretically-sampled for individual interview. Audio-taped data were transcribed and translated into English for analysis, using memoing and constant comparative analysis. Schatzman's dimensional analysis method was used to construct the substantive theory. When the theoretical components were observed as similar across the three ethnic-specific theories, one cross-cultural theory was developed using Berry's derived etic method. Alongside the data which explained how these older Asian immigrants participated in diverse ways to strengthen, particularly their co-ethnic, communities, were data disclosing social isolation as a common circumstance, and loneliness as an unintended consequence of living within the unfamiliar host community. One implication is for the host society to consider how it prepares local communities to actively engage in how they welcome new arrivals from disparate societies.

WHAT I FEEL AND DO WHEN I FEEL LONELY: A QUALITATIVE STUDY ON OLDER ADULTS' COPING WITH LONELINESS

E. Schoenmakers, I. Tindemans, *Fontys University of Applied Sciences, Eindhoven, Netherlands*

Loneliness is considered to be a highly individual experience, suggesting that dealing with loneliness requires a tailored approach. However, little is known about how older individuals react to feelings of loneliness. This study examines how older adults experience their loneliness and what they do when feeling lonely. Using a semi-structured topic list, interviews were held with community dwelling older adults (aged 74–91) who considered themselves to be lonely or lacking in contacts. Qualitative thematic analysis (Braun & Clarke, 2006) was performed to analyze the data. In line with previous studies, respondents considered loneliness to be a subjective, negative experience following the lack of (quality of) certain relationships. Loss of loved ones and loss of mobility were considered to be common causes. Feelings of inferiority and missing affection were considered to be common outcomes. Respondents indicated feeling lonely while being alone and in company. Winters and evenings were perceived to be lonelier than summers and daytime. Experiences with and reactions towards loneliness fit within coping theory (Lazarus & Folkman, 1984). All respondents considered their loneliness to be stressful (primary appraisal). Several respondents considered themselves unable to cope with their own loneliness, others tried problem-focused and

emotion-focused coping options for coping with their loneliness (secondary appraisal). Older adults are unsuccessful in coping with their loneliness. Some don't know how to cope and even those who try coping, still feel lonely. This study shows that coping theory can be a useful framework for understanding how older adults react to loneliness.

LONELINESS IN OLDER HISPANICS: WHO MATTERS MORE—FRIENDS OR FAMILY?

M.K. Peek, *Preventive Medicine and Community Health, University of Texas Medical Branch at Galveston, Galveston, Texas*

Loneliness in older adults has been shown in prior research to be predictive of increased morbidity and mortality and is a major public health problem among older adults in the US. Research has shown there to be a difference between subjective loneliness and objective loneliness (social isolation), in that older adults living alone are not necessarily lonely if they remain socially engaged. In addition, recent research shows that there is a difference in loneliness between cultures that are more family oriented and ones that are more individualistic, driving the theory that loneliness overall as a construct needs to be examined in culture-specific framework. We propose that loneliness in older Hispanics, despite their historically familial framework, will be more affected by friends rather than family. These hypotheses support prior cross-sectional research on an older Hispanic American population in which we wish to build upon with longitudinal analysis. Using four waves of the H-EPESE data (n=1682), we estimated discrete time hazard models to predict the onset of loneliness over a 10-year period. In fully adjusted models, we found that frequency of contact with friends was protective against developing loneliness (OR=0.53, 95% CI 0.38–0.75), while number of close family members was associated with increased likelihood of developing loneliness (OR=1.16, 95% CI 1.03–1.30). Our findings have important informal care implications with friends potentially having a greater role in the mental health of older Hispanics than previously thought.

OLDER ADULTS AND SOCIAL ISOLATION—IS THERE STILL A ROLE FOR COMMUNITY DROP-IN SENIORS' CENTRES?

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Community drop-in centres offer social support for older adults by providing opportunities for social connection. Seniors' centres operate according to a self-help paradigm and are cost effective, functioning largely through volunteer contributions. Seniors' centres are found in rural communities across Canada, as well as within neighborhoods in cities. Health and social service system changes, including an emphasis on aging in place, have increased pressure on these organizations to provide more services and supports for seniors. As the population ages, there is an increased need for community-based social opportunities for older adults. As a result, seniors' centres will require support to stay relevant, maintain existing programs, and effectively deal with the increasingly complex needs of this growing population.

This presentation will discuss findings from a community-based study examining social isolation of rural older adults in Saskatchewan, Canada. Data was gathered through interviews with twenty-seven older adults; focus groups; and world cafe discussions facilitated as part of two community workshops attended by older adults and health providers.

Participants in this study identified barriers to regular attendance at community seniors' centres including the impact of exclusionary cliques, spatial and territorial claims of the membership, limited activities and hours of operation, and stigma associated with membership. These centres were also identified as an existing community resource that should be meeting social engagement needs of older adults. Participants discussed ideas to reduce stigma, increase interest and attendance, and re-establish seniors' centres as a positive source of social identity and interaction for older adults.

SESSION 4185 (SYMPOSIUM)

PSYCHOLOGICAL ADAPTION ACROSS RETIREMENT TRANSITIONS: RESULTS FROM THE HEARTS STUDY

Chair: M. Lindwall, *University of Gothenburg, Sweden*

Co-Chair: B. Johansson, *Goteborgs Universitet*

Retirement is a major life event representing the transition into a new period of life that signals aging at the individual and societal level. The retirement transition highlights the very basic challenge of psychological aging as the capacity to adapt, not only to biological changes but to changes, demands, and expectations in the environment that contribute to an altered lifestyle, including changes in physical, cognitive and social activities, which in turn can affect psychological health. Although continuity is the default expectation according to previous findings showing that people are actively managing their transition to create continuity, contentment, or reconciliation with their new status", retirement requires coping and adaptation in which psychological health can be challenged. Therefore, there is a need to better understand associations of continuity and change in psychological health before and following retirement because of its significance in defining the new life challenges to which older adults have to adapt when they enter the third age or retirement due to age. In the symposium, a recent longitudinal study highlighting psychological adaption across retirement transitions, the "Health, Aging and Retirement Transitions in Sweden" (HEARTS) study, will be described along with results from the first and second waves. The four presentations in the symposium will highlight: (a) a general overview of the HEARTS study design, along with possibilities for collaboration and access to data; (b) life-satisfaction from a resource perspective; (c) personality profiles and adaption to retirement; (d) if late retirement is a health risk.

THE HEALTH, AGEING, AND RETIREMENT TRANSITIONS IN SWEDEN (HEARTS) STUDY

M. Lindwall, B. Johansson, *University of Gothenburg, Gothenburg, Sweden*

The HEalth, Ageing and Retirement Transitions in Sweden (HEARTS) study was designed to study psychological health in the years before and following retirement and to examine

change and stability patterns related to the retirement event. Out of the recruited nationally representative population-based sample of 15 000 Swedish individuals between the ages of 60 and 66, 5 913 individuals completed the baseline sample of the HEARTS study in spring 2015. The majority of the participants (68.8%) completed a web-based survey, and the rest of the participants (31.2%) completed a paper-version of the survey. The baseline HEARTS sample represents the general population well in terms of gender and age. However, the HEARTS sample is better educated. Roughly 80% of the baseline sample completed wave two measurements in spring 2016. Results from the two first waves will be presented along with information concerning collaboration possibilities and how to get access to data.

THE ROLE OF PERSONALITY IN THE ADAPTATION TO RETIREMENT

G. Henning, M. Lindwall, B. Johansson, I. Hansson, A. Berg, *University of Gothenburg, Gothenburg, Sweden*

While personality has been believed to moderate individual adjustment to retirement, no prospective study has yet investigated this assumption. We used data from two waves of the HEARTS (Health, Aging, and Retirement Transitions in Sweden) study (N=5,913, Age 60–66). We applied latent profile analysis to find personality profiles based on the Big 5 personality traits with data from the first wave. The analysis supports a four class solution. In preliminary analyses, we find personality profile to predict depressive symptoms both cross-sectionally and prospectively. Furthermore, we find that involuntary retirement between waves is associated with an increase in depressive symptoms. Persons with a specific personality profile (so called "undercontrollers"), experience stronger effects of involuntary retirement. Further effects and possible pathways will be investigated next and presented at the conference.

LIFE SATISFACTION IN THE RETIREMENT TRANSITION: A RESOURCE-BASED DYNAMIC PERSPECTIVE

I. Hansson, S. Buratti, A. Berg, B. Johansson, *University of Gothenburg, Gothenburg, Sweden*

Applying a resource perspective, present study investigates how self-esteem, autonomy, social support and self-rated physical health contribute to life satisfaction in different retirement stages. In particular, effects of resource interdependency were analyzed before, during and after the retirement transition. The study was conducted using data from the HEalth, Ageing and Retirement Transitions in Sweden (HEARTS) study, including not yet retired (N=3195), partly retired (N=597) and fully retired (N=1125) individuals. Results from three separate regression analyses show that the four resources together accounts for 39–45% of the variation in life satisfaction. Further, multiple interaction effects (both positive and negative) was found for partly and fully retired individuals, indicating that the four resources play different roles in different retirement stages. Our findings show that the retirement transition is a turbulent period where the individual's well-being is influenced by the interaction between many factors.

IS LATE RETIREMENT A HEALTH RISK IN SWEDEN?

S. Koenig, M. Lindwall, B. Johansson, *University of Gothenburg, Gothenburg, Sweden*

Recent research argues that pension reforms increased social inequalities since some groups might need to work longer for financial reasons. Involuntary late retirement can play a role for changes after retirement with regard to health and wellbeing.

I use the first two waves from the "Health, Ageing and Retirement Transitions in Sweden" (HEARTS) survey to analyze retirement transitions and changes in health and wellbeing depending on the age of retirement. The cross-sectional results indicate that later retirement is related to worse health for lower educated, while there are no differences with regard to retirement age for higher educated individuals. This picture is even more pronounced among those with low control over their retirement timing.

This study aims to reach a better understanding of retirement effects on health by including retirement age. Discussions on increasing retirement ages should acknowledge health differences by educational level among those who (have to) retire late.

SESSION 4200 (SYMPOSIUM)**IMPROVING LONG-TERM CARE SERVICES WITH INTERNATIONAL STANDARDIZED INSTRUMENTS**

Chair: I. Chi, *University of Southern California, Los Angeles, California*

Co-Chair: V. Lou, *The University of Hong Kong, Hong Kong, Hong Kong*

This symposium will include speakers from Japan, Korea, Taiwan and Hong Kong and the focus of the symposium is on the adoption of international standardized instruments from interRAI to improve the long term care services in their respective countries and region. The presenters are researchers and/or clinicians from four Asian countries and region who have applied interRAI assessment instruments in their long term care settings for many years. The speaker from Japan will present the results of an evaluation study on the quality of Japanese home care planning agencies by the quality indicators developed from the interRAI Home Care assessment data. These results could be used to market the agency's strengths and to focus the areas for total quality improvement. Guided by the Chronic Care Model, the Korean speaker will present the study design and preliminary results of evaluating the systems for Person-Centered Elder care management model in South Korea using interRAI LTCF and other assessment tools. The speaker from Taiwan will report the research findings on the interRAI LTCF's Resident Assessment Protocol triggers as effective indicators for understanding the care complexity and predicting for physical functional decline of nursing home residents in Taiwan. Finally, speaker from Hong Kong will talk about applying interRAI instrument for screening and outcome measures to evaluate a Pleasant Mood and Active Life intervention to reduce the depressive symptoms among the long term care facility residents.

EVALUATING THE QUALITY OF JAPANESE HOME CARE PLANNING AGENCIES BY THE TERRAI QUALITY INDICATORS

N. Ikegami¹, T. Ishibashi², 1. *St Luke's International University, Tokyo, Japan*, 2. *The Dia Foundation, Tokyo, Japan*

In 2000, Japan established a public long-term care insurance that provides benefits in kind up to the amount of US\$3,600 per month for those living in the community. However the evaluation of quality has been limited to structural aspects such as adherence to staffing standards. Systematic assessment of care recipients has not been mandated. In order to introduce an outcome-based evaluation of quality of care in home care planning agencies, we obtained interRAI 659 home care dual assessment data from 11 agencies to calculate quality indicators (QI) for the period 2013 to 2016. There are 23 QI, which can be grouped into either decline or improve in status. After comparing the risk-adjusted QI scores, some agencies had better decline scores, while others had better improvement scores. These results could be used to market the agency's strengths and to focus the areas for total quality improvement.

EVALUATION OF THE SYSTEMS FOR PERSON-CENTERED ELDER CARE (SPEC) MODEL: STUDY DESIGN AND RATIONALE

H. Kim^{3,1,2}, S. Goh¹, S. Hwang¹, 1. *Department of Public Health Science, School of Public Health, Seoul National University, Seoul, Korea (the Republic of)*, 2. *SNU Institute of Ageing, Seoul, Korea (the Republic of)*, 3. *Harvard University School of Public Health, Boston, Massachusetts*

Person-centered care management based on comprehensive needs assessment is widely known as an effective way to promote quality and outcomes of care for frail older people. Yet such evidence is still limited, especially for people with complex conditions and in Asia. We will present the context of long-term care delivery in Korea and introduce the SPEC, a technology-enhanced, multidisciplinary, integrated care management model for Korean nursing homes. Guided by the Chronic Care Model, the multifaceted SPEC consists of key five elements: comprehensive geriatric assessment and need/risk profiling using interRAI LTCF and other assessment tools; individualized, need-based care planning; optional multidisciplinary case conference meetings; coordination of care; and information and communication. We will also present our theoretical and methodological approaches for evaluating the newly developed model and early results of the evaluation study.

RAP TRIGGERS AS AN INDICATOR FOR CARE COMPLEXITY AND PROGNOSIS

L. Chen, 1. *National Yang Ming University, Taipei, Taiwan*, 2. *Taipei Veterans General Hospital, Taipei, Taiwan*

Resident Assessment Protocol (RAP) triggers summarized the care problems after the primary assessment for the long-term care facility (LTCF) residents, and the related care plans would be triggered while each individual RAP trigger was generated. Aside from the triggers for care plan, RAP triggers

are also effective indicators to evaluate the complexity of care and have been shown to predict one-year mortality of LTCF residents independent from multimorbidity. Besides, the increase of RAP triggers was also predictive for physical functional decline of LTCF resident, as well as decline in cognitive function. A complex interrelationship between cognitive decline, mood conditions, malnutrition and decline of physical function was noted, and RAP triggers were significant indicators for these phenomena. Further intervention study should be conducted to evaluate whether current care plans successfully reduce the over care complexity and prevent functional declines.

REDUCING DEPRESSIVE SYMPTOMS IN A LONG-TERM CARE FACILITY: APPLYING THE MDS ASSESSMENT

V. Lou^{1,2}, T. Lum^{1,2}, G. Wong^{1,2}, H. Luo^{3,1}, M. Lau¹, I. Chi⁴, E. Chen^{2,1}, 1. *Sau Po Centre on Ageing, The University of Hong Kong, Hong Kong, Hong Kong*, 2. *Department of Social Work & Social Administration, The University of Hong Kong, Hong Kong, Hong Kong*, 3. *Tsing Hua University, Beijing, China*, 4. *University of Southern California, Los Angeles, California*

Objective: Applying MDS nursing home assessment for screening and outcome evaluation on a Pleasant Mood and Active Life (PMAL) intervention among long-term care facility residents. **Method:** A mixed methodology by applying secondary data analyses and cluster randomized clinical trial among 62 participants. The development of PMAL was guided by the pleasant event model of depression, together with a culturally embraced activity list generated by collaborative deliberation among residents and caregivers at residential setting. **Findings:** Secondary data analyses on ten-years of MDS data suggested inclusion criteria, which were 1) triggered mood problem based on clinical assessment; 2) cognitively intact; 3) voluntary participation. As compared to control group participants, experimental group participants showed significant changes on mood problem trigger as measured by MDS. **Conclusion:** MDS nursing home assessment was useful to screening residents with mood problems and sensitive to standardized intervention.

SESSION 4205 (PAPER)

CAREGIVING AND CARE VALUES

STUDENT-DELIVERED CAREGIVER RESPITE: A COMMUNITY-UNIVERSITY PARTNERSHIP PILOT PROGRAM

T. Washington, J. Tachman, *School of Social Work, University of Georgia, Athens, Georgia*

The current study describes a community-university partnership to support a student-delivered respite program, the Houseguest Program (Houseguest). Houseguest was designed using a community engaged scholarship (CES) model of integrating research, teaching, and service. We set out to explore two aims: 1) to examine the feasibility of Houseguest; and 2) to understand caregivers' experience with student-delivered respite. Houseguest was piloted with a small group of community-dwelling, co-residing caregivers and care

recipients. Thematic analysis produced eight themes: 1) respite from full time caregiving role; 2) information on caregiving strategies; 3) no-cost supportive services; 4) opportunity for care recipients to socialize; 5) tailored activities for care recipients; 6) rapport-building between students and family dyad; 7) reciprocity between students and the family dyad; and 8) program continuation. Through a community-university partnership, Houseguest reduced the impact of caregiver burden, and created an opportunity for students to serve dementia-affected families through respite and tailored activities. Based on these findings, the authors propose a model to guide future research in dementia caregiving embedded in CES frameworks.

DECREASING UNMET NEEDS FOR CAREGIVER RESPITE AND BRI CARE CONSULTATION

M.S. Rose¹, D.M. Bass¹, B. Primetica¹, K. Kearney¹, J.H. Rentsch¹, M. Kunik², J. Miller³, T. Hornick⁴, 1. *Center for Research and Education, Benjamin Rose Institute on Aging, Cleveland, Ohio*, 2. *Houston VA Health Services Research and Development Center of Excellence, Houston, Texas*, 3. *Alzheimer's Association Greater East Chapter, Canton, Ohio*, 4. *Louis Stokes Cleveland VA Medical Center, Cleveland, Ohio*

Respite for caregivers is underutilized as a preventative resource; more common is use late in caregiving and during crises. A goal of the partnership version of *BRI Care Consultation*, "Partners in Dementia Care (PDC)," is to facilitate timely use of respite support and services through telephone and computer coaching from trained care consultants. PDC was implemented via partnerships among Stokes VA Medical Center, Greater East Ohio Alzheimer's Association Chapter, and Western Reserve Area Agency on Aging. Hypothesizing that PDC use would reduce unmet respite need, the relationship between PDC and respite use was tested in a translational study of veterans with dementia and family caregivers. In research interviews before and 12 months after enrolling, caregivers responded to three items assessing unmet respite need: needing help getting someone to stay with the veteran so he/she would not be left alone, getting a break from care, and finding services to provide care when family are not available (range 0 to 3, alpha=.77). Among 148 caregivers, unmet respite need declined significantly after 12 months in PDC ($t=4.71$; $p < .001$). Along with an overall decrease, multivariate analyses using predictors from the modified Andersen framework showed significantly greater decreases for white compared to African American caregivers; higher income caregivers; and caregivers of veterans who were more functionally impaired. Results suggested coaching from care consultants enabled caregivers to find solutions for respite needs, particularly in situations where veterans were more impaired. However, results also suggested economic resources may facilitate caregivers' ability to meet respite needs.

OLDER MEN AND COMMUNITY AGED CARE: BARRIERS TO ACCESS AND EFFECTIVE MODELS OF CARE

A.J. Brown, *Men's Health Information and Resource Centre, Western Sydney University, Kensington, New South Wales, Australia*

Older men do not access community aged care in the same numbers and proportion as older women. Existing literature theorised various explanations for this, including most especially negative masculine attitudes around help-seeking behaviour, yet no literature was identified that looked at men's experience of such services.

Barriers to accessing community care were identified through interviews and focus groups with both older men and providers of community aged care in New South Wales, Australia. While many of these barriers are common to men and women, however issues specific to men were observed. These included men's perception of services as 'feminised', male specific difficulties in accessing information, a lack of 'male friendly' programs and environments, and men being less familiar with aged and community services. Some service providers reported that men's high levels of self reliance and independence also prevented them from accepting services.

A number of services were identified that are successfully attracting older men as clients. The success of these services was largely due to the passion and commitment of a particular employee. While much was learnt from these services there is a very real danger that these 'male friendly' approaches will not be sustained beyond the tenure of that employee.

Of concern to the researchers is the apparent absence, both within agencies and across the sector, of gender based policies, structures and resources that seek to ensure that gender is taken into account in the planning and delivery of community based aged care services.

SHARING CARING FOR OLDER ADULTS AND PAID WORK: COUPLES IN THE UK HOUSEHOLD LONGITUDINAL STUDY

E.A. Webb, A. McMunn, R.E. Lacey, *Research Department of Epidemiology & Public Health, University College London, London, United Kingdom*

In high income countries there has been an expansion of morbidity in older age. Much of the care this entails is provided informally. Women's increased participation in paid work and increasing retirement ages are, together, increasing employment rates in midlife and early older age, so that balancing paid work and informal caring responsibilities is of increasing importance. This paper investigates how caring responsibilities and paid work are shared by couples, and the extent to which this sharing is gendered and socially patterned.

Data from five waves (2009/10–2013/14) of the UK Household Longitudinal Study were analysed. Our analytic sample was restricted to married or cohabiting couples (aged 16+ years) where one or both partners had a caring responsibility for a sick, elderly or disabled adult (20,189 observations on 9106 couples). Partners were categorised according to hours per week spent in paid work and on caring.

Latent class analysis ascertained 8 classes of households according to how partners share their responsibilities for paid work and caring. Classes were characterised as: No paid work, female carer (29.3%); No paid work, male carer (14.4%); Dual earners, both carers (21.9%); Male breadwinner, both carers (15.9%); Male (part time) breadwinner, both carers (5.3%); Modified male breadwinner, female carer

(6.7%); Modified male breadwinner, both carers (1.2%); Female breadwinner, female carer (5.3%).

Multinomial regression analyses investigated the predictors of class membership, and found that age, education, incomes, health and the relationship to the person being cared for all predicted how caring and paid work were shared by couples.

TIME BANKING AND SOCIAL ISOLATION: PROVIDING INFORMAL CARE AND RESPITE

E.S. Cahn, 1. *TimeBanks USA, Washington, District of Columbia*, 2. *Univ. District of Columbia School of Law, Washington, District of Columbia*

Caregivers need care and respite. Social isolation is deadly. The scale is vast and growing. Approximately 34.2 million Americans have provided unpaid care to an adult age 50 or older in the prior 12 months. As baby-boomers age, both formal health and informal care systems will be challenged to meet the needs of a rapidly expanding elderly population. Informal care, often fragile and fragmented, continues to be the bedrock enabling the elderly and disabled to remain in their communities. Nonetheless, State Plans on Aging and responses to the *Olmstead* mandate consistently fail to designate strengthening that informal system as a priority.

Health care professionals need to learn about Time Banking as a cost-effective strategy proven to reduce social isolation, strengthen informal care systems, reduce resort to institutional care, engage seniors in their communities. Peer reviewed articles and studies have documented effectiveness. One study conducted by the Visiting Nurse Service of New York found that 100% of elderly members benefited from TimeBank membership; 79% reported their membership provided support needed to remain in their homes as they get older.

Presenters will provide TimeBanking basics: enlisting members, matchmaking, generating transactions, creating organizational infrastructure, liability and tax issues. We will share experience to date, design features and options, software to generate and track transactions, types of reports, range of applications, framing and acceptance by different ethnic groups, outcome measurements, network contacts, funding and sustainability strategies. Evaluation reports and sample grant applications will be made available.

SESSION 4210 (SYMPOSIUM)

CROSS-CULTURAL COMPARISON OF THE IMPACT OF HOME MODIFICATION AND ADAPTATION

Chair: S.M. Peace, *The Open University, Milton Keynes, United Kingdom*

Discussant: R.A. Darton, *University of Kent, Canterbury UK, Canterbury, Kent, United Kingdom*

The desire of older people to age in place suggests that future-proofing the home environment is fundamental to providing greater person-environment congruence at a time of global ageing. The emerging genHOME network, founded by the UK College of Occupational Therapists, promotes the health and well-being of older and disabled people and their families through the co-ordination and dissemination of international research on home modification or adaptation

and housing design. For environmental gerontologists this core resource network grounded in practice and driven by negotiation with users provides an important route for the dissemination of research with application. In this symposium researchers from more developed countries attached to the network use empirical work to debate common research priorities including participatory approaches in countries with diverse housing types, tenure, space standards, modification regulations and funding opportunities. Aiming to inform national and international policy through innovative research there is recognition of diversity in the evidence presented through language and cultural difference, and a need for consistent research methodology and outcome measures. Discussion will address similarities and differences in priorities and invite the audience to debate the value of this initiative and how it can be extended and made more inclusive. The symposium seeks to question how far current understanding of culturally specific home modification/adaptation could lead to wider discussion of more age-inclusive design and architectural practice for new build housing (individual and collective), and to learn from other countries how this relates to population growth in times of climate change questioning person-environment fit.

THE SWEDISH SYSTEM FOR HOUSING ADAPTATIONS: PROJECTIONS FOR THE FUTURE BY SIMULATED SCENARIOS

B. Slaug, C. Pettersson, M. Granbom, M. Kylberg, S. Iwarsson, *Lund University, Lund, Sweden*

In Sweden housing adaptations (HA) aim to support independent living, based on the needs and functional ability of the individual. HA grants covering the full costs are provided by the municipalities, irrespective of the applicant's financial situation and type of home ownership/tenure. As costs for HA are increasing and more accessible housing is needed overall, knowledge of environmental barriers (EB) generating problems would support cost-efficient solutions as well as benefit public health. The objective of this study was to project possible effects of targeted elimination of EB in the ordinary Swedish housing stock. Existing research databases were utilized (N=1,021). In simulations of EB removal, those corresponding to the most common HA were selected. The effects would be consistently larger for one-family houses, and for all types of dwellings built before 1960. Targeted elimination of EB has considerable potential to improve the conditions for independent living along the process of aging.

HOME MODIFICATIONS FOR FRAIL COMMUNITY DWELLING OLDER ADULTS IN THE U.S.

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Intensive home modification interventions are effective in improving functional ability, reducing fall risk, and improving caregiver outcomes among older adults with a variety of health conditions. Intensive home modifications involve a comprehensive assessment of an individual and their environment, tailoring the intervention to meet individual needs, facilitating environmental modifications and providing training to use the modifications. Few trials of home modifications

have been conducted in the US. We conducted a randomized controlled trial of intensive home modifications to examine functional outcomes of 115 frail, community dwelling older adults with an average age of 77.6 years. The manualized intervention resulted in improved functional performance (measured using performance based assessment and self-reported performance) at 6 months that was maintained at 12 months. Adherence to treatment was 91% at 12 months. Home modifications are currently not provided as part of health or social services in the US, despite evidence they are an effective intervention to improve function.

AUSTRALIAN CONSUMER PERSPECTIVES ON HOME MODIFICATIONS: CONSIDERATIONS FOR OUTCOME MEASUREMENT

E. Ainsworth, T. Aplin, *University of Queensland, Brisbane, Queensland, Australia*

Consumer directed aged care and disability sector reforms in Australia are currently impacting home modification service provision. With no guidance through consistent national policy, strategy or practice framework, there are service delivery challenges. A patchwork of differing services are based on geographical location, housing type and tenure. An in depth understanding of consumers' needs and values surrounding their home and modifications is required. This qualitative study gives a consumers' perspective of home modifications to inform policy and practice. In-depth interviews with 22 participants aged between 29 – 93 years were transcribed verbatim and analysed using an interpretative phenomenological approach. Findings indicated that home modifications were seen either as supportive or disruptive to people's lifestyles and activities. Important outcomes regarding home modifications included the impact on caregivers; affordability and appearance; capacity to remain in place and support valued roles and occupations; and the influence on sense of self, freedom and autonomy.

ARE WE PAYING HOUSING ADAPTATIONS OURSELVES?: ANSWERS FROM THE SPANISH ELDERLY OR DISABLED

F. Alonso-Lopez, *Acceplan Accesibilidad S. L., Barcelona, Spain*

In Spain, public social programs, administered at local, regional and national levels have led to housing adaptations, accessibility interventions, and supportive technologies for elderly and disabled people creating awareness of the needs for ageing in place. A nascent private market has advanced through the decline in public funding and several questions new arise: do families with disabled members (mainly old aged) spend their own money on adaptations when public support is not available? What conditions drive this private expense? Data from the Spanish survey EDAD 2008 (INE 2012) is used to run binary logistic models based on the underlying ecological theory of ageing to explain drivers of private expenditure on adaptations. Findings show how different sociodemographic, economic, health and housing variables impact on willingness to spend privately. These results can help public programs, awareness and funding in areas where needs are not being covered by households themselves.

HOUSING ADAPTATIONS IN THE UK: SCOPING THE EVIDENCE TO SUPPORT POLICY AND PRACTICE

R. Russell¹, R. Newton¹, S. Mackintosh², M. Ormerod¹,

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University of the West of England, Bristol, United Kingdom

In the UK there is a paucity of research evidence to underpin the implementation of housing adaptations' policy and practice with little knowledge of what works for whom, in what circumstances, and to what effect. While the UK Government has significantly increased financial support for adaptations, money may be wasted due to under-utilisation. A scoping review is presented outlining firstly, central government funding and secondly, the quality of research evidence. Findings indicate that housing design to meet the needs of older and disabled people requiring adaptations is under-researched; a lack of evidence for design recommendations, and whether they have been tested in-situ. The implications suggest the need for a rigorous testing of design guidance regarding housing adaptations such that installations are appropriate for the user and other family members to enable successful ageing in place. The findings provide important comparative information contributing to a body of international literature.

SESSION 4215 (SYMPOSIUM)

COMMUNITY-BASED CARE INITIATIVES FOR ELDERLY IN ASIA AND AUSTRALIA

Chair: Y. Yang, *Hankuk University of Foreign Studies, Seoul, Korea (the Republic of)*

Co-Chair: L. Thang, *National University of Singapore Department of Jap*

Discussant: I. Blackberry, *La Trobe University, Wodonga, Victoria, Australia*

Asia leads the global and rapid epidemic of aging population in terms of its absolute size. While increasing longevity is a blessing, it also poses many challenges for societies and requires system- and paradigm-changes in many aspects. Asia, being a region known for its lack of support on seniors' welfare and long-term care, also requires innovative thinking and sustainable approaches in response to these challenges. These challenges are further exacerbated with changes in family structure and living arrangements in old age, making community-based elderly care arguably an important long-term solution. This symposium highlights current issue across the Asian regions and presents innovations led by local community members (Japan), NGOs (South Korea), and governments (China, Singapore), and contrasts these with initiatives in our neighboring country (Australia). The symposium will share experiences, merits and challenges of elderly care in community across Asia. Active collaboration and partnership among different stakeholders to make aging in community possible will be discussed.

SUKETTO-TAI: A STUDY OF A VOLUNTEER GROUP OF THE ELDERLY, BY THE ELDERLY, FOR THE ELDERLY IN JAPAN

Y.O. Hirano, *Nagasaki University, Nagasaki, Nagasaki, Japan*

Japan, a super-aged society, is required to have a paradigm change in terms of caring elderly people in communities:

elder citizens are now expected to be not only as consumers but also as providers of the services of caring elderly. This case study draws upon activities of a volunteer group in T community of Nagasaki City, Japan. The group named "Suketto-tai", which can be translated literally, "We are the Supporters", is consisted of middle and old aged residents of the T community, and has actively involved in helping elderly citizens in the community. Quantitative and qualitative data analysis indicated that "Suketto-tai" is used not only by people who have rich in social capital, but also by people who are anxious about the human relationship in the community.

COMMUNITY-BASED AGING AND LOCAL NGOS: SELECTED OLDER PEOPLE'S SELF-HELP GROUPS IN SOUTH KOREA

Y. Yang, *International Development Studies, Hankuk*

University of Foreign Studies, Seoul, Korea (the Republic of)

This paper focuses on local community efforts in urban South Korea, which is one of the most rapidly aging societies in the world. The Older People Self Help Groups (OPSHGs), supported by HelpAge Korea (HAK) and implemented in partnership with local NGOs, form one initiative fostering aging-friendly community changes in Korea. In helping poor and marginalized elderly people in selected (mostly deprived) sub-districts to form and organize a seniors' community, the ultimate goal of this initiative is to assist older people to age in their community and remain as active and contributing members. Based on the selected two 'best' cases of Silver Wings in Bucheon and Silver Love in Kwanak, Seoul, among others supported by the HAK-OPSHG initiative, the paper addresses issues of participation, generativity and partnership. Qualitative interviews and observations were carried out. Lessons may be drawn for other aging societies, particularly in Asia.

THE COMPARATIVE STUDY OF COMMUNITY-BASED ELDERCARE IN CHINA

L. Zhang, *Southwestern University of Finance and Economics, Chengdu, China*

Faced with the prospect of ascending demand of elder care and the shrinking role of family in contemporary China, how to create new elder care system beyond or supplement family care is crucial challenge. China has started the pilot practices of community based elder care in different locality during the past decades.

In this paper we firstly review the policy initiatives regarding the community eldercare and then examine the community old age care model emerging in the sub-national level. How to overcome the cultural dependence of filial piety and rebuild the social pact to provide elder care are prominent issue. Both the providers (government, third sector organization and community) as well as the customers (the elderly and their family members) should reach consensus of sharing the old age care. The boundaries and responsibilities of each actors within the elder care system as well as how they cooperate and interplay to delivery the elderly care service from the perspective of fiscal and administrative and regulative mechanism also should be studied to reveal the conditions of successful policy innovation.

The study will examine the development trajectory of community-based elder care system in China. After reviewing the pilot practice in different localities, this paper will

attempt to typology the models of community elder care in China context, and find out the diffusion trends of different model. Through the comparative study of community eldercare model and their governance mechanism, this paper will provide the policy implications for building the national community eldercare system.

THE EFFECTIVENESS OF SENIOR GROUP HOME IN PROMOTING AGING IN PLACE IN SINGAPORE

E. Lim¹, L. Thang², 1. *Research and Development, Fei Yue Community Services, Singapore, Singapore*, 2. *National University of Singapore, Singapore, Singapore*

For a country that is rapidly aging, Senior Group Home (SGH) was introduced in 2012 to meet the demand for more aged care initiatives to support seniors to age-in-place in Singapore (Ministry of Social and Family Development, 2012). It is a community-based assisted living facility that allows low-income seniors with limited support who cannot live alone, to age-in-place and delay institutionalization. As a new concept in Singapore, the SGH is relatively unknown among the aged care community. This presentation will discuss the first such study of the SGH with the aim of understanding how and to what extent is the SGH effective in promoting aging-in-place among the residents. Results gathered through a 20 month ethnographic fieldwork and interviews with residents and support personnel, demonstrated the challenges of implementing a theoretical concept at the policy level on the ground. Nonetheless, the SGH is effective to a certain extent in promoting age-in-place.

CURRENT TRENDS AND INNOVATIONS IN COMMUNITY CARE FOR OLDER AUSTRALIANS

I. Blackberry, *La Trobe University, Melbourne, Victoria, Australia*

Australia is among the longest living nations despite the growing burden of chronic diseases. Aged care reforms in Australia have progressed over the past decade to support older people to stay at home and be part of the community. Indeed, older people prefer to stay independently in the community as long as possible. The recent Consumer Directed Care initiative provides older people with greater flexibility to individualize their care package. However some challenges exists in the provision of community-based aged care in Australia including large geographical area, limited family support, shortage and disproportionate distribution of workforce. This presentation will highlight these challenges, outline government initiatives in community care and share potential sustainable innovations in response to these challenges.

After attending this presentation, participants will learn innovations in community care in Australia and contrast this to other learnings from our Asian neighbours.

SESSION 4220 (SYMPOSIUM)

QUALITY RATINGS OF U.S. NURSING HOMES ON NURSING HOME COMPARE: A REVIEW OF RECENT CMS INITIATIVES

Chair: P. Rowan, *Abt Associates, Wellington, Florida*

This symposium contains four individual presentations, all related to recent changes to the Nursing Home Compare

website, a public reporting tool intended to inform consumer choice and prompt nursing home quality improvement. This work has been conducted by staff at Abt Associates, and funded by the Centers for Medicare and Medicaid Services (CMS). The first presentation will discuss the incorporation of six new quality measures to the Five Star Quality Rating System, including how the measures have performed in their first year of public reporting.

The second and third presentations will go into more detail on two of the new measures being incorporated into the quality rating system - the 30-day outpatient emergency department visit measure, and the 100-day community discharge measure. These measures, the first quality measures to use Medicare claims as their data source, represent an important shift away from self-reported data and toward quality data that may be more accurate and transparent. The presentation will include how these measures have changed in the first year that they have been incorporated into the rating system.

Finally, the fourth presentation will discuss ways that the Nursing Home Compare website has been tested among nursing home consumers to improve the usability and functionality of the site. Since the website was designed as a consumer choice tool, the incorporation of consumer feedback has been an invaluable source of information over the past several years. This presentation will also discuss future plans for improving the website.

IMPROVEMENTS TO THE FIVE-STAR QUALITY RATING SYSTEM: INCORPORATION OF NEW QUALITY MEASURES

A. White, P. Rowan, A. Muma, C. Williams, *US Health, Abt Associates, Wellington, Florida*

In April 2016, CMS introduced six new quality measures on Nursing Home Compare, including three MDS-based and three claims-based measures. The introduction of these new measures greatly increases the number of short-stay measures on Nursing Home Compare and report on important domains not covered by existing measures. In addition, claims-based measures may be more accurate than MDS-based measures. The introduction of these claims-based measures reflects an important policy shift away from self-reported data and toward more objective and verifiable data sources.

Beginning in July 2016, CMS incorporated five of the measures in the calculation of Five Star Quality Ratings. This presentation includes an overview of the changes that were made to the rating system methodology to accompany the new measures. It also discusses the impact of the new measures, which are projected to result in changes to the QM rating for many nursing homes after full implementation in January 2017.

30-DAY OUTPATIENT EMERGENCY DEPARTMENT VISITS AMONG MEDICARE NURSING HOME RESIDENTS

I. Breunig, A. White, P. Rowan, J. Pettis, *US Health, Abt Associates, Wellington, Florida*

Better preventative care and access to physicians and nurse practitioners in an emergency may reduce rates of unnecessary emergency department (ED) visits. Public reporting of ED visit rates is important for informing nursing home placement and incentivizing providers to reduce these rates. We

developed a risk-adjusted, claims-based measure of outpatient ED visits that CMS incorporated into the Five Star Quality Rating System in 2016. This measure addresses a gap in the current measures, increasing the number of short-stay measures and adding a measure that does not rely on self-reported data. Overall, 9.5% of residents had an ED visit within 30 days of the start of their stay. Average risk-adjusted rates were lower at homes with better Five-Star ratings. They were higher among smaller, for-profit nursing homes not located in a hospital. We will present trends on the measure's performance during its first year of public reporting on Nursing Home Compare.

100-DAY COMMUNITY DISCHARGE RATES AMONG MEDICARE NURSING HOME RESIDENTS

I. Breunig, A. White, P. Rowan, *US Health, Abt Associates, Wellington, Florida*

Many nursing home residents enter skilled nursing facilities (SNF) for rehabilitation services. For many residents, return to the community is an important outcome. The IMPACT Act of 2014 requires the development and reporting of a measure of community discharges (CD) among SNF residents. We developed a risk-adjusted measure of successful CDs within 100 days of the start of a nursing home episode, which CMS incorporated into the Five-Star Quality Rating System in 2016. We used information on discharge date and status from the MDS to measure episode length and identify CDs. Overall, 62.5% of episodes resulted in a successful CD within 100 days. Average risk-adjusted rates were higher at facilities with better overall, staffing, and inspection ratings, but not quality ratings. Risk-adjusted rates were higher among facilities that are smaller, non-profit, and in a hospital. We will present trends on the measure's performance during its first year of public reporting.

USER INPUT IN IMPROVING THE NURSING HOME COMPARE WEBSITE: USABILITY TESTING OF WEBSITE ENHANCEMENTS

A. Edwards, A. Muma, *Abt Associates, Durham, North Carolina*

Consumer usability testing was conducted on the Nursing Home Compare (NHC) website to assess ease of use and clarity of information. Across four different tests, average user score for ease of use was 4.3 on a 5-point scale with a value of 5 considered 'very easy' and 0 considered 'very difficult.' Google Analytic data supported user testing findings, showing a significant decrease in the number of pages per visit from 7 to 3, an indicator of a reduction in steps necessary to find target content. Average score for clarity of the information was 4.2, where a value of 5 represents 'very clear. NHC website usability testing provides key lessons on how to disseminate information in ways that help improve healthcare decision-making for the target audience. Strategic analysis and planning for the website builds on the usability testing to further enhance the website and the consumer experience on the site.

SESSION 4225 (SYMPOSIUM)

DO ONLINE SUPPORT PROGRAMS CLICK WITH FAMILY CAREGIVERS? EVALUATING USAGE AND SATISFACTION

Chair: D.M. Benton, *University of Southern California*

Co-Chair: K. Kelly, *Family Caregiver Alliance, San Francisco*

To support the growing ranks of family caregivers attending to older adults, social services are looking to technology for solutions. Online support services are desirable because they offer the opportunity to reach broad swaths of family caregivers, who can then access supports that meet their needs on-demand. This symposium explores the potential of different online support services to meet the needs of family caregivers, including the characteristics of family caregivers who are most likely to use on-line support systems and the experiences of family caregivers who do so. The first paper focuses on the design of an on-line portal built for family caregivers in California, and provides results from a survey on caregivers' experiences using this portal. In addition, this research considers usage trends for the material provided to caregivers on the portal. The second paper delves into the who among caregivers is most likely to use the on-line portal introduced during the first presentation, as well as barriers preventing certain caregivers from utilizing this program. The final paper describes the results of an evaluation of an interactive online program designed for family caregivers in Seoul, South Korea, including feedback on the usability of the program and caregivers' satisfaction with the on-line system.

CARE COMPASS: DESIGN AND USE OF NATIONAL SELF-ADMINISTERED CAREGIVER INFORMATION AND SUPPORT SYSTEM

K. Kelly, *Family Caregiver Alliance, San Francisco, California*

This presentation will focus on the application of Care Compass by a national (U.S.) sample of family caregivers using the self-administered capabilities of the online portal. Evaluation results will be provided of unpaid caregivers (N=200) who use consumer information and state resources provided automatically through a uniform intake and scenario process. The presentation will provide an overview of the key design elements of the portal based on caregiver characteristics, online trend analysis and service delivery experience. The evaluation will examine characteristics of online users (geography, demographics, caregiving responsibilities); internal use pattern metrics (open rates on materials, time spent online) and number of users who requested brief telephone consultation after intake. Results from evaluation questionnaires on experience with portal, usefulness of targeted direct care, planning issues, caregiver self-care and resource information will be provided.

DO ONLINE SERVICES REALLY WORK FOR AND SUPPORT FAMILY CAREGIVERS?

K. Meyer, D.M. Benton, *University of Southern California, Los Angeles, California*

This presentation will provide preliminary results from the evaluation of a personalized on-line caregiver support program (N=200). Care Compass is an on-line portal allowing caregivers to access information & resources on demand, and care managers to quickly view client information including individualized care plans. The on-line multi-component support program was piloted as a collaborative project between two social service organizations supporting family caregivers in California. The focus of this evaluation

was on which caregivers were most likely to use on-line services and supports, and how these caregivers differed from those who did not use the on-line system. In addition, results will be presented regarding the frequency with which caregivers accessed various resources within the on-line system, identifying trends in usage associated with different caregiving situations. Finally, the analysis considered which barriers prevented certain caregivers from using Care Compass, including levels of satisfaction with the program and materials provided.

E-HOPE ACADEMY: ONLINE SUPPORT PROGRAM FOR DEMENTIA FAMILY CAREGIVERS IN KOREA

M. Park¹, S. Ja Lee², S. Hwa Kim², J. Ha Kim², H. Jung Kim², D. Young Lee³, 1. *College of Nursing, Chungnam National University, Daejeon, Korea (the Republic of)*, 2. *Seoul Metropolitan Center for Dementia, Seoul, Korea (the Republic of)*, 3. *Seoul National University Hospital, Seoul, Korea (the Republic of)*

The purpose of this study was to develop the online support program, e-Hope Academy for dementia family caregivers in Korea. The individualized web-based support program was developed collaboratively by the clinical experts, technical experts and family caregivers. The program consisted of interactive educational module, online group support, information board, and one to one consulting with experts. The educational contents were designed to cover a wide range of issues that frequently occur during caregiving. Core modules were provided to every user. Optional modules were provided according to the family caregiver's need. Formative evaluation was conducted to assess the usability of the program. Caregiver's need and stress were assessed at baseline and satisfaction of the program was post-evaluated. Family caregivers were satisfied with the content and the amount of information, the online activity, and the design of website. Further development of other services will broaden the impact of this program.

SESSION 4230 (SYMPOSIUM)

OPTIMIZING DRUG TREATMENT IN OLD AGE: TRANSLATIONAL AND TRANSDISCIPLINARY EFFORTS

Chair: K. Johnell, *Karolinska Institutet, Stockholm, Sweden*

A major challenge in health care is the lack of knowledge about effects of drug treatment in old age. Randomized clinical trials typically exclude patients at advanced ages who use multiple drugs and who have many co-morbidities. There is a need for evidence of the benefits and harms of drug treatment in old age to support balanced drug prescribing and to enhance patient safety. Therefore, new translational approaches are warranted where clinical and epidemiological data can be mimicked in experimental animal models.

In this symposium, we will outline our concept of integration of geriatric pharmacoepidemiology with biology of aging. Researchers from the US, Australia and Europe will present their findings. The symposium will start with pharmacoepidemiological results from large-scale real world human data about drug treatment in old age. Thereafter the novel polypharmacy mouse model and the mouse clinical

frailty index will be presented as well as other preclinical models relevant for geriatric pharmacology. Finally, we will end with healthspan in mice as a preclinical outcome in old age.

This international symposium has a unique transdisciplinary profile with the aim of improving treatment of elderly patients and ultimately their health and well-being. We argue that more studies of aging should employ a translational profile with integration of human data with animal data. This kind of collaboration between basic, clinical and epidemiological scientists has the potential to go beyond state-of-the-art aging research.

OLD AGE PHARMACOEPIDEMIOLOGY: SETTING THE SCENE

K. Johnell, *Karolinska Institutet, Stockholm, Sweden*

Over 80% of people aged ≥ 65 years use pharmacological drugs. Older people are more susceptible to adverse effects of drugs because of altered pharmacokinetics and pharmacodynamics combined with multiple diseases, impairments and polypharmacy. We analyze large Swedish national registers to investigate drug treatment among people aged ≥ 65 years with special focus on polypharmacy (≥ 5 drugs), inappropriate drug treatment, dementia and the risk of negative outcomes. The most commonly used drugs among older people are cardiovascular drugs, analgesics and psychotropics and their use vary with age, sex, residential setting and dementia status. At age 65 years, approximately 8 years of the 20 remaining years of life can be expected to be lived with polypharmacy. Inappropriate drug treatment is associated with negative outcomes such as hospitalization. These pharmacoepidemiological findings from large-scale human data will feed into experimental animal models to verify outcomes and identify mechanisms and biomarkers.

A TRANSLATIONAL MODEL TO UNDERSTAND THE IMPACT OF POLYPHARMACY ON ADVERSE GERIATRIC OUTCOMES

S.N. Hilmer^{1,4}, A. Huizer-Pajkos⁴, A.E. Kane^{1,4,2}, J. Mach^{1,4}, S.E. Howlett², R. de Cabo³, D.G. Le Couteur⁵, 1. *Medicine, The University of Sydney and Royal North Shore Hospital, St Leonards, New South Wales, Australia*, 2. *Dalhousie University, Halifax, Nova Scotia, Canada*, 3. *National Institute on Aging, Baltimore, Maryland*, 4. *Kolling Institute of Medical Research, Sydney, New South Wales, Australia*, 5. *Concord Hospital and University of Sydney, Sydney, New South Wales, Australia*

We developed a translational model to evaluate whether polypharmacy (use of ≥ 5 different medicines) causes adverse geriatric outcomes and whether these are reversible with deprescribing (withdrawal of medicines). Old (23–24 months) male C57BL/6 mice received control diet (no drugs) for eleven weeks, or diet containing therapeutic doses of five commonly used drugs (simvastatin, metoprolol, omeprazole, paracetamol, citalopram) for four weeks, which were gradually withdrawn over the next six weeks. Physical performance was assessed at baseline, four and eleven weeks and transformed into Frailty Intervention Assessment Values (FIAV): sum of standardised values for locomotor activity, rotarod performance and front paw hang. After four weeks, FIAV was unchanged in controls

and declined with polypharmacy ($p < 0.05$). At week eleven FIAV remained unchanged in controls and improved but did not return to baseline in the polypharmacy/deprescribing group. This model can assess the effects of polypharmacy on geriatric outcomes and provides opportunities to investigate mechanisms.

ARE ANIMAL MODELS VALUABLE FOR AGING RESEARCH? LESSONS FROM ALZHEIMER'S DISEASE

A. Cedazo-Minguez, *Karolinska Institutet, Stockholm, Sweden*

Our experience in the Alzheimer's disease field is that many therapeutic strategies tested in animal models have been successful, but these positive results have not been useful to patients. This deficit in translational research is causing an enormous frustration. The lack of translation can be expanded to several other disorders associated to aging, including complex clinical pictures related to multimorbidity and frailty. This presentation aims to review the current approaches in preclinical research for aging-related disorders, and to open a debate on how the preclinical phases of drug discovery should be designed to increase the possibility of translation.

THE MOUSE CLINICAL FRAILTY INDEX AS AN OUTCOME AND MODULATOR OF DRUG THERAPY

S.E. Howlett, *Pharmacology & Geriatric Medicine, Dalhousie University, Halifax, Nova Scotia, Canada*

Frailty can be quantified in people by counting the accumulation of deficits in health (signs, symptoms, diseases) to construct a "frailty index" (FI). We have quantified frailty in naturally-ageing mice by counting differences in >30 health-related variables (hemodynamics, blood work, activity, body composition). We showed that 30 month-old mice had higher FI scores than 12 month-old animals (0.43 ± 0.03 vs 0.08 ± 0.02 ; $p < 0.001$; $n = 12$). Similar results were obtained when FI scores were calculated based on clinically-apparent signs of deterioration in mice. Mice treated with known longevity interventions (caloric restriction, resveratrol) had lower FI scores than untreated controls. Importantly, the relationship between FI scores and age (normalized to 90% mortality) was similar in mice and humans; the highest scores were close to the submaximal frailty limit of 0.67 in humans. This ability to quantify frailty in animals will help understand the biology of frailty and provide a platform to test new clinical interventions.

HEALTHSPAN IN MICE AS A PRECLINICAL OUTCOME IN OLD AGE

R. de Cabo, *National Institute on Aging, Baltimore, Maryland*

The Baltimore Longitudinal Study of Aging (BLSA) is America's longest-running scientific study of human aging. BLSA is focused on the physical and cognitive changes associated with normal aging, free of disease in humans, as well as the interrelationship between disease and age-related changes. Although human studies should always be preferred, laboratory mice present important advantages for investigations on aging, late-life illness, and age-dependent physiological changes. However, to date, the evidence is insufficient to tell whether using the mouse as a model organism on aging

research is a valid approach to identify biomarkers translatable to human aging. We will present here the study design, some of the preliminary data from an extensive longitudinal study in two strains of mice aimed to identify shared biomarkers that could serve as predictive factors for increase mortality in both mice and humans.

SESSION 4235 (SYMPOSIUM)

ACTIVE ENGAGEMENT IN PRODUCTIVE ACTIVITIES: COMPARISON BETWEEN EAST ASIA AND THE WEST

Chair: K. Katagiri, *Kobe University, Kobe-shi, Hyogo, Japan*
Co-Chair: K. Chee, *Texas State University, San Marcos, Texas*

Discussant: R. Gupta, *San Francisco State University, San Francisco, California*

Recently, the Third Age period has become more important, and because of longer life expectancy and healthier physical conditions, older adults can enjoy this period longer. Though Rosow described old age as 'a roleless role', people nowadays are expected to engage in productive activities into later life. For purposes of this symposium, 'productive activities' refer to paid work, civic engagement, and caregiving. The goals of this symposium are 1) To illustrate how Third Agers in East Asia and the USA engage in productive activities, and which factors are related to these activities; 2) To identify differences and similarities in productive activities between East Asia and Western countries and how activities are constrained by norms, culture, and social system in different societies. The symposium begins with Huiying, who uses longitudinal data of CHARLS to examine differences caused by relationships with care recipients and effects of caregiving transitions on depressive symptoms in Mainland China. Mizuno-Shimatani explains how older Japanese mothers provide daughters with informal support to compensate for insufficient formal support from public sectors in Japan. Katagiri shows the positive effects of active engagement on mental health among Japanese, especially after retirement. Norstrand presents how societal perception of old age triggers civic engagement differently in Japan and the USA. Finally, Kim examines antecedents of productive activity: the role of human, social, and cultural capital in the USA. All panelists illustrate how actively Third Agers engage in productive activities, and that these activities are constrained by cultural contexts, norms and gender.

TRANSITIONS IN CAREGIVING AND MENTAL HEALTH OF CHINESE ELDERS: A PROSPECTIVE NATIONAL SURVEY

H. Liu, V. Lou, *The University of Hong Kong, Hong Kong, Hong Kong*

Objectives: Using two waves data from the China Health and Retirement Longitudinal Study (CHARLS), this study aims to examine the effects of caregiving transitions on mental well-being among three subgroups of elder caregivers (grandchild caregiver, parent caregiver, and spousal caregiver).

Methods: We used a sample of 2,398 urban residents who aged 60 or above at Wave 1 and who were interviewed in

both waves. The Generalized Estimating Equations (GEE) approach was used to estimate the impact of care transitions on depressive symptoms.

Results: In comparison with non-caregivers, grandchildren caregivers who continuously provided care and parent caregivers who stopped providing care reported lower levels of depressive symptoms; spousal caregivers who stopped or started to provide care reported higher levels of depressive symptoms.

Conclusions: This study revealed differential pictures of the effects of caregiving transitions among three subgroups of caregivers, which adds evidence to existing knowledge about the heterogeneity of elder caregivers.

MORE THAN JUST GRANDMOTHERS: SUPPORTING WORKING DAUGHTERS

I. Mizuno-Shimatani¹, K. Katagiri², 1. *Jissen Women's University, Tokyo, Japan*, 2. *Kobe University, Hyogo, Japan*

Recently, late middle-aged or elderly women (i.e., old mothers) who have grandchildren are expected to be more than just grandmothers. Because the public service system is inadequate to support working mothers in Japan, informal support from their older mothers is needed. This study investigated whether old mothers provided more informal support to working daughters than to non-working daughters with children. Using national representative data (National Family Research of Japan 2008), 329 women (aged 48–73 years) were analyzed. The chi-square test result was opposite to our hypothesis—old mothers provided significantly more informal support to non-working daughters in giving advice and helping with housework and grandchild care, controlling for old mothers' health status. Additionally, this tendency was stronger among old working mothers. Future investigation is needed to understand the difference in quantity and quality of informal support from old mothers to working and non-working daughters.

ACTIVE SOCIAL PARTICIPATION AS A SUBSTITUTE FOR PAID WORK AMONG JAPANESE SENIORS?

K. Katagiri, T. Kimura, *Kobe University, Kobe-shi, Hyogo, Japan*

The recent prolonged life expectancies require people to reconsider how to live after retirement. Social participation is one effective substitute for the work role. Literature on social participation has been examined dichotomously, i.e., participation versus non-participation, and has not examined people's degree of activeness.

This study aimed to examine the effects of active social participation on Japanese seniors. JGSS2012, a nationally representative data, was used for the analyses. Hierarchical multiple regressions were conducted to investigate main effects of work and active social participation on mental health, and subsequently interaction of working status and active social participation was added for two age groups, under or over 60. We found a positive effect of active participation for both groups. When not actively engaged socially, mental health was better for people who worked than those who did not. Results suggest that it is important for seniors to hold a meaningful role in society.

PERCEPTION OF OLD AGE AND CIVIC ENGAGEMENT

J. Norstrand¹, A. Glicksman², K. Katagiri³, 1. *Regis College, Newton, Massachusetts*, 2. *Philadelphia Corporation for Aging, Philadelphia, Pennsylvania*, 3. *Kobe University, Kobe, Japan*

Societal perception of old age may impact likelihood of civic engagement. Goal of this study was to compare two countries (Japan/USA) in terms of civic engagement. Old age was perceived to begin among men and women in Japan (at 43 and 42, respectively) and in USA (at 69 for both). Adults (22–82 y/o) were obtained from Generations of Talent dataset (2009), consisting of Japanese (N=2250) and Americans (N=976). Logistics regressions were run by gender for civic engagement (viz., volunteerism, caregiving, and financial assistance) accounting for education, marital status, hours worked in job, age 50 and older, and health in past month. Perceived old age was significantly associated with volunteering and financial assistance among both genders. However, when country (Japan/USA) was included only that variable remained significant predictor for civic engagement. Hence, perception of old age as well as knowledge of national norms may be important for understanding civic engagement.

SOCIAL ANTECEDENTS OF PRODUCTIVE ACTIVITY: THE ROLE OF HUMAN, SOCIAL, AND CULTURAL CAPITAL?

S. Kim, *Texas State University, San Marcos, Texas*

Using the productive aging model, the study investigates the relationship between human, social, and cultural capital and multiple types of productive activity. Analyzing data from two waves (2005–2010) of the National Social Life, Health, and Aging Project (NSHAP), I tested whether human capital (education, functional limitations), social capital (marital status, network size, social support), and cultural capital (religious service attendance) predict productive activities, consisted of volunteering, meeting attendance, employment, and caregiving. Results show that human capital predicted all four productive activities in cross-sectional and longitudinal analyses, while social and cultural capital was associated with meeting attendance and volunteering. Moreover, the link between social capital and productive activity was attenuated in the longitudinal analyses. Important implications of these findings are that productive activities occur in the context of available resources and that capital influences productive activities differently, warranting more investigations of multiple activities or 'activity profile' over the life course.

SESSION 4240 (SYMPOSIUM)

THE INTERPLAY OF DIVERSITY CHARACTERISTICS: DOES IT ENHANCE PARTICIPATION IN HEALTHCARE?

Chair: C. Meyer, *Royal District Nursing Service Institute, St Kilda, Victoria, Australia*

Discussant: M.G. Ory, *Texas A&M University*

The Right to Health (World Health Organization) premises access to timely, acceptable, and affordable healthcare of appropriate quality. Decision-maker and practitioner focus in healthcare has been on improving equity of access

for community members with particular individual diversity characteristics, to improve identified disparities in health outcomes. Diversity is what makes an individual unique, but it is the interplay of these diversity characteristics that provides both interest and challenge to the participation of the older person in their healthcare.

This symposium has three linked presentations exploring diversity through the lens of intersectionality; that diversity characteristics cannot be looked at in isolation, that participation in healthcare cannot be reduced to a single characteristic. This project is funded by Department of Social Services (Australia) and conducted through the Royal District Nursing Service (RDNS), a not-for-profit community organisation providing home nursing and healthcare services. The opening presentation sets the international policy stage for equity in healthcare, drawing on important work by the WHO, U.S. Institute of Medicine and Kings Fund U.K., linking to Australian diversity and inclusion policies. The second presentation expands the theoretical underpinnings of key concepts related to diversity, based upon meta-narrative systematic review findings. The final presentation will address implementing diversity concepts into practice from an expert in a particular 'diversity characteristic', highlighting how characteristics intertwine to provide context to a person's life, presenting barriers and opportunities to participation in healthcare.

CONNECTING INTERNATIONAL EQUITY AND ACCESS HEALTHCARE POLICY TO THE AUSTRALIAN CONTEXT

C. Browning, *Royal District Nursing Service Institute, St Kilda, Victoria, Australia*

Improved equity of access, and thus participation, in healthcare for older people with particular individual diversity characteristics is a key objective of higher income healthcare systems. A human rights framework and core values of respect, dignity and inclusion consistently guide work undertaken by organisations such as the World Health Organization, the U.S. Institute of Medicine and Kings Fund (U.K.). Health equity is seen as achievable through action on the social determinants of health, addressing bias and prejudice. However, policies and standards often focus on specific groups of people, risking the prioritisation of one aspect of an older person over another and growing fatigue related to the increasing number of 'care delivery' lenses. In response, the concept of intersectionality is considered, that human experience moves beyond a single characteristic, with interplay of characteristics highly variable. The Australian healthcare sector is strategically planning for informed practice that is responsive to diversity characteristics.

THEORETICAL UNDERPINNINGS OF KEY DIVERSITY CONCEPTS

C. Meyer, 1. *Royal District Nursing Service Institute, St Kilda, Victoria, Australia*, 2. *Centre for Health Communication and Participation, La Trobe University, Bundoora, Victoria, Australia*

A meta-narrative systematic review was undertaken to understand the key concepts relevant to enhancing participation in healthcare, specific to the array of diversity characteristics of older people beyond cultural diversity. This presentation will begin with an examination of perception

and awareness related to diversity characteristics, acknowledging the impact of bias and prejudice on participation in healthcare. Next, the WHO Rights to Health of available, accessible, acceptable and quality healthcare services will be addressed, as related to engaging the older person meaningfully in their healthcare. The final section will build these diversity concepts into the reality of community care practice, providing practical, but generic suggestions for community aged care workers.

IMPLEMENTING DIVERSITY CONCEPTS INTO PRACTICE

S. Edmonds, *National LGBTI Health Alliance, Sydney, New South Wales, Australia*

The final section of the symposium will hear from an expert in the area of specific diversity characteristics, namely, the Lesbian, Gay, Bisexual, Transgender and Intersex (LGBTI) community; importantly acknowledging the impact of other diversity characteristics in the policy and practice arena. Sam Edmonds from the National LGBTI Alliance will speak on ageing issues specific to older LGBTI people, what inclusion looks like for LGBTI elders and how health services can be truly inclusive. The presentation will demonstrate why there is a need to move from 'but we treat everyone the same' to 'how can we meet each person's individual needs'.

SESSION 4245 (SYMPOSIUM)

HOW GERONTOLOGISTS THINK ABOUT EVIDENCE: AN INTERNATIONAL COMPARISON

Chair: R.A. Kane, *University of Minnesota, Minneapolis, Minnesota*

Co-Chair: R.L. Kane, *University of Minnesota, Minneapolis, Minnesota*

Discussant: T. Lum, *The University of Hong Kong, Pokfulam, Hong Kong*

This symposium reports on Robert Kane's survey of 360 non-US IAGG members about their views on evidence and compares them to findings from his 2016 study with 240 GSA members. Both GSA and IAGG are eclectic scientific societies, with diverse membership in terms of disciplinary affiliation (e.g., basic sciences, clinical sciences, psychology, sociology, economics, political science, and the humanities, each with many subfields). Their research is theoretical and applied, quantitative and qualitative using a wide variety of designs. Topics studies include the phenomenon of aging, population aging, effects of treatments and interventions, and translation of effective approaches into practice. In an evidence-conscious yet increasingly specialized era, examining how gerontologists perceive, define and use evidence, and the evidence they trust is timely. Defining evidence as "information you believe is true and would act upon," respondents rated how various circumstances influenced their confidence in evidence the credibility of evidence gleaned from a variety of research designs; and their perceived adequacy of available evidence to guide their own work. Three papers present findings: 1) crosscutting review of methods, results, and themes; 2) a multivariate analysis of responses based on respondents' disciplines and primary function; and 3) patterns of difference between GSA and IAGG responders and the role of country of residence in the results. Commentaries

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by 3 distinguished international experts, each with a different disciplinary perspective, ushers in a general audience discussion to explore the implications of the findings for cross-disciplinary and international research and knowledge development.

OVERALL PATTERNS OF VIEWS ON EVIDENCE

R.A. Kane¹, M. Whipple², R.L. Kane¹

1. *University of Minnesota, Minneapolis, Minnesota, 2. School of Nursing, University of Minnesota, Minneapolis, Minnesota*

This session reviews methods, sample frames, data collection, factor analytic approaches to quantitative data, and content analysis of the qualitative data. Preliminary work suggests that views about what increases trust in evidence, the credibility of evidence derived from different study designs and ratings on the adequacy of evidence to guide one's work are associated with disciplinary clusters. We will describe respondents' views, contrasting those who primarily conduct research with those who primarily teach, those who do any clinical work, and those who make policy or programmatic decisions. Preliminary qualitative analyses found contrasting views about the merits of quantitative and qualitative work, the value of theory-testing versus discovery through observation; advantages versus limitations of RCTs; the sufficiency or insufficiency of evidence for practice and policy decisions; and distinctions between evidence of no effect and no effect of evidence.

DRILLING DOWN: WHAT AFFECTS PERSPECTIVES ON EVIDENCE ACROSS THE GLOBE

E. Jutkowitz¹, M. Whipple², R.A. Kane¹, R.L. Kane¹,
1. *School of Public Health, University of Minnesota, Minneapolis, Minnesota, 2. School of Nursing, University of Minnesota, Minneapolis, Minnesota*

This sessions analyze characteristics of the respondents that are associated with their perspectives on what creates confidence in evidence, what designs have credibility, and how positively or negatively they view the available evidence to guide their own work, and their responses to a variety of agree-disagree questions, including those that query the extent to which researchers in aging share perspective about evidence, and whether researchers in aging they should share a perspective about evidence. Independent variables include: the respondent's disciplinary cluster, primary work activities (e.g. more than 50% + research, 50% education, or having any clinical practice), extent of multidisciplinary collaboration, and perhaps length of time from receiving their last educational degree.

COMPARING IAGG AND GSA MEMBERS' VIEWS OF EVIDENCE IN AGING

M. Whipple², E. Jutkowitz¹, R.A. Kane¹, R.L. Kane¹,
1. *School of Public Health, University of Minnesota, Minneapolis, Minnesota, 2. School of Nursing, University of Minnesota, Minnesota*

This presentation compares and contrasts GSA and IAGG respondents' views after controlling for discipline and primary activity. The IAGG sample is further divided by country of origin with a cluster, for example, from Africa, from Scandinavian countries, from Western Europe, from UK and Australia, from Asia, and New Zealand and from South

American countries and Spain. Although numbers by country are rather small we do expect to see some differences in perspective, and will also analyze qualitative data for further insights. In the IAGG sample, a large proportion of the same—amounting to at least 1/3, are physicians, perhaps a reflection of the way aging programmatic leadership and research evolves in various parts of the world.

WHAT DOES ALL THIS MEAN?

T. Lum¹, B. Vellas², D. O'Neill³, 1. *Hong Kong University, Hong Kong, Hong Kong, 2. Geriatric Department, University Hospital, Toulouse, France, 3. Tallaght Hospital, Dublin, Ireland*

International discussants Terry Lum, social worker and health services researcher, Bruno Vellas, internist, geriatrician and clinical trial expert, and Desmond O'Neill, geriatrician, humanist and ethicist, will discuss the findings and their implications for future gerontological research, and cross-national as well as cross-disciplinary gerontological research. Along with other presenters, they will serve as panelists for an audience discussion about what kind of common understanding of evidence is necessary or desirable for cross-disciplinary and cross-national gerontological research.

SESSION 4250 (SYMPOSIUM)

MULTIPLE CHRONIC CONDITIONS: A WORLDWIDE CHALLENGE

Chair: R. Pruchno, *Rowan University School of Osteopathic Medicine, New Jersey*

Discussant: C. Boyd, *Johns Hopkins University School of Medicine, Maryland*

Globally, the number of older people with multiple chronic conditions (MCCs) has increased dramatically in the past decades. It is not unusual for an 80-year old to be diagnosed with five or six conditions, each treated with multiple medications and complex therapeutic regimens. While some countries have developed innovative policies and programs designed to improve the lives of people with MCCs, other countries are just beginning to respond to these challenges. Typically, the onus is on individuals and families to manage the demands of MCCs. Yet knowledge about how people manage MCCs, what supports enable people with MCCs to cope effectively, and what role medical practitioners should play is unclear. This symposium includes presentations from scholars in Bulgaria (Stanimir Hazzardzhiev), Canada (Walter Wodchis), Italy (Alessandra Marengoni), Lithuania (Rokas Navickas), and the United States (Maureen Wilson-Genderson & Allison Heid). Presenters will discuss the number of older people with MCCs, how older people cope with MCCs, the association between onset of MCCs and outcomes, the effects of social support on MCCs, the importance of person-centered care in the context of MCCs, the economic costs of MCCs, and responses of global health care systems in addressing the needs of people with MCCs. Discussant Cynthia Boyd will highlight the similarities and differences in the work of these international scholars, examine how findings can build on one another, and suggest how research can be used to change the way care is provided to older people, thereby improving the lives of older people with MCCs worldwide.

AGEING WITH MULTIMORBIDITY

A. Marengoni¹, G. Onder², 1. *University of Brescia, Brescia, Italy*, 2. *Department of Geriatrics, Centro Medicina dell'Invecchiamento, Università Cattolica del Sacro Cuore, Rome, Italy*

During the last two decades, research on multimorbidity (e.g., the evaluation of the coexistence of multiple chronic diseases in the same person, *whichever* the diseases are) has rapidly increased. Previous reports have clearly shown that multimorbidity affects a large proportion of older persons ranging from 55 to 98% across studies depending on definition, age of the population and data source, making this condition to be defined as the 'most common chronic disease'. A few possible risk factors for multimorbidity were identified, such as increasing age, whereas a large social network seemed to play a protective role. However, the exclusive use of a quantitative approach to this phenomenon fails to catch the nature and dynamics of the different patterns of co-existing diseases. Given that there are no clear boundaries between many diseases, studying the structure defined by the entire set of co-occurring morbidities might help to understand biological and medical questions.

ONSET OF MULTIPLE CHRONIC HEALTH CONDITIONS AND DEPRESSIVE SYMPTOMS

M. Wilson-Genderson², A. Heid¹, R. Pruchno¹, 1. *Rowan University School of Osteopathic Medicine, Stratford, New Jersey*, 2. *Temple University, Philadelphia, Pennsylvania*

This study sought to prospectively examine the association between the onset of five chronic health conditions (arthritis, diabetes, heart disease, hypertension, and pulmonary disease) and depressive symptoms in a community dwelling sample of older adults. Longitudinal multi-level modeling was used to examine the effects of illness onset on depressive symptoms. We found that, from 2006 and 2011, onset of each of the 5 conditions had independent effects that increased depressive symptoms for people with zero or one chronic condition at baseline, while controlling for a lifetime diagnosis of depression, age, gender, income, and race. The transition from no or a single chronic health condition to multimorbidity regardless of the type of illness of onset impacted older adults' depressive symptoms. Developing ways to prevent or delay the onset of additional chronic illnesses will impact the well-being of older adults.

HEALTH CARE OUTCOMES FOR PEOPLE WITH MULTIPLE CHRONIC CONDITIONS IN ONTARIO, CANADA

W. Wodchis^{1,2,3}, A. Gruneir⁴, K. Thavorn⁵, N.E. Lane¹, A. Kone⁶, S. Bronskill³, C.J. Maxwell⁷, 1. *Institute of Health Policy Management and Evaluation, University of Toronto, Toronto, Ontario, Canada*, 2. *Toronto Rehabilitation Institute, Toronto, Ontario, Canada*, 3. *Institute of Clinical Evaluative Sciences, Toronto, Ontario, Canada*, 4. *University of Alberta, Edmonton, Alberta, Canada*, 5. *Ottawa Hospital Research Institute, Ottawa, Ontario, Canada*, 6. *Lakehead University, Thunder Bay, Ontario, Canada*, 7. *University of Waterloo, Waterloo, Ontario, Canada*

This presentation will summarize evidence arising from a multi-year population-based study of over 6 Million people in Ontario, Canada who have one of 17 common chronic conditions, and particularly the more than 2.5 Million

individuals with multiple chronic conditions. Aside from the expected increases in health care utilization, adverse outcomes and health care costs associated with an increasing number of conditions, the results highlight several novel insights. For example: there are very few patterns of clustering of multiple chronic conditions; the increasing effect of additional conditions on health care use is attenuated for those aged 65 or over; the gradient in mortality associated with socio-economic status is not apparent after controlling for the number of chronic conditions that a person has. Results also indicate modifiable factors: having greater than median continuity of care was equivalent to having one less chronic condition in terms of hospitalization outcomes.

MULTIMORBIDITY: JUST A MATTER OF THE ELDERLY? LITHUANIAN NATIONAL DATA ANALYSIS

R. Navickas^{1,2}, E. Jureviciene^{1,2}, 1. *Faculty of Medicine, Vilnius University, Vilnius, Lithuania*, 2. *Vilnius University Hospital Santariskiu Klinikos, Vilnius, Lithuania*

Multimorbidity, defined as the coexistence of at least two chronic conditions in the same individual, is usually associated with older age. Interestingly, an upward trend in multimorbidity is related not only to the increasing life expectancy, but in addition, an increasing number of younger people suffering from multiple chronic diseases. Despite the obvious trend, the age effect on the occurrence of multimorbidity has not been well researched.

The presentation will focus on a national study, covering the whole Lithuanian chronically diseased population with at least one chronic condition from the 32 chronic disease list. The presentation will reflect on the age breaking points for the occurrence of multimorbidity and analyze the age effect on healthcare resources as well as medication usage. Based on 450,000 patients' data, results will suggest potential age groups, where interventions for chronic disease management could provide higher success rates.

SESSION 4255 (SYMPOSIUM)

A MUSIC PROGRAM FOR INSTITUTIONAL LONG-TERM CARE RESIDENTS WITH DEMENTIA: IMPLEMENTATION AND OUTCOMES

Chair: K. Thomas, *Brown University, Rhode Island*
Discussant: R. Baier, *Brown University, Rhode Island*

With an increasing number of older adults affected by Alzheimer's disease and related disorders (ADRD), there is an emphasis on finding safe and effective non-pharmacological interventions to address behavioral and psychological symptoms of dementia (BPSD). This symposium presents the implementation and effectiveness of an international personalized music program, MUSIC & MEMORYSM (M&M) in institutional long-term care (LTC) settings. The first presenter, and founder of M&M, will describe his approach to leveraging technology to create the program and detail its current application in settings around the world. The second speaker will present findings from qualitative research with nursing homes in four states in the U.S., focusing on barriers and facilitators to successful program implementation. The third speaker will present results of an in-depth evaluation of statewide M&M implementation in Wisconsin nursing homes, including results from a crossover study in 10 facilities and statewide nursing

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home survey. The fourth presenter will describe findings from a randomized control trial conducted with 20 institutional LTC residents in Germany. The fifth speaker will present findings from a national, retrospective difference-in-difference analysis of 98 U.S. nursing homes certified in the M&M program compared to 98 pair-matched controls. Evidence from these studies suggests that M&M is related to improvements in BPSD and anti-psychotic use among institutional LTC residents, but also that effectiveness is related to program implementation and fidelity. The discussant will weave together the findings and international experiences within a quality improvement framework and present implications for future research and the care of residents with ADRD.

USING TECHNOLOGY TO DELIVER PERSONALIZED MUSIC WORLDWIDE TO PEOPLE WITH DEMENTIA

D. Cohen, *MUSIC & MEMORY, Inc., Mineola, New York*

I describe my experience using inexpensive new technology (iPods) to create MUSIC & MEMORY, a personalized music program for people with Alzheimer's disease and related dementias. The program started in 2006 with a question: Why not use iPods to provide nursing home residents with music tailored to their personal preferences? Its potential is illustrated powerfully in the award-winning 2014 documentary, *Alive Inside*, which shows people with severe dementia begin to move, sing, interact with others, and even describe memories while listening to their music. What began as a simple idea piloted in a single nursing home has now spread into a worldwide program with more than 3,100 sites, including multiple care settings and eight countries. There are numerous research and demonstration projects underway, some of which will be detailed in this symposium. I describe the program and my process to continually incorporate best practices and research findings into its delivery.

BEST PRACTICES FOR IMPLEMENTING PERSONALIZED MUSIC WITH NURSING HOME RESIDENTS WITH DEMENTIA

B. Frank, C. Brady, *B&F Consulting, Warren, Rhode Island*

We focus on qualitative findings from site visits with 13 nursing homes in four states that implemented a personalized music program for residents with Alzheimer's disease and related dementias. Seven facilities were participants in a statewide demonstration project, selected by state leaders because of their apparent success. We retrospectively interviewed key informants to learn how staff implemented the program and what they perceived as facilitators or barriers. We found common themes, such as how easily accessible the music devices are and how interdisciplinary care teams incorporate the program into care planning and quality improvement. We then prospectively followed six facilities in three states as they implemented the program. Site visits with these facilities allowed us to identify the processes necessary to fully adopt the program and incorporate it into the culture of care. Our final qualitative findings will serve as a guide to others implementing or evaluating this intervention.

INDIVIDUALIZED MUSIC FOR PEOPLE WITH DEMENTIA IN INSTITUTIONAL CARE

G. Wilz, T. Heilmann-Stiegler, J. Deux, L. Weise, *Institute of Psychology, Friedrich-Schiller-Universität Jena, Jena, Germany*

The study focuses on the investigation of individualized music for people with dementia in institutional care in Germany. It aims to improve well-being, quality of life and social participation and investigates the acceptance, efficacy and applicability of the intervention. A randomized controlled trial ($N = 20$ people with dementia, age $M = 85.20$, $SD = 5.98$, 80% female) was conducted. The intervention was implemented for 8 weeks (during the afternoon for 30 minutes, part one: 3 to 4 sessions in 4 weeks; part two: 2 sessions in 4 weeks) by the project team. Behaviour was observed with a modified version of the Observed Emotions Rating Scale for each inhabitant once a week ($\kappa = .82$). Results after 4 weeks showed an increase in well-being ($t = -2.86$, $p = .019$), a marginal significant increase in participation ($t = -1.96$, $p = .081$) and decrease in resistance ($t = 1.96$, $p = .081$).

A STATEWIDE ROLL-OUT AND EVALUATION OF MUSIC & MEMORY IN NURSING HOMES: THE WISCONSIN EXPERIENCE

J. Kwak, M. Brondino, K. O'Connell Valuch, *University of Wisconsin-Milwaukee, Milwaukee, Wisconsin*

Since 2014, the state of Wisconsin has funded over 300 nursing homes to become certified M&M facilities and provided equipment for nursing home residents. An evaluation of the statewide implementation of M&M in Wisconsin included a crossover study ($n = 59$ residents from 10 nursing homes), pre- and post-survey of medication use of 1,500 residents from 100 nursing homes, comparison of nursing home resident outcomes using MDS data, and key administrative survey with 161 nursing homes. The overall evaluation found that although many facilities viewed M&M as valuable, noting enjoyment by and improved mood among residents, there was substantial variability in the music listening time duration and frequency across residents and facilities, and minimal or modest improvement on resident behavioral outcomes and psychotropic medication use. These findings provide important implications for improving the M&M program design and fidelity, targeting appropriate residents and outcomes, and future implementation and sustainability efforts.

INDIVIDUALIZED MUSIC PROGRAM IMPROVES OUTCOMES FOR U.S. NURSING HOME RESIDENTS WITH DEMENTIA

K. Thomas^{1,2}, C. Kosar¹, V. Mor^{1,2}, R. Baier¹, 1. Brown *University, Providence, Rhode Island*, 2. U.S. Department of Veterans Affairs, Providence, Rhode Island

The objective of this study was to compare the outcomes of U.S. nursing home (NH) residents with dementia in facilities that did and did not implement the MUSIC & MEMORY intervention (M&M) in 2013. Data come from Minimum Data Set assessments for residents with dementia residing in 98 NHs participating in M&M ($n = 12,905$) and matched-pair control facilities ($n = 12,811$). We measured 180-day improvement in antipsychotic use, behavior, communication, and mood in 2012 and 2013. Results from difference-in-difference analyses suggest 180-day improvement in antipsychotic medication use was greater in M&M facilities compared to residents in control facilities ($b = 0.218$, $p < .05$). Residents in M&M facilities also had a greater reduction in frequency of behavioral problems compared to control sites ($b = 0.268$, $p < .05$). No statistically significant differences were observed for improvement in communication

or mood. These results offer evidence that the M&M program may be associated with improvements among nursing home residents with dementia.

SESSION 4260 (PAPER)

EPIDEMIOLOGIC STUDIES: MORBIDITY, FUNCTION, AND HEALTH SERVICES

THE PREVALENCE AND NATURE OF PARAMEDIC ATTENDANCE TO OLDER ADULTS IN AUSTRALIA

L. Ross, B. Williams, P. Jennings, *Monash University, Melbourne, Victoria, Australia*

Given population aging and the prevalence of multiple biopsychosocial issues amongst older adults, it is not surprising that there is a corresponding increase in the demand on health and social services. This retrospective cohort study analysed all emergency paramedic attendances to patients aged 65 or older between 1 July 2011 and 30 June 2014 in Victoria, Australia. A total of 596,579 cases of emergency paramedic attendance to patients 65 years or older in a three year period for 2011 – 2014. The mean (SD) age of patients was 79.8(8.2), with a range of 65 – 112 years old. There were 235,483 (39%) patients aged between 75 – 84, and 327,070 (55%) were female. Of the 89,952 (15%) patients located at nursing homes or supported accommodation facilities 53,175 (59%) were in the 84+ years category. Of the ‘case nature’ variables, *medical* accounted for 348,482 (59%) cases. There were 32,900 (6%) *cardiovascular problems*, 20,822 (3%) *respiratory problems*, and 4,327 (1%) *mental health/behavioural problems*. Of the patients included in the study 493,788 (83%) were transported. A search of all ‘case descriptions’ for phrases indicating a patient *lives alone* or *lives by themselves*, resulted in 59,760 incidence. This research show us that emergency paramedics in Victoria attend approximately 200,000 older patients per year with a wide variety of conditions. The detailed case descriptions however give us a deeper understanding of the complexity of underlying and often secondary psychosocial ailments.

FRAILITY AND RISK FOR DEMENTIA: THE AUSTRALIAN LONGITUDINAL STUDY ON WOMEN’S HEALTH

P. Gardiner, M. Waller, G. Mishra, A.J. Dobson, *The University of Queensland, Woollongabba, Queensland, Australia*

Frailty is well established risk factor for adverse health outcomes such as falls, disability, hospitalisation and mortality. There is some conjecture about whether cognition and dementia are components of frailty and little evidence about whether frailty is a risk factor for dementia. We examined associations of frailty (assessed in 1999) with dementia status after 4 years and 13 years using Cox proportional hazard models. We repeated analyses with death as a competing event, using the competing risks model (proportional sub-hazards model). Participants were 7484 women born in 1921–1926 from the Australian Longitudinal Study on Women’s Health. Frailty was assessed with the FRAIL scale using self-report data: healthy (0), pre-frail (1–2), frail (3–5). Dementia was determined from linkage to administrative data sources: Medicare Benefits Scheme, Pharmaceutical Benefits Schedule, Aged

Care data, and the National Death Index. Death was determined from the National Death Index. Compared to healthy women, frailty was associated with a higher risk for dementia at 4 years (HR 2.43, 95% CI 1.61–3.65) and 13 years (HR 1.52, 95%CI 1.34–1.73). These associations remained significant when controlled for death as a competing risk at 4 years (HR 2.27, 95%CI 1.51–3.42) but not at 13 years (HR 1.14, 95%CI 1.00–1.30). Frailty is associated with dementia but these associations are attenuated over time.

GRIP STRENGTH, SHORT PHYSICAL PERFORMANCE BATTERY, AND ACTIVITIES OF DAILY LIVING (ADL) DEPENDENCE

P.H. Chaves^{1,2}, A. Frisoli⁵, J. Mora², E.R. Vieira³, Q. Xue⁴, 1. *Benjamin Leon Center for Geriatric Research and Education at Florida International University, Miami, Florida*, 2. *Department of Humanities, Health, and Society; Herbert Wertheim College of Medicine; Florida International University, Miami, Florida*, 3. *Department of Physical Therapy, Nicole Wertheim College of Nursing and Health Sciences, Florida International University, Miami, Florida*, 4. *Center on Aging and Health, Division of Geriatric Medicine and Gerontology, Department of Medicine, Johns Hopkins University, Baltimore, Maryland*, 5. *Cardiogeriatrics Division, Universidade Federal de Sao Paulo, Sao Paulo, SP, Brazil*

Introduction. Grip strength (GS) is an appealing measure mainly considered for sarcopenia/disability screening in lieu of other complex lower-extremity function measures directly reflective of the disability causal pathway (e.g., Short Physical Performance Battery [SPPB]). Contexts in which GS may be clinically useful above and beyond SPPB scores remain to be characterized. We examined the association of GS with incident ADL disability independently from SPPB.

Methods. Prospective study using Rounds 1 and 4 data from the National Health and Aging Trends Study, which enrolled a U.S. representative sample of Medicare beneficiaries 65 years and older. Nursing home subjects were excluded. Logistic regression estimated the odds of incident need for help in ADLs 3 years later as a function of both baseline GS and SPPB.

Results. Lower GS and SPPB scores were both independently associated with incident ADL dependence, as estimated by gender-stratified models including both GS and SPPB, and controlling for demographics, diseases, weight, and previous hospitalization. Per 3 kg higher GS, the adjusted odds of incident ADL dependence incrementally decreased 19.2% (95% CI: 11.5%–26.2%, $p < 0.001$) in women, and 12.5% (95% CI: 6.7%–17.8%, $p < 0.001$). No effect modification by prevalent ADL difficulty or age at baseline was observed.

Conclusion. Low GS might adversely impact ADL dependence risk above and beyond the effect of lower-extremity functioning captured by SPPB. Research assessing the extent to which ADL dependence prevention could be enhanced by intervention strategies concomitantly targeting lower- and upper-extremity function, and using SPPB and GS as tracking outcomes measures is warranted.

PRELIMINARY REPORT OF UNMET NEEDS IN COMMUNITY-DWELLING OLDER PERSONS IN QUEBEC, CANADA

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In Quebec, Canada, the standardized clinical assessments (quasi-mandatory) of older persons receiving public services are compiled into an integrated software. We conducted a descriptive analysis of disabilities and unmet needs in the population receiving services at home.

The population receiving at least one public service at home during 1 year (04/2014-03/2015) was studied. Disabilities were evaluated with the 29-item SMAF covering ADLs (7 items), mobility (6), communication (3), mental functions (5), and IADLs (8). Each item was scored on a 5-level scale from 0 (independent) and 0.5 (with difficulty) to 3 (dependent). For each disability item, available resources to compensate for it were evaluated and a handicap score representing unmet needs was indicated. The percentage of persons having unmet needs by items was examined.

A total of 129402 users were assessed during the period (80% of the total population). The non-assessed received very few services. Disabilities (score different than zero) were more frequent in IADL disabilities (60–98% of persons for the 8 IADL), followed by ADL (24–85%) and mental functions (37–66%). The unmet needs were globally more frequent in ADL, communication and mental functions. The highest rates of persons with unmet needs were for the items washing with 11.6%, followed by hearing (10.2%), behavior (10.0%), memory (9.9%), walking inside (9.5%) and judgment (8.7%).

While the higher rates of disabilities were IADL as expected, the unmet needs were surprisingly high in items related to ADL and mental functions. Planning of the population future services should address these dimensions in priority.

TIME TRENDS OF ALZHEIMER'S DISEASE: ADDRESSING CONTRADICTORY ISSUES

I. Akushevich, A.P. Yashkin, J. Kravchenko, A.I. Yashin, Duke, Durham, North Carolina

Recent research has reported that even though the incidence of Alzheimer's disease (AD) in the U.S. has been decreasing, prevalence of the disease has been increasing over the past 25 years. At the same time, studies based on nationally representative survey data have reported that the rates of cognitive impairment (CI), the natural outcome of AD, have been on the decline. In this study, we identify the reasons behind this ostensible contradiction through analysis of trends in AD-related epidemiologic characteristics. Using data from the Multiple Cause of Death database and the Health and Retirement Study we found that between 1999–2011 AD-specific mortality rate patterns show an annual percent change (APC) of 1.84% for males and 2.62% for females. The prevalence of AD has been increasing at an APC of 2.46% (3.04% for males and 2.32% for females) up to 2010 after which it begins to level off. Over the same time period, CI as measured by the Telephone Interview for Cognitive Status (TICS) shows that the time-trends in CI are highly sensitive to the threshold used to define CI. Under the

usually accepted cut-off score of 8 a decline in the time-trend was detected; however this trend reversed when the cut-off point was varied in either direction. This general pattern held for gender-, race-, and education level-specific analysis. We conclude that there is a high level of heterogeneity in the time-trends of AD and the measures representing CI; this heterogeneity is a strong contributor to the observed contradiction in time-trends.

SESSION 4265 (SYMPOSIUM)

INTERNATIONAL INTERVENTIONS SUGGESTED FOR REDUCING IMUP. IGRIMUP SYMPOSIUM NO. 3

Chair: A. Renom Guiteras, Barcelona, Barcelona, Spain

Co-Chair: M. Wehling, Medical Faculty Mannheim

Ruprecht-Karls-University Heidelberg

Discussant: D. Fialová, Charles University, Prague, Czech Republic

This IGRIMUP symposium will discuss some of the methods suggested in our international war against inappropriate medication use and polypharmacy (IMUP) and its applicability. Methods and tools that have been suggested for assessing IMU are usually categorized as explicit (criteria-based) and implicit (judgment-based). Explicit tools usually represent lists of drugs to avoid, or indicators to avoid IMU for several drugs and/or diseases. The first well-known tool is the Beers list, developed in 1991 and updated by the AGS in 2015. In Europe, the START tool was developed to detect prescribing omissions of potentially beneficial drugs, and the STOPP tool as another explicit tool for screening IMU. Both have been updated in 2015. The Beers and START/STOPP methods are discussed by the figures leading these methods (IGRIMUP members) elsewhere in this conference. However, there are unsuccessful attempts to achieve global consensus for the Beers criteria and most other "Country specific Lists" that have been developed. This led several IGRIMUP members to assume that "drugs-to-avoid" criteria are insufficiently accurate to use as stand-alone measures of prescribing quality. Implicit Tools take into consideration both data from research and clinical circumstances as well as incorporating/recognizing preferences of the individual patient to judge drug appropriateness.

This symposium also address the FORTA (fit FOR The Aged) intervention and the PRIMA-eDS electronic support system project. The discussion will concentrate on the applicability of several explicit and implicit tools and compare their efficacy in assessing IMUP.

THE INFLUENCE OF THE FORTA INTERVENTION ON DRUG THERAPY IN HOSPITALIZED ELDERLY PATIENTS

M. Wehling¹, H. Burkhardt², H. Frohnhofen^{3,4}, F. Pazan¹, 1. Medical Faculty Mannheim Ruprecht-Karls-University Heidelberg, Mannheim, Germany, 2. IV. Medical Clinic (Geriatrisches Zentrum) University Hospital Mannheim, Mannheim, Germany, 3. Essen-Mitte Hospital, Knappschafts Hospital, Teaching Hospital at the University of Duisburg in Essen, Essen, Germany, 4. Faculty of Health, University of Witten-Herdecke, Witten, Germany

The absence of data regarding the efficacy and safety of many drugs for use in the elderly has been a major issue.

The FORTA categorization (A: Absolutely; B: Beneficial; C: Careful; D: Don't) was proposed as an aid for improving the appropriateness of pharmacotherapy in the elderly. To evaluate the usefulness of FORTA we conducted a prospective randomized trial (n=409). We determined the alterations in medication and over- and under-prescription rates between admission and discharge. Both over- and under-treatment were improved in the FORTA group as compared to the control group ($p < 0.0001$). In this study, we are going to identify the drugs which were the major determinants for the observed alterations and analyze the overall use of therapeutic groups in our cohort. Based on our results, FORTA is the first combined positive/negative labelling approach at the individual drug level which indeed ameliorates the drug treatment of the elderly.

THE PRIMA-EDS ELECTRONIC DECISION SUPPORT TOOL FOR POLYPHARMACY: A MULTINATIONAL EUROPEAN PROJECT

A. Renom Guiteras^{1,2}, I. Kunnamo³, D. Reeves⁴, J. Hoeck⁵, G. Piccoliori⁶, T. Johansson⁷, A. Soennichsen¹, 1. *Institute of General Practice and Family Medicine, Faculty of Health, Witten/Herdecke University, Witten, Germany*, 2. *University Hospital Parc de Salut Mar, Department of Geriatrics, Barcelona, Spain*, 3. *Duodecim Medical Publications Ltd, Helsinki, Finland*, 4. *Centre of Primary Care, Institute of Population Health, University of Manchester, Manchester, United Kingdom*, 5. *Institute of General Practice, Rostock University Medical Center, Rostock, Germany*, 6. *South Tirolean Academy of General Practice, Bolzano, Italy*, 7. *Institute of General Practice, Family Medicine and Preventive Medicine, Paracelsus Medical University, Salzburg, Austria*

The PRIMA-eDS study (FP7-Health-2012-Innovation-1-2.2.2.-2; grant agreement no 305388-2) is a randomized controlled trial underway in four European countries (Austria, Germany, Italy, United Kingdom). The aim is to develop and validate an electronic decision support system, the Comprehensive Medication Review (CMR) tool, for use by practicing physicians and nurses to reduce inappropriate prescriptions in older people. The EBMEDS clinical decision support system developed by Duodecim Medical Publications Ltd. (DMP) was used as the platform. To inform the CMR a series of systematic reviews were conducted leading to the development of 46 recommendations covering 17 drug classes. These were combined with existing decision support rules on medication reduction and safety produced by DMP, and drug databases developed by Medbase Ltd. (Finland). The tool receives coded patient data from a case report form and produces a report of the medication review. The potential clinical benefits of the CMR tool are being evaluated.

COMPARING THE EXPLICIT TOOLS VS. IMPLICIT EVALUATION AMONG TURKISH GERIATRIC OUTPATIENTS

G. Bahat¹, B. İlhan¹, I. Bay¹, S. Avci², F. Tufan¹, C. Kilic¹, M. Karan¹, 1. *Istanbul University Istanbul Medical School, Istanbul, Turkey*, 2. *Istanbul University Cerrahpaşa Medical School, Istanbul, Turkey*

To reduce potentially inappropriate medication (PIM) use in the older adults, the explicit (criteria-based) tools and the implicit (judgment-based) tools are suggested. The reasons why multidisciplinary geriatric teams decide not to follow STOPP criteria have been studied scarce. We aimed to compare an explicit tool (STOPP) with the implicit comprehensive geriatric evaluation among the Turkish geriatric outpatients thereby analyzing the compliance with the recommendations of the STOPP criteria in older inpatients and the reasons underlying the non-compliance. Older patients (>65-years) admitted to outpatient clinic of a university hospital between June 2000-June 2014 were retrospectively and randomly evaluated for PIM with STOPP version 2 criteria and implicit geriatric evaluation on admission. We analyzed how many STOPP recommendations were accepted by the team, and if they were not accepted, the reasons are identified. We will present the results among a total of n=200 subjects.

CRITERIA-BASED VS. JUDGMENT-BASED TOOLS FOR APPROPRIATE PRESCRIBING—HOW TO CHOOSE?

D. Garfinkel, *Homecare Hospice & Geriatric-Palliative Service, Israel Cancer Association & Wolfson Medical Center & Bat - Yam, Israel*

Professionals wishing to de-prescribe should first decide what means of fighting IMUP to choose. Tools to assess/fight IMUP may be explicit, criteria-based or implicit, judgment-based. For explicit lists of “drugs to avoid” (Beers, many “country specific lists”) global consensus will probably never be achieved. Implicit tools (eg. MAI, PATH, Garfinkel) take into consideration both data from research and clinical circumstances incorporating individual patient's preferences to judge drug appropriateness. Knowledge gaps are increasing and positive benefit/risk ratios for all drugs are decreasing/inverted in correlation to old age, comorbidity, dementia, frailty, limited life expectancy (VOCODFLEX). Heterogeneity in these subpopulations is huge; traditional statistical/computers' aids are useless. Doctors' unawareness of their knowledge gap represents high levels of risk for patients. Patients centered approach re-evaluating each drugs is preferable. As Polypharmacy is the main IMU predictor, Garfinkel method advocates simultaneous Poly-de-prescribing with patient/family consent; The anticipated improvement of IMUP symptoms may be relatively fast.

SESSION 4270 (SYMPOSIUM)

A CHINESE HOME CARE MODEL FOR FRAIL ELDERLY INTEGRATING GERIATRICS, HOME SERVICE, AND TECHNOLOGY

Chair: S. Leng, *Johns Hopkins University School of Medicine, Baltimore, Maryland*

Co-Chair: X. Liu, *Peking Union Medical College Hospital, Beijing, China*

Discussant: J.B. Halter, *University of Michigan*

As the oldest old and frail subset of older adult population grows most rapidly worldwide, quality and effective home care is essential for the assessment, prevention and treatment of medical, functional and behavioral problems commonly encountered in these vulnerable individuals, ensuring

successful aging in place. Through international collaboration and team work of geriatricians, home service providers and technology industry, we have developed an innovative home care model integrating geriatric medicine including frailty assessment, home service and technology serving metropolitan Beijing, China. After attending this symposium, participants will be able to learn and define: 1) critical components of this model; 2) application of advanced digital technology for off-site assessment and consultation and; 3) the importance of frailty assessment and research for risk stratification and targeted intervention; and 4) innovative approach for geriatrics interdisciplinary team working collaboratively with home service industry and technology. Geriatrics interdisciplinary team at Peking Union Medical College Hospital in collaboration with that at Johns Hopkins University provides geriatrics care. Geriatrics Center at Hua-xi Hospital collaborates on frailty assessment and research. Pinetree Care Group provides home services. Little Fish at Home (a.k.a. iNemo)™ is a computer-based advanced digital technology (companion robot) that provides high definition audio/video remote connection between geriatrics care providers and patient/staff members at patient's home. While we continue to optimize its operation and assess the effectiveness, it is important to disseminate this innovative care model that will help improve the health and quality of life for frail older adults at home and reduce healthcare cost.

INTERNATIONAL COLLABORATION FOR GERIATRICS AND HOME CARE MODEL DEVELOPMENT IN CHINA

S. Leng¹, M. Bellantoni¹, M. McNabney¹, T. Finucane¹, W. Greenough¹, L.P. Fried², S. Duroso¹, 1. *Division of Geriatric Medicine and Gerontology, Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, Maryland*, 2. *Mailman School of Public Health, Columbia University, New York, New York*

China has the world's largest aging population that grows at a staggering rate. For example, the number of adults aged 80 years and over, the oldest and frail subset of the aging population currently grows at 1 million per year. Thus, the need for quality geriatrics and innovative care model development is unprecedented. Initially funded by the China Medical Board in 2006, the Division of Geriatric Medicine and Gerontology at Johns Hopkins University (JHU) has developed international collaboration with Peking Union Medical College (PUMC) and established a premier academic geriatrics program with an interdisciplinary geriatrics care team at PUMC Hospital. This international collaboration and other efforts have led to the funding from the Milstein Medical Asian American Partnership Foundation for the development of the innovative home care model program described in this symposium. The experiences and valuable lessons learned from such international collaboration will also be discussed during the presentation.

THE ROLE OF GERIATRICS INTERDISCIPLINARY TEAM IN HOME CARE FOR THE FRAIL ELDERLY IN BEIJING, CHINA

X. Liu, M. Zhu, L. Kang, *Department of Geriatrics, Peking Union Medical College (PUMC) Hospital, Beijing, China*

Healthcare for community-dwelling seniors in China is still disease-centered, with geriatric issues being largely neglected. Supported by the Irma and Paul Milstein Program for Senior Health of the Milstein Medical Asian American Partnership (MMAAP) Foundation, the Department of Geriatrics at Peking Union Medical College (PUMC) Hospital, together with Pinetree Care Group and Johns Hopkins University, has developed an innovative home care model that integrates geriatrics, community/home services, and computer-based digital technology. In this continuous home care model, the PUMC Hospital interdisciplinary team provides various geriatrics training for community/home service staff members, conducts real time clinical assessment and monitoring via computer-based digital technology called "Little Fish at Home", and develops personalized intervention plans for frail seniors at their home. The PUMC Hospital geriatric team plays a leading and integral role in ensuring quality and promoting geriatrics care in for frail older adults living in the community.

FRAILTY RESEARCH IN CHINA AND ROLE OF FRAILTY ASSESSMENT IN HOME CARE

B. Dong¹, N. Ge¹, D. Xiang¹, P. Du², 1. *The Center of Gerontology and Geriatrics at West China Hospital, Sichuan University, Chengdu, China*, 2. *Renmin University of China, Beijing, China*

Frailty is an important clinical syndrome highly prevalent among individuals aged 80 years and older. It is characterized by decreased physiologic reserve and increased vulnerability to stressors, leading to severe adverse health outcomes. The most widely utilized instruments for frailty assessment include Fried's frailty phenotype and Rockwood's frailty index. Because of serious medical, functional, psychobehavioral, and socioeconomic impact of frailty on older adults, it is imperative to understand its pathogenesis through frailty research so that interventional strategies can be developed. At the same time, frailty assessment is useful for risk stratification that helps identify those who need clinical intervention and monitoring. This is particularly important in the development of effective home care model as it will guide targeting limited resources to the most vulnerable older adults. We will provide an overview of frailty research in China and application of frailty assessment in this innovative home care model for Chinese seniors.

THE ROLE OF HOME SERVICE AND TECHNOLOGY IN HOME CARE FOR FRAIL OLDER ADULTS IN METROPOLITAN BEIJING

N. Wang, *Pinetree Care Group, Beijing, China*

The Pinetree Care Group, established in 2004, aims to provide restorative healthcare services for community-dwelling frail Chinese seniors. As the need of the oldest old and frail subset has increasingly become more complex, we have expanded our services to provide home visits by professional caregivers in urban and suburban parts of Beijing, Shanghai, Jiangsu and Guangdong provinces. Geriatric services have been integrated since 2013 under the supervision of Department of Geriatrics at PUMC Hospital, a model of continuous home care for seniors. Application of the computer-based digital technology (companion robot) called "Little Fish at Home (a.k.a. iNemo)™" that provides high-resolution audio/video

remote connection between caregivers and patient/family/staff members at patient's home has made remote geriatric consultation possible, which will be demonstrated during the presentation. We continue to optimize its operation and expand this model to serve seniors in other parts of China, especially in remote areas where resources are scarce.

SESSION 4275 (PAPER)

FACTORS ASSOCIATED WITH FALL RISK

CLINICAL OSTEOARTHRITIS OF THE KNEE AND HIP ARE ASSOCIATED WITH AN INCREASED FALL RISK

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Osteoarthritis (OA) has been shown to be associated with decreased physical function and may therefore lead to an increased fall risk. The objective of this study was to examine whether clinical OA of the knee and hip are related to an increased fall risk in the general population.

Baseline and follow-up data from the European Project on OsteoArthritis (EPOSA) were used involving pre-harmonized data from five European population-based cohort studies (ages 65–85). Clinical OA was defined according to the American College of Rheumatology (ACR) criteria. At 1-year follow-up, falls were assessed using retrospective self-reports (n=2201).

The prevalence of knee OA was 19.2%; the prevalence of hip OA was 6.1%. During follow-up, 15.6% of the participants fell one time, and 8.1% fell two times or more. After adjustment for confounding, clinical knee OA was associated with recurrent falls (OR=1.5; 95% CI: 1.1–2.2), but not with falls (OR=1.2; 95% CI=0.9–1.5). Clinical hip OA was associated with falls (OR=1.5; 95% CI=1.0–2.2), but not with recurrent falls (OR=1.5; 95% CI: 0.9–2.7). Using multinomial regression analyses, a significant association for two or more falls versus no falls for persons with clinical knee OA versus controls was observed (OR=1.5; 95% CI: 1.0–2.2). No significant associations were observed for single falls versus no falls.

In conclusion, persons with clinical knee and hip OA had an increased risk for falls, but not for single falls. Attention should be paid to the prevention of falls in persons having clinical OA.

FALLERS AND CORTICAL BRAIN VOLUMES: CROSS-SECTIONAL ANALYSIS IN COGNITIVELY HEALTHY OLDER ADULTS

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Fall is a consequence of gait instability. Cortical and subcortical abnormalities have been associated with gait instability but not yet with fall. This study aims to compare the global and regional brain subvolumes between healthy fallers and non-fallers. A total of 77 healthy older individuals

(23 fallers and 54 non-fallers, 69.8 ± 3.5 years; 45.5% female) were included in this study using a cross-sectional design. Based on an *a priori* hypothesis, the following brain subvolumes were quantified from three-dimensional T₁-weighted MRI using FreeSurfer: total white matter abnormalities, total white matter, total cortical and subcortical gray matters, hippocampus, motor cortex, somatosensory cortex, premotor cortex, prefrontal cortex and parietal cortex. Age, sex, body mass index, comorbidities, use of psychoactive drugs, far-distance vision, lower-limb proprioception, depressive symptoms and cognitive scores (Mini-Mental State Examination, Frontal Assessment Battery) were used as covariates. Multiple logistic regressions showed that subvolumes of the somatosensory cortex ($P < 0.042$) and the hippocampus ($P < 0.042$) were increased in fallers compared to non-fallers, even after adjustment for clinical and brain characteristics. The greater subvolumes of somatosensory cortex and hippocampus reported in fallers compared to non-fallers suggest a possible brain compensatory mechanism involving spatial navigation and integration of sensory information.

TIME AND ACTIVITY-NORMALIZED FALL RATES IN GLAUCOMA

P. Ramulu, A. Mihailovic, L.N. Gitlin, S. West, D. Friedman, *Ophthalmology, Johns Hopkins Medical Center, Baltimore, Maryland*

Fall risk factors are typically shown as rate ratios, with rates calculated as the ratio of documented falls over months/years of follow-up. However, many factors which increase fall risk are also associated with activity restriction, and may lower one's exposure to falls. Two-hundred forty-four patients with a range of visual field (VF) loss from glaucoma completed fall calendars to determine the association of VF loss severity (and other patient features) with fall rates over: (1) time, and (2) steps taken (inferred from annual 1 week accelerometry trials). The cumulative probability of falling was 0.45 among study participants. More severe VF loss was not associated with a higher rate of falls/year (RR=1.06 per 5 dB decrement in VF sensitivity, $p=0.45$), but was associated with a higher rate of falls/step (RR=1.18 per 5 dB decrement in VF sensitivity, $p=0.03$). Likewise, older age was associated with a higher rate of falls/step ($p < 0.001$), but not with a higher rate of falls/year ($p=0.28$). Men did not differ from women with regards to their rate of falls/year ($p=0.16$), but were noted to have fewer falls/step ($p=0.02$). Finally, African-Americans were noted to have fewer falls/year ($p=0.02$) as compared to Whites, but did not differ with regards to their rate of falls/step ($p=0.42$). Our results suggest that evaluating fall rates simply as rates over time can incompletely characterize risk factors for falls. Future research should strongly consider employing activity measures in order to characterize risk factors for falls normalized to both time and activity.

FALLS RISK-PREDICTION FOR OLDER INPATIENTS: NEW APPROACH

O. Beauchet, *Medicine, McGill University, Montreal, Quebec, Canada*

The study aims to examine performance criteria (i.e.; sensitivity, specificity, positive predictive value, negative predictive value and accuracy) for fall prediction resulting from a nurse assessment and an artificial neural networks (ANNs)

analysis in older inpatients hospitalized in acute care medical ward. A total of 848 older inpatients (mean age $\pm$ standard deviation, 83.0 ± 7.2 years; 41.8% female) admitted to acute care medical wards in Angers University hospital (France) were included in this study using an observational prospective cohort design. Within 24 hours after admission of older inpatients, nurses performed a bedside clinical assessment. Participants were separated into non-fallers and fallers. Fallers were participants with one or more falls during their hospitalization. The analysis was conducted using three feed forward ANNs (multilayer perceptron [MLP], averaged neural network and neuroevolution of augmenting topologies [NEAT]). Seventy three (8.9%) participants fell at least once during their hospital stay. The specificity was high, regardless of which ANN was used, and the highest value reported was with MLP (99.84%). In contrast, sensitivity was lowest, with values ranging between 98.4 to 14.8%. MLP had the highest accuracy (99.7). Performance criteria for fall prediction resulting from a bedside nursing assessment and an ANNs analysis was associated with high specificity, but low sensitivity, suggesting that this combined approach should be used more as a diagnostic test than a screening test when considering older inpatients in acute care medical ward.

A STUDY OF EXECUTIVE FUNCTION (EF) AND PROSPECTIVE FALL RISK IN COMMUNITY-DWELLING OLDER ADULTS

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Background: Recent findings suggest that older people with executive function (EF) impairment have an increased risk of fall. Prospective evidence with a long follow-up is however lacking.

Objective: To examine 1) whether EF impairment at baseline predicts fall over a 6-year follow-up; and 2) whether a potential dose-response relationship exists between EF impairment and the risk of falling at 6-year of follow-up.

Methods: Community-dwelling older adults (N=906, mean age 69 ± 1.4 , women 59.8%) were followed between 2005 and 2011 with measures of executive function: clock drawing test (CDT), verbal fluency (VF), TMT A and B and ratio (TMT B-A/A). Falls were collected prospectively using monthly calendars in 2011.

Results: At baseline, 5.5% were cognitively impaired (MMSE $\leq$ 24), and 17.9% had abnormal CDT (score $\leq$ 7). In 2011, 13% fell one time without injury and an additional 20.2% had multiple or injurious falls. In multivariable regression analysis, poor EF was significantly associated with reporting one non-injurious fall ($RR_{\text{worst quintile of TMTB}} = 0.43$, 95%CI=0.22–0.85, $p=0.015$; ($RR_{\text{worst quintile of ratioTMTB-A/A}} = 0.37$, 95%CI 0.18–0.74, $p=0.005$). There was no significant association between poor EF and multiple/injurious falls, showing no dose-response relationship. Cognitive profiles of non-fallers and multiple/injurious fallers were very similar.

Conclusions: In this study, EF impairment at baseline did not predict future fall risk. Further investigations will examine whether the decline in EF increases fall risk during follow-up.

SESSION 4280 (PAPER)

FACTORS AFFECTING PHYSICAL ACTIVITY IN OLDER PERSONS

SITTING TIME IN OLDER ADULTS WITH AND WITHOUT ALZHEIMER'S DISEASE

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Older adults spend 65–80% of waking time sitting. Independent of physical activity, daily sitting time is a risk factor for poor glycemic control and type 2 diabetes which are inexorably linked to Alzheimer's disease (AD). Few studies have evaluated sitting in individuals with AD. In 100 older adults with (n=47) and without mild AD (n=53), we measured sitting posture using the ActivPALTM postural monitor, worn on the thigh, over one week. Our aim was to characterize differences between groups with and without AD. The monitors estimated 64% of waking hours spent sitting, which did not differ by AD status. Although postural monitor estimates did not significantly differ by dementia status in the average number of hours per day of spent sitting (M(SD)= 9.7(1.5) AD vs. 9.4(2.3) controls), the AD group had significantly more daily bouts of sitting for durations of longer than 30 minutes (M(SD)=5.67(1.35) AD vs. controls (M(SD)=5.00 (1.58), $t(83)=-2.04$, $p<.05$). Those without AD, on average, transitioned from sitting to standing 6 more times per day than those with AD. Physiological and behavioural changes in AD may affect sitting bout duration even if the total amount of time spent in sitting does not change. Previous intervention research in non-cognitively impaired older adults suggest that reducing the duration of sitting bouts can have beneficial effects on glycemic control and insulin sensitivity. More research is needed to determine whether interventions to modify prolonged sitting is feasible and effective in people with AD.

EFFECTS OF A NEW COMPUTERIZED MOTOR-COGNITIVE MEMORY TRAINING IN OLDER PERSONS

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Decrease in memory performance and executive functions represent early markers of age-associated cognitive decline or neurodegenerative disorders while procedural memory is sustained.

The purpose of this randomised controlled trial (RCT) was to examine the effect of a newly developed computer-based memory training program (Physiomat[®]) using procedural memory support in older persons.

Patients (n=50, mean age: 78.8 ± 7.0) without cognitive impairment (MMSE 28.1 ± 1.7) took part in the RCT. The intervention group (IG: n=28) performed a computer-based motor-cognitive training including complex, machine-based balance tasks related to a memory tasks with and without procedural support presented at a computer display. The control group (CG, n=22) performed an unspecific exercise

program. Task without and with procedural support were tested at different performance levels for test duration and total number of conditions (total score).

Compared to the CG the IG significantly improved in 2 out of 4 conditions (total score: $p=0.002$, level 3: $p=0.001$, with a trend in level 2 [$p=0.09$] and 4 [$p=0.08$], effect sizes, η^2 ranging from 0.07–0.26) for the task without procedural support. With procedural support the IG improved in one out of two (level 2: $p<0.001$, $\eta^2=0.36$; level 3: $p=0.10$, $\kappa^2=0.12$) but not in total score. Significant training gains sustained 3 months after training cessation. Increasing test complexity reduced number of participants thus decreasing statistical power.

Training increased complex motor cognitive performances related to dynamic balance and memory in cognitively intact older persons independent from procedural support. Test challenges seemed sensitive to detect early memory deficits during dual tasking.

TEMPORAL RELATIONSHIP BETWEEN PHYSICAL ACTIVITY, EXERCISE INTENSITY, AND MORTALITY IN OLDER MEN

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Background: The objective was to examine the temporal relationship between changes in total physical activity, exercise intensity, muscle training, exercise duration and walking speed across three time-points with all-cause, cardiovascular and cancer-specific mortality in older men.

Methods: Community-dwelling men aged 70 years and older from the CHAMP study were assessed at baseline (2005–2007, $n=1705$), 2-years ($n=1367$) and 5-years follow-up ($n=958$). At all three time-points, physical activity was measured by the validated, self-administered PASE questionnaire and walking speed was measured over a 6 meter walk. Mortality was ascertained through the state death registry with a median follow-up of 7-years. Statistical modeling was by GEE with Poisson regression which is robust with missing data and loss to follow-up.

Results: In univariate analyses, the relative risk for the decline in one SD in PASE scores over the three study time-points was 1.66 (95%CI:1.49–1.85) for all-cause, 1.98 (95%CI: 1.69–2.33) for cardiovascular and 1.19 (95%CI: 1.02–1.38) for cancer mortality. These associations remained statistically significant in multivariate-adjusted models with all-cause and cardiovascular, but not cancer mortality. Furthermore, men undertaking strenuous exercise have 40% risk reduction in dying when compared to men with no exercise. For temporal increase in walking duration (hr/day), in both univariate and multivariate-adjusted models, statistically significant associations was observed with all-cause (RR:0.88, 95%CI:0.78–0.98) and cardiovascular (RR:0.79, 95%CI:0.65–0.96), but not cancer mortality. Increases in walking speed over the three time-points were associated with strong decrease in relative risk; 0.18 (95%CI:0.11–0.29) for all-cause, 0.11 (95%CI:0.05–0.22) for cardiovascular and 0.34 (95%CI:0.17–0.68) for cancer mortality.

Conclusions: Our findings suggest that older men who engaged in strenuous exercise and maintain or increase their walking duration and speed have lower the risk on incidence of all-cause, cardiovascular or cancer-specific mortality.

HEMOGLOBIN AND PHYSICAL FUNCTION AFTER EXERCISE INTERVENTION AMONG COMMUNITY DWELLING OLDER ADULTS

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Background: Hemoglobin facilitates oxygen transport in blood but its concentrations decrease frequently with age. The aim was to investigate whether hemoglobin concentrations predict physical function in community dwelling old adults.

Design: Intervention study.

Setting: Community.

Participants: Old adults ($N = 236$, 73.7 ± 5.7 years, 58.2% female).

Intervention: Twelve-week resistance exercise program (3 times/week; 3 sets, 6–8 repetitions at 75–80% of the 1-repetition maximum) designed to increase strength and muscle mass of major muscle groups.

Measurements: Body composition, muscular strength, timed up and go test (TUG in sec), six-minute walk for distance (6MWD in m) and blood chemical variables were measured at baseline, endpoint and after 10.7 months follow-up.

Results: The minority of around 4% of the participants was anemic. According to linear models baseline hemoglobin predicted TUG (0.14 to 0.36 sec improvement for an increase of hemoglobin by 10g/L) at all three time points, although this was of borderline significance for baseline ($P=0.57$) and endpoint ($P=0.062$). Hemoglobin predicted also endpoint 6 MWD (4.88m), but not at baseline (follow up 6 MWD was not available). Inclusion of compliance did not affect outcomes.

Conclusions: Hemoglobin is positively associated with physical function in old adults although only the minority or around 4% of the participants was anemic. Further, we found that baseline hemoglobin predicts responses to a 12-week resistance exercise training and subsequent changes in physical function after a period of follow-up. Compliance to exercise training does not explain these findings.

DOES LEAN RED MEAT ENHANCE THE EFFECTS OF EXERCISE ON MUSCLE HEALTH AND FUNCTION IN THE ELDERLY?

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A combination of progressive resistance training (PRT), dietary protein (≥ 1.2 g/kg/d) and vitamin D (≥ 800 IU/d) are recommended to optimize muscle health and function in the elderly. Current Australian guidelines recommend 100–200g (raw weight) portion sizes of red meat, 3–4 times a week as

part of a healthy, balanced diet. Thus, the aim of this 24-week RCT was to evaluate whether lean red meat consumed on three training days per week could enhance the effects of a multi-modal exercise program on muscle health and function in the elderly. Community-dwelling adults ($n=154$) aged 65+ years (mean $\pm$ SD 71 $\pm$ 4) were randomised to Ex (PRT, aerobic and mobility training) plus red meat [2x110g portions (raw weight) cooked at lunch and dinner on each of the three training days] or Ex+pasta/rice. All participants received 1000 IU/d vitamin D3. 145 (94%) participants completed the study. Compliance with the meat and carbohydrate foods averaged 87% and 91%, respectively. Exercise compliance was similar between groups (~79%). After 24-weeks both groups experienced similar significant gains in femur muscle size (pQCT), leg strength and function (sit-to-stand and four-square step test), but those in the Ex+meat group experienced greater benefits in terms of appendicular lean mass (net benefit 0.2 kg), gait speed (0.06 m/s) and femur muscle density (marker of intramuscular fat) (all $P<0.05$). In conclusion, this study indicates that combining a multi-modal exercise program with the recommended portions of lean red meat three day per week can enhance the effects of exercise on muscle health and function in the elderly.

SESSION 4285 (SYMPOSIUM)

USING REALIST INQUIRY TO UNDERSTAND HEALTH CARE DELIVERY TO CARE HOMES—THE OPTIMAL STUDY

Chair: J. Meyer, *City University London*

Realist inquiry is a theory-driven approach to evaluation. It builds an understanding of real world phenomena that, by describing contexts and mechanisms explores the underlying multiple causal processes which are associated with particular outcomes in a population of interest. It allows understanding of complex systems in the real-world in a way that experimental methodologies do not. This symposium will describe a three-year programme to understand how health care is delivered to long-term care recipients living in UK care homes. In the UK there multiple, largely untested, ways that health care support is provided to care homes. We will describe an initial phase of work comprising a collation of national surveys and a scoping of the literature about current healthcare delivery in UK care homes, followed by stakeholder interviews and a realist review of the evidence to establish a programme theory positing the contexts and mechanisms that are associated with better health outcomes. These were then further explored in a 12 month study comprising case studies across 3 separate UK regions, 12 care homes and 242 residents which collated data on healthcare resource utilisation and costs, alongside a detailed interview study collating data on how healthcare was delivered, by whom and under what circumstances. Core recommendations focus on how continuity of care is established, the central role of effective primary medical care, recognising the importance of engaging with care homes at an institutional level and permissive models of commissioning which provide

health and social care practitioners with a legitimate space within which to establish optimal models of working.

AN INTRODUCTION TO REALIST APPROACHES IN THE EVALUATION OF CONTEXT-DEPENDENT INTERVENTIONS

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This session serves as an introduction to the symposium by providing a description of realist methodology. This is a theory-driven approach to evidence-review and evaluation, which seeks to explain why interventions work by identifying underlying mechanisms that can elucidate how outcomes are obtained and how contexts influence this process. Outcomes (O) are measurable and tangible effects of an intervention, mechanisms (M) are the generative forces that lead to outcomes and contexts (C) are background conditions that trigger or modify the behaviour of a mechanism. Realist methods can use data from literature alongside novel qualitative and quantitative data to understand these phenomena. The objective is to generate a mid-level Programme Theory specifying CMO relationships at a level of abstraction that allows transferability to other settings without claiming universality. This symposium will present examples of these concepts in action in a study of health care delivery in UK long-term care homes.

DEVELOPING A PROGRAMME THEORY OF HEALTH CARE IN UK CARE HOMES—REVIEWS, SURVEYS, AND INTERVIEWS

A. Gordon⁶, C. Goodman¹, S. Davies¹, M. Handley¹, S. Iliffe², C. Bowman³, C. Victor⁴, F. Martin⁵, 1. *University of Hertfordshire, Hatfield, United Kingdom*, 2. *University College London, London, United Kingdom*, 3. *City University London, London, United Kingdom*, 4. *Brunel University London, London, United Kingdom*, 5. *Kings College London, London, United Kingdom*, 6. *University of Nottingham, Nottingham, United Kingdom*

We aimed to develop a programme theory of health care delivery to UK care homes. A review of 15 surveys of care home health services completed since 2008 found working relationships lacking in structure and purpose and wide variation in provision of healthcare services. 58 stakeholder interviews with health and social care managers, providers, commissioners and regulators identified 3 overlapping approaches to health care in care homes: investment in relational working to foster continuity; provision of age-appropriate clinical services; and governance arrangements using incentives. A realist literature review identified important contextual factors as: care home readiness to work with health care staff; availability of structured assessment and care plans; involvement of health care staff to support learning; organisational endorsement of collaborative working; financial remuneration; and staff incentives. These findings acted as the focus of case studies in phase 2 of the study.

REFINING THE PROGRAMME THEORYCASE STUDIES IN CARE HOMES FROM THREE DISCRETE CARE ECONOMIES

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To further develop the programme theory, three geographically discrete areas were identified with models of health care emphasising respectively: expertise in care of older adults organised around the care home; incentive-driven care using general practitioners (GPs) as co-ordinators; and mixed provision typical of usual UK care delivery. 242 residents from 12 care homes had baseline health status described using the InterRAI-LTC and their healthcare resource use and associated costs over 12 months collated. Interviews and focus groups with 181 health and social care professionals, residents and families described the care received. Healthcare costs per resident were greatest where provision was ad hoc and mixed. GP contacts and costs were greater where incentives emphasised GP contact. The most positive accounts were of models which recognised the pivotal role of homes in healthcare delivery, supported effective relational working between health and social care staff and allowed GPs to focus on medical care.

A SYNTHESIS: WHAT WORKS TO DELIVER OPTIMAL HEALTH OUTCOMES FOR UK CARE HOME RESIDENTS

C. Goodman², A. Gordon¹, S. Davies², A. Mayrhofer², M. Zubair¹, T. Denning¹, J. Meyer³, 1. *University of Nottingham, Nottingham, United Kingdom*, 2. *University of Hertfordshire, Hatfield, United Kingdom*, 3. *City University, London, United Kingdom*

The detailed reviews, interviews and subsequent longitudinal case studies structured around a unifying realist analytical framework allowed us to establish a theory of commissioning for health care provision to care homes which proposes health services will work better when: staff are explicitly tasked to work with care homes at an institutional level as well as individual residents; healthcare and care home staff are empowered to co-design their working models; where explicit expertise in dementia care is available; the role of GP as a medical care provider is supported by access to a wider array of services; and they incorporate care management. There was no evidence from our study that a short term focus on avoiding admissions to acute hospitals from care homes added any value to service specification or care delivery.

SESSION 4290 (PAPER)

IMPROVING CARE IN MINORITY AND DIVERSE POPULATIONS

HYPERTENSION MANAGEMENT BY OLDER SLAVIC IMMIGRANT WOMEN IN THE UNITED STATES

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Older immigrants have a disproportionately higher incidence of hypertension (HTN) compared to their American-born counterparts. They experience frequent illness exacerbations and acute care utilization due to uncontrolled HTN. Interviews were conducted with a convenience sample of 25 older Slavic immigrant women with HTN. The analysis focused on describing the beliefs and behaviors surrounding HTN management decisions. A four-stage circular process emerged: 1) **Identification** of HTN symptoms ("feel bad" and/or headache); 2) **Assessment** of blood pressure (taking a blood pressure reading or recall of prior experiences); 3) **Intervention Initiation** (folk remedies used first) such as: a) herbs (rosehips, yarrow, hawthorn, fennel, and dill); b) dietary remedies (lemon, beets and raspberries); c) mineral substance (mumiyo); d) Slavic pharmaceuticals (Validol and Enap); and/or d) treatments (mustard plaster and hot or cold water therapy). 4) **Reassessment** of symptoms and/or elevated blood pressure reading. Based on reassessments, if symptoms continued and/or blood pressure readings remained elevated (definitions of elevation varied for each woman) then another folk remedy and/or prescribed medication would be implemented. Participant approach to managing their HTN was based on their belief it was an episodic and acute condition and was to be treated only in the presence of symptoms and/or elevated blood pressure measurement reading. Thus, a trial and error approach was used to manage their HTN resulting in an uncontrolled chronic condition. Older Slavic immigrant women continue to experience uncontrolled HTN and understanding beliefs and behaviors will support the development of culturally tailored blood pressure management interventions.

RACIAL AND ETHNIC DISPARITIES IN ADL DISABILITY AFTER HOSPITALIZATION AMONG OLDER HOME CARE RECIPIENTS

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Older adults who experience new or worsening difficulties performing activities of daily living (ADL) after hospitalization have poorer prognoses within a year after discharge. Past research suggests racial/ethnic disparities exist in the development and progression of ADL disability. However, little research exists examining ADL disability disparities among racially/ethnically diverse older adults after hospitalization. Understanding differences in ADL disability across racial/ethnic groups may lead to targeted interventions reducing disparities and promoting ADL performance. This study's purpose was to determine if differences exist in ADL disability trajectories among racially/ethnically diverse adults age 65 years and older receiving home care following hospitalization. We used 2013–2014 Outcome and Assessment Information Set data ($n=21,473$) from a large non-profit home care agency to examine overall change in ADL disability, which was measured by summing the difference of admission and discharge scores from nine individual ADL. Associations between race/ethnic groups and overall ADL change scores were examined using general linear regression models, adjusting for personal, environmental, and health-related factors from the International Classification

of Functioning, Disability and Health framework. On home care admission, Asians, African-Americans, and Hispanics had poorer individual ADL scores compared to Non-Hispanic Whites (all $p < .05$). During the home care episode, Asians, African-Americans, and Hispanics experienced significantly less improvement in overall ADL disability compared to Non-Hispanic Whites (all $p < .01$). To increase generalizability, study replication is needed using a nationally-representative sample. Additional research is needed to determine mechanisms of ADL disability disparities in racial/ethnic subgroups.

BARRIERS AND MOTIVATORS TO ENGAGEMENT IN SELF-MANAGEMENT FOR JOINT PAIN IN OLDER AFRICAN AMERICANS

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Osteoarthritis represents one of the leading causes of chronic joint pain in older adults. Over 60% of older African Americans (AAs) attribute chronic pain to arthritis, and joint pain is more frequently reported than stiffness or swelling. A higher proportion of AAs (38.7%), experience severe osteoarthritis pain as compared to 36.4% of Hispanic Americans, 28.7% American Indians, 23.1% Caucasian Americans, and 18.5% Asian Americans. Managing osteoarthritis requires both self-management and provider management. Land- and water-based exercise, thermotherapy, pharmacological interventions, use of assistive and/or orthotic devices, and participation in self-management programs are key self-management strategies to manage osteoarthritis symptoms. Because older AAs have less control over pain, some suggest they may need more assistance with self-management; however, identification of barriers and motivators to engagement key strategies has been overlooked. A convergent, parallel mixed-methods study, using surveys and qualitative interviews, was conducted with 70 community-dwelling African American seniors (67.2 ± 13.2). The majority of AAs did not engage in water-based exercise, use assistive/orthotic devices, or ever participated in a self-management program, while most used thermotherapy and pharmacological interventions. Content analysis indicate major barriers to engagement as issues/work commitments, no motivation or interest to exercise and fear of falling, lack of knowledge on appropriate exercises, no access to pool and inability to swim, unaware of any osteoarthritis self-management programs, need to protect organs from side effects of pharmacological interventions, and the pain itself. Motivators were a need to maintain health, mobility and function, exercising with a group, and to obtain pain relief.

CORRELATES OF ADHERENCE TO DRUG REGIMEN AMONG UNDERSERVED OLDER AFRICAN AMERICAN ADULTS

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Objectives: This study examines the association between adherence to drug regimens and an array of medication related factors, including polypharmacy, complexity of drug regimens, use of duplicate and potentially inappropriate

medications, and knowledge about the therapeutic purpose and instructions of medication use.

Methods: Four hundred African Americans aged 65 years and older were recruited from South Los Angeles. Structured, face-to-face interviews and visual inspection of participants' medications were conducted. This study employed the Medication Regimen Complexity Index (MRCI) to quantify multiple features of drug regimen complexity.

Results: Participants were taking an average of 5.7 prescription drugs. Over 54% were using more than one medication from the same pharmaceutical subclass. Almost 56% could not identify the purpose of at least one of their Rx medications. Two-thirds knew "how much" and "how often" they should take their medications. The result of multiple logistic regression shows that co-payment for Rx drugs, memory deficits, and medication related knowledge were all associated with adherence to frequency and quantity of medications. While the MRCI was associated with adherence, polypharmacy did not show a statistically significant association with the adherence with quantity and frequency of Rx medications.

Conclusions: We documented that knowledge about instructions to use drugs and knowledge about the therapeutic purpose of medications are far more important than other factors. In addition, connection between MRCI and adherence to medication points to additional attention to prioritization of fixed-dose combinations for the elderly population, particularly underserved African American older adults with history of poor adherence.

GAIT OF FALLER AND NON-FALLER OLDER HISPANICS DURING STREET CROSSING SIMULATIONS

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Falls are significantly associated with gait alterations, but few studies have assessed this association in older Hispanics. Street crossing simulations are sensitive to evaluate functional dual-task gait. The objective of this study was to compare the ability of older Hispanics with and without history of falls in adapting their preferred speed gait to the increased demands of street crossing conditions. Sixty-four Hispanics 75 ± 7 years old (16 fallers and 48 non-fallers) walked 3 times on an instrumented mat at preferred speed, and during simulated street crossing with regular and with reduced time. Gait velocity, cadence, step length, base support, swing and stance time, single and double support time, knee flexion angle, and anterior tibialis and gastrocnemius lateralis muscle activity were measured. Data collected during the preferred speed gait condition was used to normalize the data collected during the street crossing simulations. Analysis was performed using chi-square, two-way ANOVA and independent t-tests at 5% significance level. Older Hispanics with a history of falls did not increase their gait speed ($p = 0.035$) and did not decrease their stance time ($p = 0.018$) and double support time ($p = 0.011$) as much as the non-fallers during the street crossing conditions. There were no significant differences between the other variables or between street crossing conditions and no interactions. Older Hispanics with history of falls did not adapt as well as those without falls to the increased demands of street crossing conditions compared to waking at preferred speed.

SESSION 4295 (PAPER)

SUPPORTING AGING IN PLACE INTERNATIONALLY

SUPPORTING OLDER PEOPLE TO AGE IN PLACE IN IRELAND: FRAILITY-RELATED HEALTH CARE USE AND OUTCOMES

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Background: Frail older people have both “depth and breadth” in their healthcare needs and require an integrated approach to service delivery but often experience poor service coordination in practice. Reforming service delivery models is a priority for this group, but the process is hindered by a dearth of evidence, particularly of current service utilisation patterns. This project aims to identify diverse service-utilisation patterns among frail older people, to examine these patterns over time and to ascertain their effect on key individual and service outcomes.

Methodology: Data were taken from The Irish Longitudinal Study on Ageing (TILDA), a prospective cohort study representing the Irish community-dwelling population aged ≥ 50 years. We sampled adults aged ≥ 65 years ($n=3,507$) in wave one (2009/11) who were classified as frail ($n=745$) on the Frailty Index (FI). FI scores of ≥ 0.25 indicated that participants were frail. Latent class analysis determined service-utilisation profiles across hospital, primary and community service indicator variables. Repeated measures cross-sectional analyses mapped transitions between service-utilisation profiles and mixed effects models determined the impact of transitions in service-utilisation profiles on health outcomes and social indicators.

Results: 24% (95% CI 23,26) of the Irish older population were frail at baseline. This group utilised 26–87% of services delivered by the Irish healthcare system. However, four heterogeneous service-utilisation profiles were identified; Non users (52%), Hospital users (20%), Community users (26%) and Community and Hospital users (2%).

Conclusions: These initial results illustrate quite diverse management strategies for frailty which occurs in the Irish healthcare system and warrants further investigation.

MAKING CAPE TOWN AN AGE-FRIENDLY CITY: AN EXPLORATORY STUDY

S. Kalula, T. Blouws, *Institute of Ageing in Africa, Cape Town, South Africa*

Living environments characterized by infrastructural and developmental deficits hamper older citizens' integration in society for an active and healthy life. This study investigated older citizens' experience and perceptions of the “age friendliness” of their communities in the City of Cape Town.

The methodology based on the Vancouver Protocol 2006 and advocated by the WHO's project on “Age friendly Cities,” was used. Low-income suburbs of Cape Town were selected and qualitative research methods (ten focus groups with members and interviews with managers of service centres) were used to collect and analyse the data.

A sample 97 participants, mean age 70 years (range 54–83) were recruited. Eight domains constructed for the assessment of age friendliness were: physical environment,

transport, housing, social participation, respect and social inclusion, civic participation, community support and health services, and communication and information.

Barriers to social inclusion and participation were: Government restriction in income generating activities for social pensioners; features of the physical environment particularly uneven, poorly lit and unsafe sidewalks; short timing at traffic light for pedestrian-crossings; public transport services that were inaccessible to commuters with disability and younger commuters not offering their seats to them. Ageistic attitudes of personnel and the unfriendly services at public healthcare facilities were widely reported. Services and support from religious and other community agencies and travel concessions from government were valued. Lack of exposure and inability to access pertinent electronic information was a concern for a large number.

A productive and inclusive society calls for relevant stakeholders to address the concerns.

WE WORK IT OUT BETWEEN US: DYADIC HEART FAILURE SELF-CARE IN COMMUNITY-DWELLING OLDER ADULTS

H. Buck, J. Hupcey, *The Pennsylvania State University, University Park*

Understanding *how* older adult patient and informal caregiver dyads mutually engage in heart failure (HF) self-care is imperative to assist aging in place. We examined dyadic HF self-care in a cross-sectional mixed methods study. Self-care was measured with the Self-care of Heart Failure Index (SCHFI) comprised of maintenance (day to day care), management (symptom evaluation and response), and self-efficacy scales. Scores were dichotomized- ≥ 70 adequate; < 69 inadequate; interviews were conducted, transcribed verbatim and underwent content analysis. Data integration involved information matrices for within/across-case analyses. In 27 dyads ($n=54$), the average patient was 77 years old, male with a 64 year old caregiver (spouse ($n=15$) or female adult child ($n=9$)). Mean scores on SCHFI maintenance, management, and self-efficacy scales were inadequate (range = 54–68). Dyads engaged in self-care according to life course patterns (“*we do everything together because that's the way we are*”); and/or according to whether it was maintenance (“*I go through my routine. I weigh myself.*”); or management (in response to symptoms, the previous person responded, “*We usually call right away*”); and/or by mobilizing the help of another (“*I called my sister.*”). Dyads, where the patient or caregiver scored ≥ 70 on self-efficacy and/or management, kept their maintenance (day-to-day care) pattern despite the patient's increased symptoms. However, dyads scoring < 69 , were more likely to mobilize help. Managing aging in place for older adults with HF must involve identifying life course patterns in self-care and supplementing them as needed. This has scientific, policy, and practice implications.

CENTENARIANS IN EUROPE

L. Teixeira^{1,2}, L. Arajo^{1,2}, O. Ribeiro^{1,2}, D.S. Jopp³, C. Paul^{1,2}, 1. UNIFAI, CINTESIS.ICBAS-UP, Porto, Portugal, 2. UNIFAI/ICBAS-UP, Porto, Portugal, 3. University of Lausanne, Lausanne, Switzerland

In the last decade, the number of centenarians worldwide has increased. Following this tendency, the number

of centenarian studies has also exponentially augmented. Given the complexity to conduct research with centenarians, elementary information on this specific age group remains unknown at a European level. This paper compares basic characteristics of centenarians from 32 European countries based on Census 2011. Results revealed that France is the country with higher ratio of centenarians, followed by Italy and Greece; on the other hand Croatia, Romania and Bulgaria present the lower ratio. The distribution according to gender is similar for all countries, with higher ratio of women reaching 100 years old. Different patterns of education level were found on countries where this information was reliable: Portugal and Greece are the countries with lower levels of education, with more than half without formal education; Finland, UK and Iceland are the countries with higher levels of education, with all centenarians having at least lower secondary education. Analysing the residence situation (living in the community or living in the institution), Romania, Bulgaria, Lithuania, Greece and Latvia are the countries that present higher percentages of centenarians living in the community; Iceland is the country with lower percentage of centenarians living in the community. A positive correlation between the number of centenarians and the percentage of Total Health Expenditure of GDP is observed. This study provides important information about the current profile of European centenarians, which is compared to general information on the centenarian population from EUA and Asia.

SESSION 4300 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: GERONTOLOGY AND METCHNIKOFF'S HYPOTHESES ON THE ROLES OF MICROBIOME AND INFLAMMATION IN AGING

Chair: V.D. Dixit, *Yale University, New Haven, Connecticut*

Co-Chair: L. Vihanski, *Weizmann Institute of Science*

Ilya Metchnikoff received the Nobel Prize for laying out the foundation of innate immunity by discovering that phagocytes and macrophages play a critical role in defense against microbes. He also coined the term Gerontology and wrote in his famous book, *"Prolongation of Life: Optimistic Studies"* that "old age can be studied by methods of exact science, and there may yet be established some regimen by which health and vigor will be preserved beyond the age where now it is generally necessary to resort to public charity". The modern science and gerontology research at the interface of immunity and metabolism are making steady progress towards Metchnikoff's prediction. Among the topics being explored are how aging is linked with inflammation? Can molecular mechanism that control inflammation of age be targeted to enhance the healthspan? Age is the greatest risk factor for chronic diseases. Data from several clinical studies suggest an association between increase in pro-inflammatory markers and emergence of age-related degenerative changes. If aging is a common trigger for multiple diseases and if inflammation is a major pathway causing morbidity and mortality, then identification of specific mechanism of inflammation that is triggered with age should delay the onset of multiple chronic diseases. Translation of such basic research discovery into practice would be a major advance in achieving

the goal of extending human healthspan. The commemorative Metchnikoff symposium will highlight various aspects of interactions between metabolism, diet and microbiota in control of inflammation and healthspan.

IMMUNOMETABOLIC REGULATORS OF AGING

V.D. Dixit, *Yale School of Medicine, New Haven, Connecticut*

Evidence that innate immune sensor NLRP3 inflammasome links aging to functional decline supports Metchnikoff's original prediction that phagocytes or macrophages drive aging-associated degenerative diseases in an organism. Assembly of the NLRP3 inflammasome in macrophages in response to metabolic 'danger signals' controls the secretion of bioactive IL-1 β and IL-18. Here we detail a mechanism by which the macrophage-expressed Nlrp3 inflammasome controls age-related inflammation in periphery as well as brain. Ablation of Nlrp3 inflammasome protected mice from age-inflammation in multiple organs and improved their healthspan. The ketone metabolite β -hydroxybutyrate (BHB) that is elevated by caloric restriction, high-intensity exercise, or the low-carbohydrate ketogenic diet serves as an endogenous negative regulator of NLRP3-driven inflammation in aging. These studies suggest that NLRP3 inflammasome is a major driver of age-related inflammation and therefore dietary or pharmacological approaches to lower NLRP3 holds promise in reducing multiple chronic diseases of age.

IMPACT OF CIRCULATING FACTORS AND OF PERSISTENT VIROME ON IMMUNE AGING

J. Nikolich-Zugich, *Department of Immunobiology and the Arizona Center on Aging, University of Arizona College of Medicine, Tucson, Arizona*

Adaptive immune system is in charge of precise defense against a highly diverse array of microorganisms. For defense against new infections, the organism deploys naïve, previously antigen-unexposed, T and B lymphocytes, whose antigen-specific receptors recognize, and eventually orchestrate the removal of, the invading microorganisms. Naïve B, and even more so T, lymphocytes numerically diminish with aging. However, new data suggests that those that remain appear to have maintained their functional potential, contrary to an earlier dogma. These findings refocused our attention upon cell-extrinsic defects in immunity. Results will be presented showing that aging of circulating, most likely soluble, factors, as well as changes in persistent virome, critically modulate both homeostasis and function of the aging immune system. Implications for immune rejuvenation will be discussed.

AGING CHANGES MICROBIOME AFFECTING CROSSTALK AND ACTIVITY OF MONOCYTES AND B1A CELLS

A. Biragyn, *National Institute on Aging, Baltimore, Maryland*

Aging significantly dysregulates function and composition of immune cells. We recently reported that elderly humans, macaques and mice accumulate 4-1BBL+TNF+MHC class-II α CD86 α B cells 1. These cells (4BL cells) are innate B1a cells activated by monocytes 2. In response to microbiota change in aging, monocytes disable the immunosuppressive

and tumor-supporting functions of B1a cells while providing a new function – the induction of antitumor and autoimmune granzyme B (GrB)-expressing CD8+T cells via 4-1BBL/4-1BB, TNF/TNFR2 and IFN γ /IFN γ R1 axes. These results implicate microbiome/monocyte/B-cell crosstalk in understanding of aging-associated diseases.

SESSION 4305 (SYMPOSIUM)

QUALITATIVE APPROACHES AND INTERNATIONAL PERSPECTIVES ON AGING IN PLACE

Chair: P.A. Saunders, *Georgetown University, Washington, District of Columbia*

Aging in place (AIP) has been a well-researched topic in the gerontology literature but research has started to broaden the conversation to a more global view taking into consideration patterns of domestic and international migration. These migrations are related to life course events as well as other social and cultural factors. Rubinstein & Parmelee (1992) define AIP as older adults' place attachment for those who wish to remain in their communities as they age. This definition can be expanded to include new and old immigrants and the process of place making. This symposium brings together 5 qualitative studies that examine AIP in multiple settings from a variety of international perspectives.

Using participant observation, Ye describes how Asian elderly immigrants understand AIP in the context of the senior housing in the United States. From an ethnographic approach, Barnes Langendoerfer examines older adults' descriptions of why they AIP within a neighborhood experiencing urban decline. Dupuis-Blanchard conducts a descriptive study to understand human resources in community service organizations for AIP in minority French speaking older adults living in English dominant communities in Canada. Using grounded theory, Linhart studies the concept of independence while living at home among older German women living alone. Finally, Lewis examines elderly refugees aging out of place, far from where they were socialized to understand the meaning of being an older member of society. The breadth and depth of these papers provides a rich and varied picture of AIP in a global context.

GLOBAL DISPLACEMENT AND AGING: CAMBODIAN REFUGEE ELDERS' AGING OUT OF PLACE IN THE UNITED STATES

D.C. Lewis, *Human Development and Family Science, University of Georgia, Athens, Georgia*

This presentation illuminates experiences and expectations of elderly refugees who are aging out of place, far from the familiar cultural, social, and political landscape in which they lived and in which they developed an understanding of what it meant to be an elderly member of society. Experiences of aging refugees have been shown to be significantly different from elders who have not participated in forms of global migration; especially, forced migration (as is the case for refugees). This presentation is drawn from interviews and participant-observation with 125 Cambodian refugee families and includes 89 in-depth interviews with 38 elderly family members. Many of those interviewed felt that they were aging out of place, even when they had been residents of the

United States for many years. It is common for refugees to experience considerable trauma both in their home countries and in their journeys from their homelands to a receiving country. These refugee elders described long-term trauma and difficulties in U.S. society because of the effects of racism, marginalization, and stigmatization as they struggle to reconstruct and redefine lives and identities. Data revealed that an infrastructure that allows elderly immigrants to age in place should have a remarkably different set of parameters than an infrastructure that supports native-born elders. Information from this study could inform social service agencies, healthcare providers and policy makers of ways to address the needs of refugee and other immigrant elders in the United States that would allow them a more successful experience of aging in place.

AGING IN PLACE THROUGH URBAN DECLINE: ADAPTIVE STRATEGIES OF OLDER ADULTS IN CLEVELAND, OHIO

K.B. Langendoerfer, *Sociology, Case Western Reserve University, Shaker Heights, Ohio*

Despite the vast amount of research emphasizing the benefits of aging in place in later life, scant attention has been paid to the lived experiences of aging in place over the life course, particularly for minority, urban older adults (Golant, 2003). This study utilizes data from three years of ethnographic research with over thirty older (age 60+), African-American adults who have aged in place within Cleveland, OH. Their neighborhood has experienced an 80 percent decline in its population from 1950 to 2014 (1950: 39,280 residents; 2014: 6,239 residents). The community has also encountered deteriorating institutional supports and drastic increases in its crime and all-cause mortality rates. The presentation will focus on the older adults' descriptions of why they aged in place within a neighborhood experiencing urban decline, and how they continued to make a life for themselves and their families despite their changing neighborhood landscape.

ELDERLY CHINESE AND KOREAN IMMIGRANTS AGING IN PLACE IN SENIOR HOUSING

M. Ye, E. Kahana, *Case Western University, Shaker Heights, Ohio*

This study explores aging-in-place (AIP) among elderly Asian immigrants' living in government-supported senior housing (GSSH). Given increasing numbers of non-English-speaking elderly immigrants in the US, interpretations of AIP represent an important area of study. Observations of 42 Chinese and 17 Korean participants and in-depth interviews (4 staff and 5 older adults) were conducted in GSSH in Ohio. This study provides a rich description of how Asian elderly immigrants understand AIP. Findings show: participants can make satisfactory adjustments to life in GSSH; the familiar Asian cultural context in the SH and neighborhood helps compensate for language barriers; older adults' quality of life is related to immigration and welfare policies; and family, neighborhoods, and staff play central roles in facilitating AIP. The study suggests that AIP is a dynamic interaction between older adults and their environment. This study provides critical information to deliver culturally sensitive care in the context of AIP.

BRIDGING THE NEEDS OF LANGUAGE MINORITY SENIORS TO SERVICES AND HUMAN RESOURCES FOR AGING IN PLACE

S. Dupuis-Blanchard, *Nursing, Université de Moncton, Moncton, New Brunswick, Canada*

Research has established that the majority of older adults want to age in place. Past research outlines the type of services required for aging in place; however, human resources may put these services at risk of disappearing. For minority French speaking older adults living in dominantly English speaking communities, lack of access to workers in their language could hamper their ability to age in place.

The goal of this descriptive study was to better understand human resources in community service organizations for aging-in-place in minority French speaking older adults living in English dominant communities in Canada. Forty-nine administrators of community service organizations in Eastern Canada participated in this study. An on-line survey along with semi-structured individual interviews were analysed to identify common themes related to study objectives. Results indicate that future services are at risk as a result of poor working conditions and difficulty recruiting workers in this industry.

INDEPENDENCE IN OLD AGE: OLDER GERMAN WOMEN LIVING ALONE

M. Linhart, *Bern University of Applied Sciences, Health Division, Bern, Switzerland*

Maintaining the ability to live independently is critical in old age. However, research on independent living is limited. The purpose of this study was to provide an understanding of 'Independent Living at Home' among older German women living alone.

The data collection comprised three data sets (n=55) that were collected in two phases. In the second phase data collection was performed according to preliminary findings and theoretical considerations from previous analyses. Grounded theory principles guided this study.

Findings include three dimensions that characterize the perceptions of independence: 'being able to be' -- the internal and mental factors; 'being able to do' -- the physical or 'external', environmental factors; and individual background factors like states of well-being. Findings suggest that independence in old age is a multi-layered. In contrast to the literature which emphasizes physical functioning, it was clear that 'being able to be' was more important than 'being able to do.'

SESSION 4310 (SYMPOSIUM)

PREDICTORS AND BENEFITS OF OLD AGE WISDOM

Chair: M. Ardelt, *University of Florida, Gainesville, Florida*
Discussant: H.R. Moody, *Fielding Graduate University, Santa Barbara, California*

This symposium explores how culture, personality, resources, and life course experiences contribute to the development and conceptions of wisdom and how wisdom might be related to successful aging. A 60-year longitudinal study of 98 men indicates that early and midlife "seeds" and pathways to wisdom and well-being at age 80 differed, although

wisdom and well-being were correlated. Early personality predicted old age well-being, whereas social support during the formative years and/or personality appeared to promote growth in wisdom. Quality of life was also correlated with wisdom in a cross-sectional study of 164 older (age 60–85) and younger (age 18–25) Canadians and South Koreans. Yet religious experience and spirituality only predicted old age wisdom. The final presentation examines predictors of wisdom conceptions. A mixed-method study of 103 adults, age 65+, showed that sociocultural, socioeconomic, and geographical factors all affected conceptions of wisdom. Yet, despite the differences in wisdom understandings, wisdom was positively correlated with life satisfaction.

EARLY AND MIDLIFE PREDICTORS OF WISDOM AND SUBJECTIVE WELL-BEING IN OLD AGE

M. Ardelt¹, K. Gerlach³, G. Vaillant², *1. Sociology and Criminology & Law, University of Florida, Gainesville, Florida, 2. Brigham and Women's Hospital, Boston, Massachusetts, 3. Columbia University College of Physicians & Surgeons, New York, New York*

According to Erikson's theory of psychosocial development and Elder's life course paradigm, human development takes place throughout life and is shaped by linked lives and human agency. We explored whether the "seeds" of wisdom and well-being in old age might differ, although wisdom and well-being tend to be positively correlated. Using 60-year longitudinal data of 98 white male Harvard graduates born between 1915 and 1924, the study found that wisdom and subjective well-being at age 80 were indeed positively correlated. Yet, early life predictors differed. Extraversion and neuroticism in early adulthood predicted subjective well-being 60 years later. Two distinct pathways predicted old age wisdom: (1) Psychosocial growth facilitated by supportive social environments in childhood and adolescence, positive early personality traits, and midlife generativity and subjective health; (2) The motivation to grow through openness to experiences. Both social support during the formative years and personality appear to promote growth in wisdom.

DOES RELIGIOUS EXPERIENCE, SPIRITUALITY, AND QUALITY OF LIFE PREDICT WISDOM? A CROSS-AGE ANALYSIS

H. Bang¹, M. Ferrari², *1. Educational Foundations, Leadership and Policy, Bowling Green State University, Bowling Green, Ohio, 2. University of Toronto, Toronto, Ontario, Canada*

Our on-going mixed-methods study examines the relationship between wisdom and other variables such as religiosity, spirituality, and quality of life among 75 Canadians and 89 South Koreans (total 164) in two age groups: 106 younger adults [age 18–25], and 58 older adults [age 60–85]). Multiple regression and bivariate correlation analyses reveal that these variables predict wisdom in both age groups, although quality of life is the only significant variable to predict wisdom in both groups. Only quality of life is correlated to the total wisdom score in the younger groups, whereas quality of life, religious experience, and spirituality are positively related to wisdom in the older age groups. Interestingly though, the elders' daily spiritual experience is negatively related to wisdom. The results show that elders

in both countries who seek spirituality, religious experience and belief are more likely wise, and their wisdom may link to their quality of life.

UNDERSTANDING THE PREDICTORS AND BENEFITS OF SOCIOCULTURAL FACTORS ON OLD AGE WISDOM

H. Oh, *School of Social Work, St. Ambrose University, Davenport, Iowa*

People develop wisdom in a sociocultural and geographical context. Their geographical place and socioeconomic position generate various relationships and memories with others, socioeconomic resources, educational opportunities, and professional/personal attributes. However, most contemporary scientific studies of wisdom have paid scarce attention to the sociocultural context in which wisdom ripens. This study examined sociocultural life course predictors and benefits of old age wisdom. Two independent samples (N=103, age 65+) from different geographical places and socioeconomic positions were recruited for a mixed-method study that used social network analysis and content analysis. Findings show varying wisdom understandings between the two samples based on various sociocultural factors, such as family dynamics, upbringing environment, socioeconomic status, profession, and living place and culture. Despite the variance, the reflective dimension of wisdom was positively related to life satisfaction in both elderly samples, indicating the pivotal role of reflectivity in the association between wisdom and well-being.

SESSION 4315 (SYMPOSIUM)

ELDER ABUSE IN A U.S. CHINESE POPULATION—A PROSPECTIVE COHORT STUDY

Chair: X. Dong, *Rush Medical College at Rush University*

Co-Chair: M. Simon, *Northwestern University*

Elder abuse is increasingly recognized as a global health concern. In U.S. minority and immigrant populations, the incidence, associations, and clinical implications remain poorly understood. Further population-based epidemiological studies using standard elder abuse measurements with longitudinal study design is required to advance the field. To address this gap and to challenge some prior assumptions, the purpose of this symposium is to improve our understanding of elder abuse epidemiology regarding incidence, risk factors and consequences. Data were drawn from the Population-based Study of Chinese Elderly in Chicago (PINE), a longitudinal, representative, population-based study of 3,157 community-dwelling Chinese older adults in the greater Chicago area. Additional data were drawn from the Piety Study, a survey of culture, health, and well-being among 548 adult children caregivers of PINE participants. Session 1 will examine the incidence of elder abuse and its subtypes among U.S. Chinese older adults by analyzing Wave 1 and Wave 2 data from the PINE Study. Session 2 will examine the sociodemographic and socioeconomic characteristics associated with incident elder abuse. Session 3 will explore the controversial association between physical function and elder abuse. Last, in session 4, we will investigate the consequence of elder abuse with respect to suicidal ideation. In

summation, this symposium aims to increase the practical and clinical relevance of elder abuse epidemiology in community, research, healthcare, and policy settings.

INCIDENCE OF ELDER ABUSE: FINDINGS FROM A POPULATION-BASED STUDY OF U.S. CHINESE OLDER ADULTS

X. Dong¹, M. Simon², 1. *Rush University Medical Center, Chicago, Illinois*, 2. *Northwestern University, Chicago, Illinois*

This paper aimed to examine the incidence of elder abuse over two years in a longitudinal population-based cohort of community-dwelling Chinese older adults in Chicago. We analyzed survey responses from 2,712 participants enrolled between 2011 and 2013 and conducted follow-up interviews after a two-year interval from 2013 and 2015. To determine elder abuse incidence, data was analyzed from Wave 1 and Wave 2 and only includes new cases of elder abuse at Wave 2. We also administered a 56-item questionnaire, assessing psychological, physical, and sexual abuse, caregiver neglect, and financial exploitation. Incidence for any type of elder abuse was 6.4%. Incidence of psychological abuse was 4.4%, financial exploitation was 2.6%, caregiver neglect at 0.9%, physical abuse at 0.5%, and sexual abuse was the least reported at 0.1%. To our knowledge, our findings are the first estimate of incident elder abuse among U.S. Chinese older adults.

RELATIONSHIP BETWEEN SOCIODEMOGRAPHIC CHARACTERISTICS AND INCIDENT ELDER ABUSE AMONG U.S. CHINESE

X. Dong, S. Bergren, *Rush University Medical Center, Chicago, Illinois*

We examined the correlations and associations of sociodemographic and socioeconomic characteristics with two-year incident elder abuse and subtypes of psychological, physical, sexual, caregiver neglect, and financial exploitation. Data were drawn from two waves of data from the PINE Study. Elder abuse was measured using a 56-item questionnaire. Data analysis examined the relationship between baseline characteristics and the incidence of elder abuse. After controlling for potential confounding factors, female gender was associated with caregiver neglect (OR: 2.97, 1.09–8.06), living longer in the U.S. with financial exploitation (OR: 1.02, 1.01–1.04), and preferring to speak Mandarin or English with physical and/or sexual abuse (OR: 3.97, 1.05–15.00). The traditional risk factors for elder abuse in prevalence studies (age, education, income, marital status, and number of children) are not shown to be risk factors for incident elder abuse in our study. Further research is needed to examine the potential mechanisms behind incident elder abuse.

IS PHYSICAL FUNCTION ASSOCIATED WITH ELDER ABUSE IN A COMMUNITY-DWELLING POPULATION?

X. Dong¹, G. Li¹, M. Simon², 1. *Rush University Medical Center, Chicago, Illinois*, 2. *Northwestern University, Chicago, Illinois*

Existing research has indicated that lower levels of physical function is a risk factor for elder abuse. This paper aimed at examining the association between physical function impairment and elder abuse among U.S. Chinese older adults. Data

were drawn from 3,157 Chinese older adults from the PINE Study from 2011–2013. We assessed physical function through both self-reported physical function (ADL, IADL, Nagi, Rosow) and directly observed physical performance tests (walk, tandem, chair stand). After controlling for potential confounding factors, higher levels of impairment in ADL (OR 0.85, 0.73–0.98) and IADL (OR 0.87, 0.82–0.92) was associated with lower risk of elder abuse. Similarly, lower levels of physical performance (OR 0.93, 0.89–0.97) are associated with lower risk of elder abuse. Contrary to previous findings, our study indicates that lower physical function may be protective against elder abuse. Further study is necessary to determine the temporal relationship between physical function and elder abuse.

ELDER ABUSE AND SUICIDAL IDEATION IN COMMUNITY-DWELLING CHINESE OLDER ADULTS

X. Dong, L. Pang, Y. Xu, *Rush University Medical Center, Chicago, Illinois*

Prior research indicates that figures for elder abuse prevalence depend on different definitional cut off criteria within the same instrument. However, definitional variation with respect to health outcomes remains unclear. This paper aims at exploring the association between different definitions of elder abuse and suicidal ideation. Data were drawn from 3,157 Chinese older adults through the PINE Study from 2011–2013. Elder abuse and subtypes were measured by using different definitional approaches from broad to strict criteria. Suicidal ideation was assessed over the past two weeks and the past twelve months. After controlling for potential confounders, broadly-defined abuse was associated with 2-week (OR 2.10, 1.34–3.28) and 12-month (OR 2.43, 1.66–3.55) suicidal ideation. Strictly-defined elder abuse was associated with 2-week (OR 2.24, 1.36–3.66) and 12-month (OR 2.34, 1.54–3.56) suicidal ideation. However, for financial exploitation, only the broad definition was associated with increased risk for 12-month suicidal ideation (OR 1.72, 1.71–2.96).

SESSION 4320 (SYMPOSIUM)

SOCIAL RELATIONS AND HEALTH IN AN INTERNATIONAL PERSPECTIVE

Chair: B. Suanet, *VU University Amsterdam, Amsterdam, Netherlands*

Co-Chair: L. Schaap, *VU University, Amsterdam, Netherlands*

Gerontological research has long acknowledged the salience of social relations for healthy aging as well as the importance of health for maintaining a solid support network. This symposium brings together five papers that show new insights in how social relations and health interact in later life. Aartsen and Veenstra use Norwegian NorLAG data to investigate whether qualitative and quantitative aspects of the network mediate the relationship between socio-economic position and health. Antonucci and colleagues study to what extent social relations influence health through interpersonal resources, such as trust, efficacy and forgiveness, on an ethnic and racial diverse Detroit sample. Schaap and Suanet examine the implications of pain for social functioning of older adults using data from the Longitudinal Aging Study Amsterdam. Düzel and colleagues investigate whether individual differences in

subjective loneliness are associated with differences in gray matter volume in brain regions employing data from the Berlin Aging Study. Zijlstra and colleagues evaluate a training among staff in a Dutch nursing home to enhance social relations between staff and informal carers of clients, with the aim to improve well-being and health of clients.

IS QUALITY OR QUANTITY OF THE SOCIAL NETWORK A PATHWAY FROM SEP TO HEALTH IN OLDER MEN AND WOMEN?

M. Aartsen, M. Veenstra, *NOVA Norwegian Social Research, Oslo, Norway*

The relation between social network and health, and Socioeconomic Position (SEP) and health is well-established. This research investigates whether the social network is a pathway in the SEP-health relationship. Data are from the second wave of the Norwegian NorLAG study, with 2,543 men and 2,715 women, aged between 40 and 85. A gender stratified multi-mediator model with bootstrapping is applied, with contact frequency and network size as quantitative mediators, and loneliness and number of people in the network on whom they can rely in periods of crisis as qualitative indicators. For men 8% and for women 15% of the variation in health was explained by the model. Only the indirect pathways through qualitative characteristics of the social network were statistically significant in both men and women. In explaining SEP differences in health, the quality of the network is more important than the quantity.

SOCIAL RELATIONS, INTERPERSONAL RESOURCES AND HEALTH: TRUST, EFFICACY, AND FORGIVENESS

T.C. Antonucci¹, K.J. Ajrouch^{2,1}, K. Birditt¹, N.J. Webster¹,
1. *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*, 2. *Eastern Michigan University, Ypsilanti, Michigan*

We examine the extent to which social relations influence health through interpersonal resources, specifically trust, efficacy and forgiveness. We hypothesize that social relations are an understudied influence of interpersonal resources which have a mediating effect on health. Data are from a probability sample of the Detroit metropolitan area of 1134 adult men and women (62% female), ages 18 to 94, including African Americans, Middle Eastern Americans and European Americans. Preliminary findings indicate that social network size, feelings of trust, efficacy, and forgiveness (with self, spouse, close others) are all positively associated. These variables, in turn, are positively associated with health. In this paper we examine how trust and efficacy mediate the associations between social relations, forgiveness and health. Additional analyses will examine these associations by race and ethnicity. Findings will be discussed from a life course perspective exploring how convoys of social relations influence interpersonal resources and health.

IN AGONY AND ISOLATED? A STUDY ON PAIN AND SOCIAL FUNCTIONING IN OLDER ADULTS.

L. Schaap, B. Suanet, *VU University Amsterdam, Amsterdam, Netherlands*

Few studies have looked at the association between pain and social domains of ageing. We investigated the association of pain with social functioning in 1757 older men and

women aged 57–97. We expected that more pain would be associated with less social functioning, as pain might reduce ability and willingness to move around and/or interact with others. Data from the Longitudinal Aging Study Amsterdam (2005–2006) was employed. Linear regression analyses, controlled for age, gender, educational level and partner status, revealed that more pain was associated with a smaller network size, less total given instrumental support, less volunteering and less participation in cultural activities and going out. Unexpectedly, we did not find an association between pain and total received instrumental and emotional support. Thus, pain seems to particularly influence participation in social activities that are more physically demanding. Pain treatment might be effective to remain socially active.

PERCEIVED LONELINESS AND ITS BRAIN STRUCTURAL CORRELATES AND ASSOCIATION WITH COGNITIVE PERFORMANCE

S. Duezel¹, J. Drewelies², I. Demuth³, D. Gerstorff², U. Lindenberger^{1,4}, S. Kühn^{1,5}, 1. *Max Planck Institute for Human Development, Berlin, Germany*, 2. *Humboldt University, Berlin, Germany*, 3. *Charité – Universitätsmedizin Berlin, Berlin, Germany*, 4. *Max Planck University College London Centre for Computational Psychiatry and Ageing, Berlin, Germany*, 5. *Clinic for Psychiatry and Psychotherapy, University Clinic Hamburg-Eppendorf, Hamburg, Germany*

The subjective perception of social support and integration plays a crucial role in human well-being. Psychological lifespan research has long shown that loneliness is a risk-factor closely associated with key outcomes of aging. However, its relation to cognition and its structural neural substrates remain largely unknown. Using a subsample of healthy older participants originating from the Berlin Aging Study II sample (BASE-II; N = 341 aged 61 – 82 years at baseline; 39 % women) that underwent Magnetic-Resonance-Imaging, we investigated whether individual differences in subjective loneliness are associated with differences in gray matter (GM) volume in brain regions that have been shown to be implicated in emotional processing and social cognition.

EVALUATION OF A PROGRAM TO IMPROVE SOCIAL RELATIONS BETWEEN NURSING HOME STAFF AND INFORMAL CARERS

G. Zijlstra¹, D. Smits², N. Salden², L. Hoek¹, 1. *Department of Health Services Research, CAPHRI Care And Public Health Research Institute, Maastricht University, Maastricht, Netherlands*, 2. *Vivantes Ouderenzorg (Care for the Elderly), Geleen, Netherlands*

A good collaboration between residents, informal caregivers and nursing home staff is essential for dependent nursing home residents in order to receive care that matches their preferences and contributes to their well-being and health. Social relations can contribute to this collaboration; yet, insight into these relationships is often lacking on wards. In this study we developed a program to increase the awareness of nursing home staff towards their role and the informal caregivers' role in the lives of residents. An initial pre-test post-test evaluation study was conducted with nursing home staff (N=20; 3 nursing homes). The process evaluation confirmed the feasibility of the program with a high fidelity

(most elements of the training were conducted as planned) and a high satisfaction of the staff (e.g. 90% rated the program good or very good). Generally staff reported greater awareness of the roles of staff and informal caregivers in the residents' lives.

SESSION 4325 (SYMPOSIUM)

NEGOTIATING BOUNDARIES IN LATE-LIFE STEPFAMILY: INTERNATIONAL PERSPECTIVES ON INTERGENERATIONAL TIES

Chair: C. Wexler Sherman, *University of Michigan, Ann Arbor, Michigan*

Late life repartnering and stepfamily formation is an increasingly common phenomenon around the world. Given greater longevity, health, and sustained divorce rates, more aging adults have complex marital and family histories. Research indicates that the intergenerational family and stepfamily ties created through late-life repartnerings are often complex. This symposium highlights five papers that examine late life stepfamily and intergenerational expectations and experiences from various international contexts (Europe, Israel, and the United States). First, **van Tilburg and van der Pas** will present a macro-level examination of cross-national differences in late-life stepfamilies in multiple European countries (e.g., Spain, Italy, Greece, Denmark, Sweden) and the US. **Hwang, Silverstein, and Brown** use the Longitudinal Study of Generations (US) to examine associations between religiosity and filial responsibility, and potential mediating effects of familism, among adult stepchildren. **Simhi-Meidani and Koren's** paper will present qualitative findings (Israel) on adult stepchildren's reactions to and experiences with parents entering late life repartnerings after widowhood. **Sanner, Coleman, & Ganong** present findings from a grounded theory study that explores outcomes of stepgrandchild-stepgrandparent relationships following the dissolution of a late life remarriage. **Sherman** will present findings on health and care-related decision making and relationship quality between remarried spouses and stepfamily members. Together, the papers in this symposium session, employ multiple methodologies to offer timely insight into late-life stepfamily in diverse national and cultural settings. Discussion will highlight the multifaceted nature of intergenerational ties in late life stepfamily, and consider implications for future aging and family research and practice.

UNDERSTANDING CROSS-NATIONAL DIFFERENCES IN LATE-LIFE STEPFAMILIES IN EUROPE AND THE UNITED STATES

T. Van Tilburg¹, S. van der Pas², 1. *Sociology, Vrije Universiteit Amsterdam, Amsterdam, Netherlands*, 2. *VU University medical center, Amsterdam, Netherlands*

With decreasing occurrence of early widowhood and increasing divorce rates, remarriage and repartnering has changed considerably within Western societies in recent decades. The study presented in this paper describes differences in late-life stepfamilies in Europe and in the United States, and attempts to explain differences from a macro-level perspective. We find a wide variety in prevalence of stepfamilies among people aged 50 years and older. For example,

data from SHARE shows 2% in Spain, Italy and Greece, and 17% in Denmark and 19% in Sweden have adult stepchildren. These differences are related to demographic factors, and social factors such as acceptance of non-marriage and non-cohabitating couples. Differences in gender roles, secularization and educational expansion are important in understanding differences among countries. It is discussed what these variations mean for the mobilization of intergenerational solidarity within stepfamilies in response to life course transitions among aging stepparents.

STEPPARENT-CHILD INTERGENERATIONAL SOLIDARITY IN 11 YEARS: MODERATING ROLE OF RELIGIOUS DISCORDANCE

W. Hwang, M. Silverstein, M.T. Brown, *Syracuse University, Syracuse, New York*

Research has documented that religiosity is associated with filial responsibility directly and indirectly through familism. However, we know little about whether these associations produce different outcomes between biological and step-adult children. Therefore, we examined the association between religiosity and filial responsibility and the mediating role of familism on the abovementioned association for biological and step-adult children using the Longitudinal Study of Generations (LSOG). We selected 527 biological adult children and 83 step-adult children from the fourth generation (G4) in Wave 8 (2005). Models include controls for participants' age, race, gender, and education. Results of multiple group analysis show that religiosity was positively associated with filial responsibility among biological adult children and that familism fully mediated this association. Among step-adult children, although religiosity was positively associated with familism, neither religiosity nor familism was associated with filial responsibility. Heterogeneous and homogeneous characteristics of biological and step-adult children's religious contexts are discussed.

CONTINUITY AND CHANGE OF RELATIONSHIP WITH WIDOWED REPARTNERED PARENTS: ADULT CHILDREN'S EXPERIENCES

S. Simhi-Meidani, C. Koren, *University of Haifa, Hod Hasharon, ISRAEL, Israel*

Late-life repartnering and parental death change family structures. Although the pain, parental death is a normative life event for adult children, whereas late-life repartnering in Israel is not. Experiences of adult children after death of one parent and repartnering of their other parent, has scarcely been studied. Our aim is to explore such experiences. Data based on semi structured qualitative interviews with 29 adult children was drawn from a larger study on late-life repartnering from an intergenerational family perspective in Israel. Findings indicate continuity and change in three domains of the relationship: 1. The parent's priorities, 2. Family roles, and 3. Parent autonomy and adult child intervention. Findings are discussed using theoretical frameworks of the family life cycle and the life course while relating to cognitive, emotional, and behavioral experiences of adult children's relationship

with their widowed parents who repartnered in old age. Theoretical and practical implications are suggested accordingly.

RELATIONSHIPS WITH FORMER STEPGRANDPARENTS FOLLOWING REMARRIAGE DISSOLUTION

C. Sanner, M. Coleman, L.H. Ganong, *Human Development and Family Science, University of Missouri, Columbia, Missouri*

Due to increases in stepfamily formation and longevity, stepgrandparent-stepgrandchild relationships are increasingly prevalent. Because remarriages end in divorce more often than first marriages, many children experience the dissolution of stepgrandparent ties. Little is known about stepgrandparent relationships in general and even less is known about how these relationships are affected by divorce. Guided by symbolic interaction theory, the purpose of this grounded theory study was to explore what happens to stepgrandparent/stepgrandchild relationships after remarriage dissolution. Twenty-nine former stepgrandchildren (aged 18–37) were interviewed about their relationships with former stepgrandparents. Contact frequency and quality of post-dissolution relationships were contingent on efforts by middle-generation parents or stepparents to encourage or impede former stepgrandparents' endeavors to remain involved with stepgrandchildren. Losing connections with former stepgrandparents was upsetting to former stepgrandchildren, especially when their relationships with biological grandparents were not close. Individuals who maintained relationships with former stepgrandparents perceived positive benefits for themselves.

WHO SHOULD DO WHAT FOR WHOM?: CAREGIVING-RELATED DECISION MAKING IN LATE-LIFE STEPFAMILIES

C. Wexler Sherman, *Institute for Social Research, University of Michigan, Ann Arbor, Michigan*

Family conflict can surface in the face of illness and caregiving, and related decision making is often challenging for families with aging adults. Research has not, however, accounted for Americans' increasingly diverse and complex marital and family histories with respect to caregiving related decision making. This paper presents findings from a mixed methods study of late-life remarried spouses (n=36) providing care for a partner with dementia. Grounded in family systems and life course theories, this study examines remarried caregivers' expectations and experiences of engagement in decision making by adult children and stepchildren. Findings indicate a range of decision making dynamics across stepfamily members, including: collaborative, selective, divested, and disruptive. Collaboration was more common in response to arranging care assistance, while disruptive interactions commonly surfaced in response to financial decision making. Implications of how intergenerational relationship history and quality shape decision making support in late life stepfamilies will be discussed.

SESSION 4330 (SYMPOSIUM)

EVIDENCE FOR THE NEED TO DISRUPT AGING: IMPACT OF PERCEPTIONS OF AGING AND AGING STEREOTYPES

Chair: E. Tan, *AARP, Washington, District of Columbia*
 Discussant: J. Stevens, *AARP, Washington, District of Columbia*

This symposium explores the potential health effects of negative stereotypes of aging and self-perceptions on aging. Prior research has linked self-perceptions of aging to self-reported health, health care utilization, functional status and cognitive status. Menkin, Seeman and Sarkisian examine the association between expectations regarding aging and health and walking in four diverse minority communities in Los Angeles. Prior research suggests that under stereotype threat conditions, older adults tend to underperform on tasks that emphasize memory performance. Gallant and co-authors from Canada report on a meta-analysis that shows a significant and robust impact of the of stereotype threat effect on memory performance. The authors report on the ability of age and level of education to moderate in the impact of negative age stereotypes on memory performance in old age. Mejía and Gonzalez report on the extent to which couples in middle age and older adulthood share positive and negative self-perceptions of aging. Using data from the 2008 through 2014 waves of the Health and Retirement Study they report how these shared perceptions predict future functional limitations above and beyond individual. Finally Sun and Smith use data from the Health and Retirement Study and the Health Care Mail Survey to determine the association between self-perceptions of aging and the likelihood of delaying medical care and older adults' decision-making processes when considering whether to seek medical care. Stevens concludes with an integrative discussion on AARP's "disrupt aging" agenda that seeks to improve self-perceptions on aging and combat stereotypes on aging.

AGE-EXPECTATIONS, PHYSICAL HEALTH, AND WALKING LEVELS AMONG MINORITY SENIORS

M. Josephine, C.A. Sarkisian, *UCLA, Los Angeles, California*

More positive perceptions of aging have been consistently linked to better physical health. Health behaviors are a possible mechanism; people with more positive self-perceptions of aging report more preventative health behaviors. However, extant research is limited by self-reporting of health behaviors or ethnically homogeneous samples. We tested whether more positive expectations regarding aging were associated with greater objective physical activity (average steps per day) using pedometer data from 240 African-American, Korean, Chinese or Latino seniors in Los Angeles with a history of high blood pressure. Although we replicated associations between aging expectations and self-reported health across all racial/ethnic groups (even after controlling for demographics and depression), we did not find an association between expectations and walking in adjusted regression models. An initial negative bivariate correlation between aging expectations and average steps was explained by racial/ethnicity differences in expectations and walking;

within each ethnicity subgroup, expectations were not associated with walking.

STEREOTYPE THREAT EFFECTS ON OLDER ADULTS' MEMORY: A META-ANALYSIS

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Stereotype threat describes instances in which an individual is at risk of confirming negative stereotypes about a group they identify with. In line with this, research suggests that exposure to negative age-based stereotypes can undermine the cognitive performance of older adults. The objective of the current meta-analytic review was to determine the magnitude of age-based stereotype threat effects on older adults' memory. Results revealed a significant and robust effect of stereotype threat induction on older adults' memory performance across reviewed studies. Specifically, when exposed to negative aging stereotypes, older adults showed consistent decrements in memory relative to control groups. The moderating roles of various demographic and methodological characteristics on stereotype threat effects will be discussed. Overall, these findings have implications for the interpretation of memory performance on lab-based memory tests and how self-perceptions of aging can influence test results..

COUPLES' SHARED SELF-PERCEPTIONS OF AGING AND IMPLICATIONS FOR FUTURE FUNCTIONAL LIMITATIONS

S.T. Mejia, R. Gonzalez, *University of Michigan, Ann Arbor, Michigan*

Self-perceptions of aging (SPA) are important for future health outcomes. Spouses in older adulthood are known to be linked in their health and well-being and may also co-construct beliefs about their own aging. This paper examines the link between spouses shared beliefs about their own aging and functional limitations six years later. HRS data from 8,760 couples (age range=51–96) were analyzed using latent variables that estimate shared and individual variance in SPA and functional limitations. Husbands' and wives' age, race, chronic illnesses (intraclass correlation [ICC]=.19), and physical activity (ICC=.17) were examined as contributors to shared SPA (ICC=.35) and future functional limitations (ICC=.21). Couples shared variance in SPA was significantly linked to their shared variance in functional limitations at follow-up ($p<.001$). Spouses' chronic illnesses and functional limitations contributed to the magnitude of shared SPA and future functional limitations, and suggest that couples' co-constructed environments are linked to their future health.

SELF-PERCEPTIONS OF AGING AND HEALTH CARE DELAY

J.K. Sun¹, J.E. Smith^{2,1}, *1. University of Michigan, Ann Arbor, Michigan, 2. Institute for Social Research, Ann Arbor, Michigan*

While self-perceptions of aging (SPA) have been associated with a variety of health outcomes, few studies have examined how SPA influence older adults' health care-seeking behaviors. We use data from the 2010 Health and Retirement Study and the 2011 Health Care Mail Survey ($n = 2,866$) to examine whether SPA are associated the likelihood of delaying medical care. Over the 1-year follow-up,

17% of respondents reported at least one reason for delaying care. Every SD increase in positive SPA was associated with a lower likelihood of health care delay, adjusting for sociodemographic, economic, and health-related factors (OR = 0.80, 95% CI [0.71–0.90], $p < .001$). Latent class analysis revealed three groups characterized by different reasons for delay: 1) Health care access (58%) 2) Too busy (22%), and 3) Dislike going to the doctor (20%). Attitudes toward aging may affect older adults' decision-making processes when considering whether to seek medical care.

SESSION 4335 (SYMPOSIUM)

ADVANCES IN INTRAINDIVIDUAL VARIABILITY RESEARCH: IMPLICATIONS FOR ADULT DEVELOPMENT

Chair: G. Luong, *Colorado State University, Fort Collins, Colorado*

Co-Chair: A. Bielak, *Colorado State University, Fort Collins, Colorado*

Over the past decades, intraindividual variability research has gained momentum in lifespan developmental research. These lines of inquiry have shown that short-term changes can inform development that unfolds over longer periods of time. This symposium provides diverse perspectives from cognitive, affective, and personality research and highlights pressing questions that still need to be addressed. For example, what does intraindividual variability represent in various domains? What are the best ways to assess and analyze intraindividual variability? How can we incorporate the person and the situation in the study of intraindividual variability? Sliwinski and colleagues will discuss cutting edge methodological approaches to the study of intraindividual variability research. Bielak and Antsey will report how physical, mental, and life-style based health indices predict baseline intraindividual variability in cognitive speed and changes over time, and age moderated effects therein. Stawski and MacDonald will present research showing that various indices of psychosocial stress responses are associated with reaction time inconsistencies, and that these effects are greater with older age. Luong and colleagues will describe how various indices of fluctuations in affective responses may carry different implications for health and well-being, particularly for older adults. Finally, Nofhle and colleagues will explore age differences in personality states and situational constructs and their implications for understanding trait personality development.

AMBULATORY APPROACHES TO MEASURING INTRAINDIVIDUAL COGNITIVE VARIABILITY IN EVERYDAY LIFE

M. Sliwinski, J.A. Mogle, J. Smyth, *Pennsylvania State University, State College, Pennsylvania*

Intraindividual cognitive variability can impede accurate measurement of cognitive status and obscure detection of cognitive decline indicative of normative aging or preclinical AD. This paper evaluates the advantages and challenges of using smartphones to measure cognitive function in real-time and in naturalistic settings to better measure intraindividual cognitive variability in order to 1) better model proximal

influences on cognitive function in ecological valid settings; and 2) improve the reliability of assessing cognitive status. Data are presented that illustrates the feasibility of using this approach in middle aged and older adults, as well as older adults with mild cognitive impairment (MCI). We show that brief (<1 minute) cognitive assessments made by smartphones have comparable, and in some cases superior, reliability and validity compared to standard neuropsychological tests. We discuss how this technology can be integrated into ongoing aging studies and general principles for designing ambulatory cognitive tests.

PSYCHOSOCIAL STRESS AND RESPONSE TIME INCONSISTENCY IN OLD AGE: A MEASUREMENT BURST APPROACH

R.S. Stawski¹, S.W. MacDonald², 1. *Oregon State University, Corvallis, Oregon*, 2. *University of Victoria, Oak Bay, British Columbia, Canada*

Psychosocial stress has been identified as an important modifiable risk factor for normal and pathological cognitive aging. Evidence exists showing psychosocial stress predicting poorer performance across multiple cognitive domains (e.g., working memory), with limited research considering stress effects on response time inconsistency (RTI). Using data from a measurement burst design, 111 older adults ($M_{age}=80$, Range=66–95) completed a processing speed task on 6 occasions over a 14-day period, repeating this protocol every 6 months for 2.5 years. Participants also completed measures of daily and perceived stress. Results from multi-level models revealed that individual differences in emotional (affect) and psychosomatic (pain) reactions to daily stressors and global perceptions of stress were associated with greater RTI ($ps<.001$). Additionally, these associations increased with age ($p<.01$). Discussion will focus on the importance of different dimensions of psychosocial stress for understanding cognitive aging, and the utility of measurement burst designs for examining stress-RTI links.

EMBEDDING CONTEXT IN INVESTIGATIONS OF AFFECTIVE VARIABILITY: AGE DIFFERENCES IN AFFECT-HEALTH LINKS

G. Luong¹, C. Wrzus², G. Wagner^{3,4}, M. Riediger^{3,5}, 1. *Human Development and Family Studies, Colorado State University, Fort Collins, Colorado*, 2. *Johannes Gutenberg University, Mainz, Germany*, 3. *Max Planck Institute for Human Development, Berlin, Germany*, 4. *Berlin Technical University, Berlin, Germany*, 5. *Free University of Berlin, Berlin, Germany*

Context plays a potentially important role in explaining variability in affective experiences and yet, has often been overlooked in this line of research. The current study used data from a lifespan sample of 398 German participants ranging between 12–88 years of age ($M = 40$, $SD = 20$). Participants completed computer assisted personal interviews regarding health and well-being measures, as well as experience sampling assessments of daily affective experiences and events (e.g., uplifts). Three indices of positive affect (PA) were created: mean PA, PA reactivity to uplifts, and PA variability. In general, greater mean PA and lower PA reactivity and variability were associated with better health and well-being. These effects were more pronounced with older

age. The findings suggest the importance of considering both contextual and motivational factors that could contribute to affect-health links across the lifespan.

MORE INTERESTED BUT LESS EVALUATED: SITUATION CONSTRUALS' LINK TO TRAIT-RELEVANT BEHAVIOR IN OLD AGE

E.E. Nofle¹, C. Gust¹, W. Fleeson², 1. *Willamette University, Salem, Oregon*, 2. *Wake Forest University, Winston-Salem, North Carolina*

Most research on personality development in later life uses trait questionnaires, which, despite their benefits, have several drawbacks. Trait questionnaires necessitate focusing on average behavior, often neglect context, and typically only track slow-moving processes over long periods. The current research employs two techniques which confront these obstacles. First, Big-Five personality states assessed across representative spans of daily life solves the problem of exclusive focus on averages. Second, inclusion of situational construals facilitates inquiry into context and chronic momentary processes. In two studies, older adults (aged 65–81) reported on situations and behavior using ESM and were compared with young and middle-aged adults (total N = 303). After attending this session, participants will appreciate that not only did older adults differ from other adults in trait-relevant behavior and situational construals, suggesting development in both traits and contexts, but they also differed in situation-behavior contingencies, suggesting changing strengths of processes in later adulthood.

SESSION 4340 (PAPER)

MENTAL HEALTH AND AGING

PATIENT-PROVIDER COMMUNICATION AND BENEFIT FINDING IN OLDER CANCER PATIENTS

M. Doherty^{1,2}, D. Gardner², 1. *CUNY Graduate Center, New York, New York*, 2. *Silberman School of Social Work, New York, New York*

Effective communication between medical providers and cancer patients plays a critical role in ensuring high-quality cancer care, and is associated with better treatment decisions, greater adherence, fewer unwanted medical interventions, and improved health outcomes. Provider communication may also be associated with positive coping and post-traumatic growth in cancer patients. This paper presents an analysis of a nationally representative dataset of the experiences of cancer survivors that examined the relationship between patient age and the experience of post-traumatic growth (i.e., benefit finding), and whether this relationship was mediated by the depth and quality of clinical communication (operationalized as: discussion of follow-up procedures, treatment side-effects, patient emotional and social needs, and lifestyle factors). The cross-sectional data were analyzed using multivariate regression models to examine the effects of a) patient age on benefit finding; b) depth of clinical communication on benefit finding; and c) patient age on depth of clinical communication. Findings supported previous evidence that

older adults with cancer have considerable unmet informational needs, and that attentive clinical communication may enhance psychological adaptation to cancer. In the absence of adequate clinical communication, older adults may not experience the opportunities for benefit finding that younger cancer patients are afforded. The authors discuss implications for social work practice, policy and future research in cancer care and health care for older adults. Social workers may benefit from greater appreciation of the informational needs of older adults, and the skills needed to support effective patient-provider communication and shared decision making for aging cancer patients.

DEPRESCRIBING ANTIPSYCHOTICS IN LONG TERM CARE RESIDENTS WITH NEUROPSYCHIATRIC SYMPTOMS AND DEMENTIA

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Background

Antipsychotic medications continue to be used in the management of Behavioral and Psychological Symptoms of Dementia (BPSD) despite adverse effects and revised guidelines. The Halting Antipsychotic use in Long Term care (HALT) project aimed to deprescribe these medications and improve non-pharmacological behavior management.

Method

We recruited residents from 24 long term care facilities who were aged 60+ years, on regular antipsychotic medication, without a primary psychotic illness, and without severe neuropsychiatric symptoms. Consenting participants were assessed one month and one week prior to deprescribing. Training was provided for facility nurses on how to manage neuropsychiatric symptoms and a dose reduction schedule was sent to and approved by GPs before deprescribing commenced. Participants were re-assessed 3, 6 and 12 months later. The primary outcome measure was reduction of regular antipsychotic medication without use of substitute psychotropic medications. The secondary outcome measures were NPI total and domain scores and Cohen-Mansfield Agitation Inventory (CMAI) score.

Results

Of 157 residents recruited, 133 commenced deprescribing and 125 achieved antipsychotic cessation. Of these, 76% remain off the antipsychotic medication up to 12 months following initial reduction. NPI and CMAI scores remained stable from baseline to 6 month follow-up with a similar trend seen for those who have reached 12 month follow up.

Conclusion

Deprescribing of antipsychotics in long term care residents with previous BPSD is feasible without re-emergence of BPSD; however, challenges still exist regarding sustainability and culture of prescribing in aged care. The impact of facility and individual factors on outcomes and reasons for recommencement following deprescribing warrant further investigation.

IMPACT OF NEUROSENSORIAL DISORDERS ON MOOD IN OLDER PEOPLE

G. Prada^{1,2}, R. Nacu^{1,2}, L. Lungu^{1,2}, A. Prada², A. Ilie³, I. Alexa³, A. Herghelegiu², 1. *Clinical department, National Institute of Gerontology and Geriatrics "Ana Aslan", BUCHAREST, Romania*, 2. *University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania*, 3. *"Gr.T. Popa" University of Medicine and Pharmacy, Bucharest, Romania*

Introduction

Prevalence of neurosensorial disorders increases with age, having multiple impact in elderly, including on mood. Study objective was to identify effects of neurosensorial disorders on mood in elderly, including their relationship with comorbidities.

Material and Methods

A total of 304 subjects, age-range 50–95 years, were included, divided into two groups: 152 adults (50–64 years) and 152 elderly (75–95 years).

Results

Visual impairments had highest prevalence in elderly, retinopathy being main cause. Glaucoma was more prevalent in women ($p < 0.01$), irrespective of age ($p > 0.05$) and it correlated with mood disorders ($r = 0.87$). Diabetic retinopathy, most prevalent visual disorders in men and correlated with mood disorders ($r = 0.67$). Depression severity decreased with age, presumably due to an adaptation effect. Other visual disorder: cataract, significantly more prevalent in older women ($p < 0.01$). It correlated with mood disorders ($r = 0.73$). Hearing disorders were significantly less prevalent in both groups and had less impact on mood disorders in elderly ($r = 0.51$). Comorbidities have been identified. Rheumatic diseases were most prevalent in elderly, followed by diabetes mellitus and cardiovascular disorders. Rheumatic disorders had more important impact on mood in elderly ($p < 0.01$), irrespective of gender ($p > 0.05$), and the effect increased when corroborated with neurosensorial disorders. This effect was less prominent in adults. Cardiovascular diseases had less effect on mood, being correlated mainly with mild depression ($r = 0.59$). Concomitant presence of neurosensorial disorders with somatic conditions reduces therapeutic compliance in elderly.

Conclusions

Comorbidities have a significant impact on mood disorders in elderly with neurosensorial disorders. Consequently the three conditions should be addressed concomitantly.

ARE HIV-INFECTED OLDER ADULTS AGING DIFFERENTLY?

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Older adults with HIV are experiencing non-HIV related comorbidities. We evaluated the onset and frequency of multimorbidity in HIV infected older adults derived from a New York City cohort (N=914) ROAH (Research on Older Adults with HIV). ROAH data was compared, after matching, to

samples from the National Health and Nutrition Examination Surveys (NHANES & NYCNHANES). Comparisons were based on self-reported conditions (arthritis, cancer, depression, diabetes, CVD, hypertension, respiratory condition, stroke, HIV). When assessing the number of comorbid conditions (0-1,2,3,4,5,6+), older adults with HIV evidenced averages of 2.65/2.60 comorbidities, significantly higher than NHANES (1.65/1.48). Depression was the highest frequency in ROAH (52 & 62%) vs NHANES (17 & 21%). In multivariate logistic models, depression was best explained by younger age, HIV, morbidity number, unemployment. Analyses do not support hypotheses of accelerated aging. Increasingly the need for HIV care providers to embrace geriatric care principles optimized to manage multimorbidity and contributing risks emerges.

SESSION 4345 (PAPER)

SUCCESSFUL AGING: CROSS-NATIONAL AND LONGITUDINAL PERSPECTIVES

TRANSITIONING FROM SUCCESSFUL AGING: LONGITUDINAL ANALYSES OF PREDICTORS AND PATTERNS

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Despite extensive research using Rowe and Kahn's model of successful aging, its application to representative national samples is rare. Longitudinal research permitting analysis of transitions to non-successful aging (NSA) over time at the individual level also is lacking. We apply event history analysis to 8 waves (2-year intervals from 1998–2012) of representative data for 11,346 individuals ages 50 and older from the Health and Retirement Study in the U.S. to examine influences on the transition into NSA. We extend prior research by considering the impact of factors present at birth (e.g., race, place of birth), as well as time-varying adult statuses (e.g., education, income) and lifestyle factors (e.g., smoking). Significant predictors of NSA include age and parents' longevity. Though the results also reveal that NSA is accelerated for Blacks, Hispanics, females, and those born in the Southern U.S., both race and ethnicity become insignificant once adult status factors and lifestyle variables are considered. High BMI and smoking positively influence transitions to NSA, while higher education and income delay NSA. Also examined are components of successful aging that are most often implicated in NSA transitions at distinct ages. For persons transitioning to NSA between ages 50 and 69, mobility problems and chronic disease are the most common NSA dimensions reported. But, for persons transitioning to NSA from age 70 on, lack of productive engagement is the most common dimension, followed by mobility problems and chronic illness. Implications of all of these findings for interventions promoting successful aging are addressed.

MODELING OLD AGE LIFE TRAJECTORIES—A JAPANESE-SWEDISH COMPARISON

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Functional limitations and provision of long-term care for old persons is most often regarded from a systems level calculating and comparing proportions of old persons in different functional states and on different levels of long-term care. A simulation model has been developed which looks at this from the individual's point of view. The model calculates the distribution on level of functional limitations combined with level of LTC for a 78 year old man or woman after three, six, nine, twelve and fifteen years (in the Japanese case 5, 10 and 15) given the initial state expressed in those terms. Different assumptions can be made concerning the health development in the population and the structure of the LTC system and thus the effect of these assumptions on the individual level can be explored.

Longitudinal data for the model has been taken from the Swedish SNAC-study, baseline and three year follow up, and from the Japanese NUJLSOA-study, wave 2 and wave 4 five years later. Transition probabilities are calculated by relating individual states between waves. Changes over time are then calculated in the model by matrix multiplication using the Markov assumption. In this way it is also possible to compare individual prospects in the Swedish and Japanese old age populations with regard to expected future functional limitations and LTC care level at a certain age. Examples of results will be presented.

AGING WELL AMONG BLACK AND WHITE OLDER AMERICAN MEN: WHAT IS THE ROLE OF MASTERY?

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Objectives: This research explores Black-White differences in aging well and investigates whether mastery acts as a buffer against poor health for Black and White older American men.

Methods: Using data from the Health and Retirement Study (HRS) (2008–2012) and the Psychosocial and Lifestyle Questionnaire (PLQ), a series of multinomial logit models were created to ascertain the odds of aging well over a two-year period. Because the PLQ is administered to half samples, the 2008 and 2010 samples were pooled and outcomes were assessed in the subsequent wave (i.e., 2010 or 2012). Respondents who rated their health favorably (good or better) and were free of disability at both waves were considered to be aging well. Mastery was lagged, and analyses (N=4,825) controlled for numerous risk factors including lifetime stressors.

Results: After introducing the controls, there were no significant differences in the odds of aging well among Black and White men. Mastery was associated with higher odds of aging well (OR=1.14 [1.05, 1.25]; $p=0.001$). Mastery moderated the relationship between race and aging well. The predicted probability of aging well was relatively flat across all levels of mastery among Black men, yet White men saw consistent gains in the probability of aging well as mastery increased.

Discussion: High levels of mastery are linked to positive health—often acting as a buffer against stressful life events. However, among Black men, higher levels of mastery did not necessarily equate to aging well. Yet, these analyses point to potential resiliency among Black men with low mastery.

POTENTIAL DETERMINANTS FOR SUCCESSFUL AGEING-POPULATION-BASED COURAGE FOLLOW-UP STUDY IN POLAND

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Rapid demographic changes increase interest in determinants associated with successful ageing closely linked to the ability to maintain good quality of life (QoL) by older people. Functional status, social and physical environment are considered as important contributing factors. The purpose was to assess whether functional status, social networks, social participation and the characteristic of surrounding build environment are predictors for better QoL among older (60+) and younger (<60) individuals.

Population based follow-up study in Poland, Europe was performed in two phases in 2011 and 2015–2016; the mean follow-up time was 4.3 years. Analyses included 769 at 60+ (54.7% males) and 884 individuals at age <60 (59.5% males). WHOQOL-AGE, WHODAS-2.0, COURAGE Social Network Index, COURAGE Subjective Build Environment were measured during face-to-face interviews.

Multiple linear regression used to find predictors for QoL revealed functional status and social participation as important predictors in both older (betas=0.34, 0.12) and younger groups (betas=0.30, 0.09). Additionally, quality of living place build environment and social networks predicted QoL in younger group (betas=0.14, 0.14). Analyses considering the change in functional status instead of the baseline status showed positive effect of social networks in both age groups.

Functional status, social and build environment should be considered as key predictors of quality of life among older adults, therefore these should be of interest for health promotion strategies in ageing societies.

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THE EFFECT OF SUCCESSFUL AGING ON THE LIFE SATISFACTION OF KOREAN OLDER ADULTS

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Description: Rowe and Kahn's successful aging model has long been used as a framework for studying older adults' well-being. This model consists of three parts: avoiding diseases and disability, high cognitive and physical function, and active engagement of life. Also according to Erikson's psycho-social theory of human development, relationships with adult children is important for their generativity. In Korea, Confucianism emphasizes the role of filial piety

between the adult children and their parents as an important role for older adults' well-being. This study examines this relationship between the older adults and their adult children as an important factor of successful aging.

Method: This study used the 4th and 5th wave of KLoSA (Korean Longitudinal Study of Ageing). The target population of this study was 1,385 who is older than 65. Data was analyzed using hierarchical multiple regression. Life satisfaction is the dependent variable (5th wave). Besides Rowe and Kahn's three parts of successful aging, other independent variables include the relationship between adult children and older adults such as distance of living area, meeting and contact with adult children (4th wave) were included.

Findings: Findings reveal married individuals were healthier, have better memory, and attend more social meetings compared to those who do not have spouse. Regular exercise, strong memory skills, meeting with friends, and contact with their adult children by mail or phone were significant factors affecting the older adults' life satisfaction. Thus, when we use the model of successful aging, we need to consider cultural context of other countries.

SESSION 4350 (SYMPOSIUM)

EXTENDING WOMEN'S WORKING LIVES... ALL THE WAY TO THE PRECARIAT?

Chair: D.A. Street, *SUNY at Buffalo, Buffalo, New York*

Co-Chair: Á. Ní Léime, *National University of Ireland Galway, Galway, Ireland*

Citing a variety of reasons, including population aging, burdensome public pension obligations, people's longer, healthier, lives and the presumed salutary effects of continued work, governments in wealthy countries have been exhorting citizens to work to older ages. This symposium turns a critical feminist political economy lens on theoretical issues (paper 1 by Vickerstaff, Krekula) and specific material circumstances (papers 2–4) to consider gendered opportunities and risks of policies intended to extend working lives. A country-specific case study (paper 2) from Australia (Brooke) and a comparative analysis of secondary data from three liberal countries - Ireland, US, UK (Ní Léime, Street, Loretto) use the theoretical model to frame the empirical analyses presented. The empirical papers show that, despite experiencing different national labour markets and policy regimes, older women's extended working lives are bifurcated into good and bad jobs. A small proportion of older women have good jobs—the professions, entrepreneurship, or high quality employment with flexible working arrangements prior to retirement. However, in each country, the “flexibilisation” that is necessary to extend working lives also incorporates many older women into the precariat of poor jobs. For many women, the only option for extending working lives is to work at ever older ages in low paid, low skills jobs, due to the accumulation of disadvantage over their lifecourses. The intersections created by the demands of unpaid caring, employment trajectories interrupted due to women's normative social roles, and higher levels of ill health contribute to structured disadvantages for many older women workers.

FROM HOMOGENIZATION OF OLDER WORKERS TO GENDERED POWER RELATIONS AND GOVERNMENTAL PRECARIZATION

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The debate on extending working life has to a great extent described the ageing population as a challenge to welfare provision and benefits, and policy development has been based on economic perspectives. Unlike earlier policy on job opportunities for women, ethnic minorities and differently abled people extending working life (EWL) policies were not urged primarily by social movements. The argument for EWL has typically treated older workers as a homogenous category and only to a limited extent dealt with issues related to social relations beyond work organizations such as family and domestic arrangements. With help of the concepts biopolitics and governmental precarization and their focus on power by control of bodies and lives, this paper discusses extending working life as an element of intersecting power relations that brings consequences on a wider social level.

THE AUSTRALIAN GENDERED LANDSCAPE OF EXTENDED WORKING LIVES

E. Brooke, *Swinburne University of Technology, Melbourne, Victoria, Australia*

The objectives of researching the gendered Australian landscape are firstly, to understand patterns of gendered employment structured by globalised forces rendering women vulnerable to insecure low-end work. Secondly, to explain how cumulative employment patterns across the life course produce late life inequalities. Neo-liberal frameworks are built on gender gaps in wages, superannuation and Age Pension reliance which cascade to a low road ‘de-accumulation’ life course trajectory. Using national data from Australia, I show that low-road employment trajectories act as disincentives to extend working lives and continue to promote early exit to ‘retirement’. Flexibilisation of working time has resulted a fragmented labour force and precarity at the individual level. Patterns of gendered unemployability and workforce detachment mean that women are more likely to become discouraged workers and less likely to perform job seeking activities. Global forces affecting employment interact with reproductive responsibilities resulting in late career and post work inequalities.

GENDER, PRECARIOUS EMPLOYMENT, AND LONGER WORKING LIVES IN THE U.S., UK, AND IRELAND

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Based on comparative analysis of extended working life, family friendly policies and gendered employment and pension patterns in three liberal welfare states - Ireland, US, UK

- this research focuses on the implications for women workers in low-paid precarious employment of having to work longer. We compare gendered pension and employment outcomes to question whether the UK and Ireland should follow the policy path taken by the US (to raise state pension age) or whether extended working life policies that have been introduced in the UK and Ireland should instead be modified to take account of the situation of precarious workers. Empirical findings establish that women in low-paid and non-standard employment are much more likely to be dependent on state pensions and, further, that precarious employment is increasing in each country. Therefore, raising state pension ages disadvantages women in low-paid precarious jobs, especially if the jobs are physically demanding.

SESSION 4355 (PAPER)

LONG-TERM CARE III

NEGOTIATING CARE IN NURSING HOMES: THE EXPERIENCES OF FAMILY MEMBERS, RESIDENTS AND STAFF

J. Baumbusch¹, D. Beaton¹, M. Leblanc¹, A. Phinney¹, P. Rodney¹, D. O'Connor¹, C. Ward-Griffin², 1. *Nursing, University of British Columbia, Vancouver, British Columbia, Canada*, 2. *Western University, London, Ontario, Canada*

In Canada, families will be contributing upwards of 60 million hours of care per year in nursing homes by 2018. Even though families are a cornerstone of care in this sector, their involvement, both with their relative and the broader functioning of the nursing home, is largely invisible. Past research has indicated that families often experience role ambiguity, perceive conflict with staff, and may feel excluded from the care of their relative. In this critical ethnographic study, we aimed to examine the negotiation of care among families, residents and staff, particularly around decision-making and 'hands-on' care within the broader institutional environment. The study is taking place at two homes in British Columbia, Canada. A purposive sample of 26 family members, 17 staff members, and 8 residents participated in in-depth interviews. Additional participants were included in 145 hours of participant observation. Key findings illustrate ways in which individuals are working towards the similar care goals of 'balancing risk and safety', 'navigating the boundaries of care practices, and 'supporting person-centered care'. However, individual's approaches to these care goals can be different, contributing to conflict among those providing and receiving care. These findings have implications for care processes that support effective communication and relational approaches to care in nursing homes.

A STUDY OF FACTORS AFFECTING CARE WORKERS' PERCEPTIONS TOWARD NEW POLICIES FOR FOREIGN CARE WORKERS

N. Tsukada, *College of Commerce, Nihon University, Tokyo, Setagaya-ku, Japan*

It is officially estimated that about 377,000 care workers will be needed by 2025 in Japan. The Japanese government is discussing this need, including the possibility of broadening

immigration status to encompass foreign care workers. Options include both developing a new immigration status, "LTC(Kaigo)" and adding a new LTC area to an existing immigration status, "technical-intern-training(Ginou-Jissyu)." This study explores care workers' perceptions of these options and factors related to differences in their perceptions. Data were obtained from a nationwide survey of LTC institutions for the elderly in 2014. Structured questionnaires were sent to randomly selected 3,932 institutions. A total of 586 responses were obtained. Preliminary analyses revealed that 42.5% of care workers indicated that they supported the idea of a new immigration status, "Kaigo," and 55.5% said the same about adding LTC areas to already existing status, "Ginou-Jissyu." The most cited reason(77.4%) for agreeing to add LTC areas to "Ginou-Jissyu" immigration status was "to secure care workers because it will be inevitable to run out of them," and 64.6% of the care workers who disagreed with adding the area chose the reason, "there remains concerns, including declining salaries of and increasing turnover rates of care workers." There were statistically significant relationships between perceptions of care workers who agreed accepting foreign LTC workers and that of those who agreed broadening immigration status. It is suggested that the government and directors of LTC institutions pay attention to care workers' perceptions in order not to accelerate already higher turnover rates of care workers.

REGISTERED NURSE DELEGATION IN NURSING HOMES: THE ROLE OF DIRECTORS OF NURSING

E.O. Siegel¹, D. Bakerjian¹, K. Bettega¹, S.K. Sikma², 1. *University of California, Davis, Sacramento, California*, 2. *University of Washington, Bothell, Washington*

The need for improved care in U.S. nursing homes continues, and the role of RN delegation in nursing home quality is an area of ongoing interest. Nursing home RNs routinely lead nursing teams, with licensed practical/vocational nurses and unlicensed nursing personnel providing the majority of direct nursing care. Effective RN delegation of nursing activities is an essential component of nursing home care; yet, evidence suggests gaps in delegation practices, with implications for the quality of care. Directors of Nursing (DONs) are in key leadership positions to address gaps in delegation practices; however, few resources are available to guide DONs in this regard. As part of larger study to develop and test a delegation resource for DONs, this paper describes challenges DONs face in addressing gaps in RN delegation practices by the nursing staff under their charge. Using a descriptive qualitative approach, audio-taped semi-structured interviews were conducted with a convenience sample of 28 current/previous DONs and nursing home leaders. Thematic analysis was used to analyze the interview transcripts, revealing two key themes. First, DONs are commonly unprepared for the demands they face in this leadership position, in general and specific to RN delegation. Second, perceived and actual resource limitations in the DON's work environment (i.e., staffing, time) challenge their capacity to ensure effective and safe RN delegation practices. These findings provide directions for further research to understand and address the challenges faced by DONs as the nursing home leaders charged with ensuring effective and safe nursing practice and improved resident outcomes.

SESSION 4360 (SYMPOSIUM)

STRENGTHENING ADVANCE CARE PLANNING THROUGH INNOVATIVE POLICYMAKING, PRACTICE, AND RESEARCH

Chair: G. Stein, *Yeshiva University, New York, New York*

The National Academy of Medicine in its 2015 report, *Dying in America*, advocates advance care planning (ACP) as vital for people with serious, advanced illness to assure that health care decisions near the end of life are made according to their preferences and values. This allows the very ill to forego unwanted invasive procedures that might detract from the quality of their lives, and instead choose hospice and other palliative measures that focus on quality of life and comfort. This symposium presents policy, practice, and research strategies from social work perspectives. The first presentation from an author of *Dying in America* and of the 2016 Roundtable on Quality Care for People with Serious Illness, describes innovative legislative proposals and policies, resources, online registries, and evidence-based quality measures that promote ACP. The second presenter uses data from a national survey to describe the extent to which hospice and palliative care social workers facilitate, conduct, and lead ACP planning activities. The third presentation describes findings from interviews with bereaved caregivers on how ACP and ongoing communication influenced outcomes at the end of their loved one's life. Finally, the fourth presenter discusses attitudes and behaviors toward advanced directives among Chinese American older adults, and the importance of culture. Each of the presenters discusses the implications of these findings and potential strategies for policymaking, practice, and research.

ADVANCE CARE PLANNING: POLICY

J. Peres, *Private Clinical Practice, Chevy Chase, Maryland*

Advance Care Planning (ACP) is seen as a dynamic process that changes over time and involves a clarification of one's goals and wishes. Contentious issues such as the so-called 'death panels' or physician payment for discussion of advance directives are continually debated in public policy. In the midst of these debates there have been many new approaches developed to assist with advance care planning. New legislation and policies governing ACP, online resources and registries are beginning to be promoted. The National Academy of Medicine is establishing a Roundtable on Quality Care for People with Serious Illness inspired by the recent 2015 Institute of Medicine report *Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life*. As part of the Advance Care Planning Symposium, this presentation will focus on the policies being developed by the Roundtable and need for evidence based quality measures.

DOCUMENTING THE SOCIAL WORK ROLE IN ADVANCE CARE PLANNING

G. Stein^{1,2}, G. Christ^{2,3}, J. Cagel^{4,2}, 1. *Yeshiva University - Wurzeiler School of Social Work, New York, New York*, 2. *Social Work Hospice & Palliative Care Network, Seattle, Washington*, 3. *Columbia University School of Social Work, New York, New York*, 4. *University of Maryland School of Social Work, Baltimore, Maryland*

Social workers are core members of health care teams that support and educate their patients and families in developing advance care plans. This study documents the extent and breadth of social work participation in advance care planning. During the fall/winter 2015, researchers surveyed approximately 700 palliative social workers; over 90% were masters trained, many with clinical social work licenses, advanced training and credentials, and many years of experience. The 500 clinical respondents reported that among the social workers in their facility, 96% conducted advance care planning discussions; 80% ensured their patients and families were informed about planning options; 68% documented planning decisions; and 60% led planning discussions more than 6 times per month. Two-thirds rated themselves as very competent or expertly competent in facilitating advance care planning discussions. These results document that licensed and experienced social workers are facilitating, conducting, and leading advance care planning activities.

HOW ADVANCE CARE PLANNING INFLUENCES THE END-OF-LIFE EXPERIENCE: BEREAVED CAREGIVERS' PERSPECTIVES

D.P. Waldrop, J. McGinley, *University at Buffalo, Buffalo, New York*

Advance Care Planning (ACP) facilitates the expression of a dying person's wishes and guides decision-making. Yet, in near-death moments, caregivers are confronted with difficult realities. The purpose of this study was to investigate bereaved caregivers' perspectives on how ACP influenced outcomes at the end of a loved one's life. In-depth interviews were conducted with 108 bereaved caregivers 4 months after the death. The results indicated that 104 (96%) hospice patients had an advanced directive and 73 (68%) had spoken about their wishes with a healthcare provider. However, 42 (40%) caregivers did not discuss death with their loved one; 26 (25%) did not say goodbye, reporting significantly poorer physical health ($t[104] = -2.9$, $p < .05$) and more frequent grief ($t[103] = -1.9$, $p < .10$). Three themes illustrated the end-of-life experience: Peaceful-Expected; Difficult-Uncertain; and Shocking-Unexpected. The results suggest that ACP is not an event but a process and families need continuing preparation for what they experience.

ADVANCE CARE PLANNING ATTITUDES AND BEHAVIORS OF CHINESE AMERICAN OLDER ADULTS

C. Berkman, X. Liu, *Fordham University, New York, New York*

The study purpose is to describe advance care planning attitudes and behaviors of Chinese American older adults. Chinese American senior center members ($n=150$) were interviewed. If diagnosed with incurable cancer, most reported wanting to know (86.7%), and wanting their family to know (88.7%) about this diagnosis. Half wanted someone other than themselves to be told first. Almost all (94.0%) wanted to know about symptoms as the illness progressed, and about life expectancy (88.5%). With this diagnosis, 79.3% wanted to know about life-sustaining treatments and 90% wanted to know about palliative care. Most (92.4%) had never discussed their end-of-life treatment preferences with their doctor, including 89.5% who reported wanting to have

this discussion before they are ill. Most (94.3%) disagreed that discussing death and dying with their doctor could be harmful. The stereotype of Asian older adults not wanting to participate in advance care planning is not supported by these findings.

SESSION 4365 (SYMPOSIUM)

POLICIES RELATED TO AGEISM: PRESENTATIONS FROM COST IS1402 ON AGEISM

Chair: L. Ayalon, *Bar Ilan University, Ramat Gan, Israel*

Although ageism is the most commonly reported “ism” in society, research on policies related to ageism is only beginning to emerge. This symposium aims to provide a broad overview on specific policies associated with ageism. Dolberg et al. discuss migration policies in relation to ageism. They demonstrate how direct and indirect ageist policies impact the lives of older immigrants. Sourbati & Carlo stress the importance of not treating older adults as a homogenous group, but rather appreciating and addressing differences with regard to the use of ICT in relevant policies. Abdusel & Perek-Bialas demonstrate the direct association between employment policies and ageist attitudes towards older workers. Graziano & Fialova discuss potential policies to reduce ageism in prescriptions to older adults. Finally, Ayalon provides an integrative discussion on the need to acknowledge ageism in policy research. Discussion occurs within the context of an EU funded research group on ageism (COST IS1402).

AGEISM IN THE LABOUR MARKET—POLICIES INFLUENCE PERCEPTIONS OF OLDER WORKERS

L. Abuladze¹, P. Jensen², J. Perek-Bialas^{3,4}, W. De Tavernier²,
1. *Estonian Institute for Population Studies, Tallinn University, Tallinn, Estonia*, 2. *Centre for Comparative Welfare Studies, Aalborg University, Aalborg, Denmark*, 3. *Jagellonian University, Krakow, Poland*, 4. *Warsaw School of Economics, Warsaw, Poland*

We analyse the role labour and retirement policies play in promoting or counteracting ageism in the labour market. Data from the World Value Survey (Wave 6, n=27,264) show that in Romania (33.9%), Russia (20.8%) and Poland (16.4%), a 70-year-old boss is considered least acceptable – an opinion least found in Japan (1.2%) and Germany (1.9%). At the individual level, we find that the higher educated and individuals with higher satisfaction of life think a 70-year-old boss is more accepted; no relation with age is found. At the country-level, not only the country's demographics but also labour and retirement policies (e.g. lower retirement ages) are shown to shape individuals' perceptions of older people. We argue that law-makers should be aware of such unintended consequences of their policies, as they might undermine efforts to extend working lives.

ACTIVE AGEING AS DIGITAL MIGRATION: TIME TO THINK BEYOND AGEIST MYTHS

M. Sourbati, *University of Brighton, London, United Kingdom*

This paper draws on a study of digital inclusion and Active Ageing (AA) policies in the UK and Italy, two countries with similar trends in population ageing and different

ICT diffusion patterns (Carlo and Sourbati, 2015), to propose a framework for age-aware media/technology policy design. Our study found co-constructions of age and exclusion mirrored digital media diffusion. In Italy, a strong focus on generational ‘digital divides’ came with expectations ICT will facilitate AA, enhancing the social and economic inclusion of older groups. In the UK, ICT diffusion has modified ‘generational’ divisions: Technology use patterns reflected social-economic inequalities including sex/gender and race rather than generational divides. Our paper contributes a counter to conceptualizations of AA as digital migration, relating to popular generational digital native-immigrant binaries. Our paper makes a case for sensitivity to the diversity in experiences of age and technology engagement to promote age-friendly policy design for all.

AGEISM IN IMMIGRATION POLICIES

P. Dolberg¹, S. Sigurdardottir², U. Trummer³, 1. *Ben-Gurion University of the Negev, Beer-Sheva, Israel*, 2. *University of Iceland, Reykjavik, Iceland*, 3. *Center for Health and Migration, Vienna, Austria*

In the past few decades, the older immigrants' population in Western countries has become wider. This population consists of two main distinctive groups: ageing individuals who migrated as labour migrants, who aged in the immigration country, and individuals who migrated in older age. Ageism is the complex and often negative social construction of old age, which frequently form as a double jeopardy.

Policy research findings indicate that age is a significant criterion in immigration policies mainly due to the labour market demands. Furthermore, different studies display older immigrants' disadvantages, yet, most of them failed to observe it as practices of ageism.

In the current presentation, we will identify manifestations of ageism against older immigrants in policies, and discuss the straightforward expressions of ageism when it comes to immigrants. We will also discuss the roles of class and ethnicity in ageism against older immigrants.

AGEISM IN THE HEALTH CARE SYSTEM

G. Onder¹, D. Fialová², 1. *Universita Cattolica, Rome, Italy*, 2. *Charles University, Prague, Czech Republic*

Ageism in healthcare is a prevalent phenomenon with potential severe consequences for older patients. The “COST Action IS1402: Ageism - a multi-national, interdisciplinary perspective” reviewed possible definitions of ageism showing that the multidimensionality and complexity of the phenomenon, i.e. its multiple components and combinations between components, have not been fully assessed by existing definitions. In particular, self-directed and implicit components by of ageism are rarely measured by existing definitions and assessed in clinical studies. Important health care aspect of ageism addressed by the COST Action include the assessment of ageism in the pharmacological treatment of older adults and their inclusion in clinical studies that prove the efficacy of pharmacological treatment. Priorities ageism include 1. provide a multidimensional and comprehensive definition of ageism; 2. measure and assess stereotypes and prejudices specifically directed towards older patients; 3. define interventions to reduce ageism and improve the health care of older people.

SESSION 4370 (SYMPOSIUM)

BRIDGING THE SERVICE GAP FOR OLDER ADULTS WITH MENTAL HEALTH NEEDS

Chair: D.L. White, *Portland State University, Portland, Oregon*

Co-Chair: M.B. Neal, *Portland State University, Portland, Oregon*

Discussant: G. McKenzie, *Oregon Health & Science University*

Although emotional well-being generally increases with age, many older adults are at risk for poor mental health. Declining physical health and increased social isolation place many at risk for depression and anxiety. Also, people who have been diagnosed with a serious mental illness (e.g., schizophrenia, bipolar disorder) are living longer, and they experience age-related changes prematurely. Brain injuries such as those related to falls and other trauma are on the rise. Dementia, the sixth leading cause of death, is increasingly recognized as a major public health concern. Multiple co-morbidities that often accompany these conditions further compromise well-being. U.S. health and social service systems have not prioritized the needs of older adults with these multiple and complex needs. Services are fragmented as agencies work in silos with different funding priorities, eligibility requirements and knowledge bases. As a result, we see high rates of health care utilization, poor quality of life, and increased mortality. The State of Oregon has launched several initiatives designed to build bridges between service systems and ultimately fill gaps in services to older adults. This symposium will report on results from three of these initiatives: 1) coordinating services across systems through a new workforce, "Older Adult Behavioral Health Specialists;" 2) implementing evidence-based programs for older adults with moderate depression using strength-based, problem solving approaches (e.g., PEARLS, Healing Pathways); and 3) a dementia training program that includes a focus on people with both serious mental illness and dementia, emphasizing person-centered thinking and planning.

OLDER ADULT BEHAVIORAL HEALTH INITIATIVE: BUILDING COMMUNITY CAPACITY

M.B. Neal, L. Dreyer, D.L. White, *Portland State University, Portland, Oregon*

The Oregon legislature funded positions for 24 Older Adult Behavioral Health Specialists (OABHS) to address the gaps in services for older adults with behavioral health needs (i.e., mental health and/or substance misuse). The OABHS are responsible for building community capacity by increasing coordination among stakeholders, conducting workforce training, and providing complex case consultation. This paper reports on the outcomes after the first two years of the program through analysis of OABHS quarterly reports and assessments by community stakeholders. Specifically, stakeholders (e.g., primary care providers, emergency responders, aging services providers, mental health providers, advocates) report on various outcomes, including coordination among

local organizations with processes in place for addressing gaps in services; increasing knowledge levels about older adults' behavioral health needs; increasing the use of best practices to screen, assess, and treat older adults; implementing evidence-based programs; and involving consumers, family members, and advocacy groups in planning and delivery of services.

EVIDENCE-BASED PROGRAMS TO ADDRESS DEPRESSION IN THE COMMUNITY: THE INTERVENTIONIST EXPERIENCE

S. Elliott, S. Hasworth, M. Rushkin, D.L. White, *Portland State University, Portland, Oregon*

Oregon's Aging and People with Disabilities funded each of the state's nine Aging and Disabilities Resource Centers (ADRCs) to implement evidence-based programs to address mild and moderate depression in older adults living in the community. Each ADRC selected the program that best fit the needs of the population served and the resources of the agency. Programs included PEARLS, Healing Pathways, Healthy Ideas, Project Hope, and more. Evaluation included assessment of program fidelity, pre and post-depression scores, and qualitative interviews with interventionists. Most programs adhered to fidelity. The most common deviation was expansion of eligibility criteria (age, presence of significant mental health issues). Depression scores improved across all programs ($p < .001$). Interventionists across programs reported that the programs' structure contributed to success and allowed them to expand services to an underserved population. Challenges included tough life circumstances of the participating consumers, stigma, and lack of services for those who need additional help.

EVIDENCE-BASED PROGRAMS TO ADDRESS DEPRESSION IN THE COMMUNITY: THE CONSUMER EXPERIENCE

S. Hasworth, D.L. White, *Portland State University, Portland, Oregon*

Evidence-based mental health interventions for mild to moderate depression implemented by ADRCs included a series of home visits (e.g., PEARLS, Healthy Ideas, Project Hope) or workshops (i.e., Healing Pathways). All interventions used some form of problem-solving techniques where consumers identified primary issues to work on, developed strategies for addressing issues, and learned new skills. Consumers received a pre-intervention survey during their first or second visit with the interventionists and a post-survey upon completion of the program. The survey included information on quality of life, health, health care utilization, anxiety, and satisfaction with the service. Consumer satisfaction surveys were also linked to PHQ-9 scores. Improvements were seen in all categories, including significant improvements in key outcome measures for anxiety and depression. Difficulties in conducting surveys with this population, including consistent distribution of surveys, limited literacy, and physical abilities to complete surveys are discussed. Overall, consumers expressed satisfaction with this intervention.

SERIOUS MENTAL ILLNESS AND DEMENTIA: TRAINING AGING AND MENTAL HEALTH SERVICE PROVIDERS

D.L. White, S. Hasworth, *Portland State University, Portland, Oregon*

Behavioral expressions occurring frequently with dementia are challenging for the person as well as for those who support them. Most difficult are psychotic behaviors (e.g., hallucinations, aggressiveness, paranoia) which may be seen in people with and in people without a history of serious mental illness (SMI). Those who do not have SMI often receive erroneous diagnoses or are treated inappropriately with psychotropic medications. Dementia may not be recognized as contributing to behavioral changes in people with a history of SMI, resulting in treatment not adapted to meet changing needs. This paper describes Oregon's dementia capable workforce initiative which included training to address the needs of people with SMI who have dementia. Both aging services and mental health providers were targeted, because the expertise of each group is needed to establish supportive environments that enhance function and reduce distressing symptoms. Lessons learned by providers are presented, including intent to coordinate services.

SESSION 4375 (SYMPOSIUM)

HEALTHY AGING OF KOREAN/KOREAN AMERICAN OLDER ADULTS

Chair: J.L. Yoon, *Hallym University, Hwasung-si, Korea (the Republic of)*

Co-Chair: L. Park, *University of Wisconsin-Madison, Madison, Wisconsin, Afghanistan*

Discussant: Y. Suh, *Albert Einstein College of Medicine*

Although the life expectancy of Koreans average over 80 years in age, their health life expectancy is much lower than their longevity. This difference makes healthy aging an important factor to consider for the welfare of older adults. The first study will focus on factors affecting the Korean Centenarian's healthy life. The second study will focus on the long term care policy in Korea for older adults since its inception in 2008 and about 90% satisfaction rate of Korean older adults with that policy. The third study will focus on health disparities of Korean American older adults in the U.S.A. compared to other groups. Implications of these studies suggest ways to make older adults healthy and feel secure in their late life.

THE SECRET OF LONGEVITY OF KOREAN CENTENARIANS

S.C. Park, *Daegu Gyeongbuk Institute of Science, Daegu, Korea (the Republic of)*

The Korean Centenarian Study has been successfully carried out through the collaboration of medical, genetic, psychological, nutritional, ecological, economic, family, social and anthropologic experts. Genetic traits of the Korean centenarians are unique. Gender ratio of centenarians is rather biased to female, and not uniformly but regionally

localized. Male centenarians are better off functionally. Centenarians with outdoor activities showed higher levels of serum albumin, as compared to the sedentary centenarians. The proportion of centenarians who scored high in dietary diversity was higher in mountainous areas. Based on the integration of these variables, a new model for human longevity is proposed, "Park's Temple Model for Human Longevity", consisting of fixed variables, personal variables, and the social variables. Therefore, this compensating, balancing, and comprehensive model for human longevity may provide a tool to explain the mechanism of human longevity and contribute to analyze the dynamic changes of population longevity.

LONG-TERM CARE POLICY OF KOREA

D. Sunwoo, *Korea Institute of Health and Social Affairs, Seoul, Korea (the Republic of)*

Since its introduction in 2008, Korea's long-term care services for the elderly are provided through the Long-Term Care Insurance program supported by premiums (~70%) and governmental subsidies (~20%). In 9-years, the percentage of beneficiaries and care providers increased while individual service costs for the LTCI program and household care burdens decreased. However, the status of LTCI financing is in crisis as 2016 is expected to have a deficit. Analysis of the cause in expenditure growth found that expenses/service day (cost) affected institutional care and service days/beneficiary (quantity) affected home care benefits. Costs were also affected by increasing service unit cost paid to care providers. The rapidly increasing elderly population increases the prevalence of dementia and ratio of older persons living alone (majority of this long-term care population). In order to stabilize financing and improving quality of life, health policies should focus on healthy aging through health promotion and chronic disease control.

HEALTH DISPARITIES OF KOREAN AMERICAN OLDER ADULTS

Y. Jang, *University of Texas-Austin, Austin, Texas*

The present study examined the extent to which limited English proficiency (LEP) poses a risk to physical and mental health in older Korean Americans. The vulnerability of older Korean Americans with LEP in various health outcomes (activity limitations, self-reported health, and probable depression) was assessed in consideration of socio-demographic (age, gender, marital status, education, and financial status) and context (region, length of stay in the U.S., and health insurance) variables. Using pooled data from 1,301 Korean Americans (aged ≥ 60) surveyed in FL, TX, and NY during 2008–2013, comparative analyses and multivariate model estimations were conducted. More than 70% of the sample had LEP. Those with LEP presented higher odds of having adverse health outcomes compared to their English speaking counterparts. Findings identified LEP as a major source of health disparity and underscored the importance of LEP as an intervening agent in health planning and interventions for older ethnic minorities.

SESSION 4380 (SYMPOSIUM)

RECENT FINDINGS ON DISABILITY AND CARE FROM THE U.S. NATIONAL HEALTH AND AGING TRENDS STUDY (NHATS)

Chair: J.D. Kasper, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

Discussant: V. Mor, *Brown University, Providence, Rhode Island*

The National Health and Aging Trends Study allows examination of both clinical and family care to older persons in the U.S. from a national perspective. This on-going study of over 8,000 people 65 or older, interviewed annually since 2011, is a platform for studying disability trends and trajectories in late life and consequences for individuals and society. A last month of life interview focuses on quality of end of life care. Periodically caregivers of NHATS respondents are interviewed in the National Study of Caregiving (NSOC). The papers in this session contribute new information regarding ongoing challenges in addressing care for older adults – the profile of family caregivers to older adults with disability, long term care preferences of older adults, and the quality of end of life care. The session also features the first national profile of rehabilitation services provided to older adults. The individual presentations report analyses of:

how the composition and experience of late-life family caregiving is changing over a 10 year period using data drawn from prior waves of the National Long Term Care Survey and the 2011 NHATS and NSOC long-term care preferences of older adults across both family and institutional care options (in home care; family vs. paid care; assisted living; nursing home) use of rehabilitation services across settings, including variation in who uses rehab, for how long, reasons for use, and patient perceptions of improvement changes in quality of end of life care using multiple waves of the NHATS

A CHANGING PROFILE OF FAMILY CAREGIVERS TO OLDER ADULTS WITH DISABILITY

J.L. Wolff, J. Mulcahy, J.D. Kasper, *Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

Little is known about changes in late-life family caregiving. This study describes community-dwelling older adults and primary family caregivers at three points in time, drawing from the 1999 and 2004 National Long Term Care Survey and the 2011 National Health and Aging Trends Study with linked caregiver surveys. Older adults were more racially diverse, better educated, and less physically impaired in 2011 than in 2004 and 1999. At all three points in time, about 85% of caregivers were spouses or adult children and $\frac{3}{4}$ lived with the older adult that they assisted. Men were incrementally more likely to serve as a caregiver. Average hours of assistance provided per week exceeded 30 hours at all 3 points in time. Caregiving arrangements were incrementally more likely to be of longer duration and there were modest increases use of respite care. A similar percentage of caregivers reported significant emotional, physical, or financial difficulty.

CARE PREFERENCES AND EXPECTATIONS FOR LONG-TERM SERVICES AND SUPPORTS: A U.S. PERSPECTIVE

J.D. Kasper, M. Skehan, J.L. Wolff, *Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

Preferences for long-term services and supports involve judgements about who should provide help as well as in what settings. In a supplemental module (2012), NHATS asked older adults to select the best care option for an 80 year-old with health problems who needs help with bathing, dressing, and getting around inside. We examine variation in preferences for in-home care (family vs paid helpers), living with children, assisted living/CCRC, and nursing home settings. Overall, almost half selected aging in place as the best option, but over a quarter selected assisted living/CCRC. Preferences are examined by age, gender, race, SES, health and functioning, and current living arrangements. Congruence between care preferences and care provision in subsequent years (2013–2015) is analyzed. Expectations regarding ability to pay for future daily care are examined. Results have implications for care settings and sources of help, as the U.S. population ages.

USE OF PHYSICAL REHABILITATION SERVICES IN THE U.S. IN LATER LIFE: A NATIONAL PROFILE

V.A. Freedman¹, A.M. Jette², T. Keeney², *1. Institute for Social Research University of Michigan, Ann Arbor, Michigan, 2. Health & Disability Institute, Boston University, Boston, Massachusetts*

Using the 2015 National Health and Aging Trends Study, we provide a national profile of late-life physical rehabilitation service use. The sample includes adults ages 65 and older living in the community and in residential care settings other than nursing homes (N=7499; 1478 using services). Nearly 20% of older adults report receiving rehabilitation in the last year. Rates increase with age and are higher for women, non-Hispanics whites, and those in residential care settings. Among those using rehabilitation services, 46% used outpatient, 13% home-based, and 7% inpatient services exclusively. In addition, 26% used both inpatient services and services in another setting and 8% used both outpatient and home-based services. Patients receiving rehabilitation services in both an inpatient and another setting were nearly four times as likely as those using inpatient services alone to report a lot of improvement in functioning after controlling for differences in patient characteristics (AOR=3.9, 95% CI=1.7,8.9).

LATE TRANSITIONS AND BEREAVED FAMILY MEMBER PERCEPTION OF QUALITY OF END-OF-LIFE CARE

J.M. Teno¹, V.A. Freedman², P. Gozalo³, J.D. Kasper⁴, V. Mor³, *1. Cambia Palliative Care Center of Excellence, University of Washington, Seattle, Washington, 2. University of Michigan, Ann Arbor, Michigan, 3. Center for Gerontology and Health Care Research, Providence, Rhode Island, 4. John Hopkins University, Baltimore, Maryland*

The impact on transitions in the last 3 days of life on the quality of end of life care is unknown. Bereaved family member interviews National Health and Aging Trends Study

(N=1061; weighted 4.2 million deaths) about unmet needs and perception of the quality of care. Analysis with survey weights examined the association of late transitions and perception of quality of care after adjusting for age, gender, race, the relationship of the respondent, functional trajectory, and whether the patient had cancer. Eighteen percent experienced a late transition and respondents were more likely to report more unmet needs for spiritual support (AOR 1.8 95% CI 1.2–2.8), to report concerns with communication (AOR 1.9 95% CI 1.3–2.7), and rated the quality of care lower (AOR 0.74 95% CI 0.51–1.1). Late transitions are associated with more unmet needs and concerns about quality of care. Effort are need to improve these transitions.

SESSION 4385 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: THE HARTFORD AGING SOCIETY INDEX

Chair: J.W. Rowe, *Columbia University, New York, New York*

Co-Chair: D. Goldman, *USC, Los Angeles, California*

As the age distributions of our societies advance, we must shift from our prior sole focus on the characteristics of individuals and their immediate environments to also include a strategy that assures that the entire society is successfully adapting to population aging. For the United States, and other nations, failure to adapt is a risky strategy since the core institutions of our society, including education, social insurance, health care, work and retirement, housing and the like were not designed to support a population with our future age distribution.

To facilitate development, implementation and evaluation of policies the Aging Society Network, an interdisciplinary group of scholars assembled by the MacArthur Foundation and with the current support of the Hartford Foundation, developed a balanced, evidence-based interdisciplinary metric that can serve both as a reliable and sensitive estimate of current conditions and likely future trajectory of a society along the principal policy dimensions of interest, and permits comparison across the United States and other developed countries, principally in western Europe, which currently have population age distributions similar to what the US will have in twenty to thirty years.

The principal domains included in the index are SECURITY, PRODUCTIVITY, ENGAGEMENT, COHESION, and EQUITY. Within each domain, consideration has been given to some or all of the following: education, health, social factors and productivity. Readily available data sources have been employed. The principal, but not sole, focus is on measurable outcomes rather than processes.

STRATEGY FOR DEVELOPMENT OF THE HARTFORD AGING SOCIETY INDEX

C. Chen, J. Zissimopoulos, *University of Southern California, Los Angeles, California*

The Aging Society Network evaluated the principal characteristics that define the degree to which a society is effectively adapting to aging. Including equitable distribution of resources across and within generations, the productivity and engagement of older persons in society, the degree of

cohesion or tension between generations, security, including physical safety, economic and health security and the well being of older persons. Within each domain economic, health, education and social parameters are considered. Using data for the United States and several other developed countries, scores are created for each variable and collapsed into domain measures which in turn are summed in an overall Aging Society score. The strategy for construction of the index, including selection of domains, measures and weightings, will be discussed.

POLICY AND PROGRAM RECOMMENDATIONS FOR AN AGING SOCIETY

D. Goldman¹, J.W. Rowe², 1. *University of Southern California, Los Angeles, California*, 2. *Columbia University, New York, New York*

The Hartford Aging Index permits comparison of the age-readiness of the United States and several countries such as in Western Europe and Japan. As these countries have ‘aged’ ahead of the US, the opportunity is presented to analyze the effectiveness of various public policies and programs implemented in these countries across the key domains of equity, productivity, well being, cohesion and security. Approaches found to be effective in other countries and that may be applicable to the US are discussed, along with US –specific policies and programs that hold promise to enhance our performance as reflected in the index.

SESSION 4390 (SYMPOSIUM)

DELIBERATIVE DIALOGUES: OPPORTUNITIES FOR BRIDGING GERONTOLOGICAL RESEARCH WITH POLICY AND PRACTICE

Chair: S.L. Canham, *Simon Fraser University, Vancouver, British Columbia, Canada*

Co-Chair: M. Wada, *Simon Fraser University Gerontology Centre, Vancouver, British Columbia, Canada*

Discussant: A.J. Schwartz, *East Carolina University, Greenville, North Carolina*

Deliberative dialogues is a methodology that provides an integrated framework for concurrently generating and analyzing data, engaging participants, and synthesizing evidence. This methodology offers an important opportunity to bridge gerontological research with policy and practice and can lead to community investment and asset sharing by integrating the knowledge and experiences of multiple stakeholder groups. This symposium will present work from researchers representing the Behavioral and Social Sciences and Social Research, Policy, and Practice Research sections. The papers presented are based on a collection of research projects in Western Canada that explore different aspects of service and housing provision for seniors. Battersby et al. present World Café workshop findings from dialogues with housing providers who have had experience with mass interinstitutional relocations in long-term care. Fang et al. report on Perspectives Workshops with service providers that resulted in findings which informed services and programs offered to tenants of a low-income seniors’ rental property. Canham et al. discuss methods of engagement with Housing First seniors’ service providers during a Mapping Workshop

and will report findings of available Housing First resources and where there are service gaps. Finally, Wada et al. highlight findings from an interactive research engagement with knowledge users and research participants at the end of a two-year evaluation project during a Research Day. To conclude this symposium, our discussant will summarize the papers using an interdisciplinary perspective and will discuss the implications of using innovative methods in bridging policy and practice.

USING WORLD CAFÉS TO DEVELOP GUIDELINES FOR INTERINSTITUTIONAL RELOCATIONS IN LONG-TERM CARE

L. Battersby¹, S.L. Canham¹, M. Fang¹, D. Krah², A. Sixsmith¹, 1. *Simon Fraser University, Burnaby, British Columbia, Canada*, 2. *Baptist Housing, Vancouver, British Columbia, Canada*

In many jurisdictions, seniors' residential care policies are requiring a higher standard of accommodation, such as increased proportions of single room occupancy in long-term care (LTC). Such policy changes, along with heightened care needs of older adults in residential care are leading to increased redevelopments of outdated LTC facilities. Transitioning residents and staff together from one facility into another can be a stressful and complex process. This presentation details the development of guidelines to inform LTC relocations that support staff and resident wellbeing. World Café workshops, an interactive data gathering and knowledge-sharing method, were conducted across Canada bringing together staff, administrators, and other stakeholders with experience of mass interinstitutional relocations. World Cafés allowed for knowledge sharing and new knowledge creation through a deliberative dialogue process. Results indicated how this technique contributed to the development of relevant guidelines and built relationships critical for the dissemination of the guidelines.

PERSPECTIVE WORKSHOPS: CO-CREATING SERVICE SOLUTIONS FOR SENIORS IN AFFORDABLE HOUSING

M. Fang^{1,2,3}, S.L. Canham¹, L. Battersby^{1,2}, R. Woolrych^{3,1}, J. Sixsmith^{4,1,2}, A. Sixsmith^{1,2}, 1. *STAR Institute, Simon Fraser University, Vancouver, British Columbia, Canada*, 2. *AGE-WELL NCE, Vancouver, British Columbia, Canada*, 3. *Heriot-Watt University, Edinburgh, United Kingdom*, 4. *University of Dundee, Dundee, United Kingdom*

Effective home and community services and supports can enable older adults to successfully age-in-place, enhancing physical, mental, and social health outcomes through improved social participation, heightened independence, autonomy, and choice. One challenge in affordable housing developments for seniors surrounds the integration of place-based services. This presentation reports on four Perspectives Workshops conducted with service providers that aimed to: (i) understand challenges and opportunities experienced by service providers when delivering senior-friendly services and (ii) determine actions that can be taken to enhance the needs (e.g. staffing and financial resources) of service providers, enabling them to serve seniors more effectively. These deliberative dialogues sessions were conducted with the goal of co-creating sustainable service provision solutions for tenants

transitioning into a newly built low-income seniors housing development. Results of the workshops included ideas for effective utilization of the shared amenity space, which generated resources for an on-site service delivery program.

COMMUNITY MAPPING WORKSHOPS TO IDENTIFY SENIOR-SPECIFIC HOUSING FIRST RESOURCES

S.L. Canham¹, L. Battersby¹, M. Wada¹, M. Fang², R. Bell³, A. Sixsmith², 1. *Gerontology Research Centre, Simon Fraser University, Vancouver, British Columbia, Canada*, 2. *STAR Institute, Simon Fraser University, Vancouver, British Columbia, Canada*, 3. *Greater Vancouver Shelter Strategy, Vancouver, British Columbia, Canada*

Guided by principles of community-based participatory research, this paper presents the methodological process of conducting a senior-focused community mapping workshop with Housing First service providers in Metro Vancouver, Canada. Research participants mapped community services and amenities available to support seniors in maintaining housing and identified barriers and facilitators for accessing Housing First services and supports. Community mapping is an interactive method that provided researchers and participants with visualization of how resources are distributed across municipal regions. Findings from the mapping workshop are rich as they captured participants' diverse descriptions and understandings of resource differences between and within communities; and revealed issues of accessibility, availability, and navigation of services and resources. Implications of this research include the utility of using mapping methods to identify the accessibility and availability of senior-specific housing resources as well as system gaps and weaknesses to inform policy recommendations and changes in practice.

USING KNOWLEDGE MOBILIZATION TO ADVANCE THE CREATION OF HOMELIKE RESIDENTIAL LONG-TERM CARE

M. Wada, L. Battersby, S.L. Canham, M. Fang, A. Sixsmith, *Simon Fraser University Gerontology Research Centre, Vancouver, British Columbia, Canada*

The development of homelike environments in residential long-term care (LTC) settings can lead to positive health and well-being outcomes for residents. Creation of 'home' in LTC requires input from residents and their caregivers. Following the completion of a two-year evaluation project that examined experiences of residents, their family members, and care staff in a LTC facility who had transitioned from an institutional to a homelike setting, practice implications and guidelines were presented during a Research Day. This Research Day was a unique methodological approach informed by iterative knowledge mobilization processes involving interactive data-presentation and data-validation stations. Participants included research participants, local community members, and decision-makers from government sectors and the regional health authority. This presentation provides an overview of findings from this innovative methodological approach and suggests implications for using effective knowledge mobilization strategies to collaboratively advance residential care practice and policy with research participants and professional and community stakeholders.

SESSION 4395 (SYMPOSIUM)

AGHE GERONTOLOGICAL COMPETENCIES, PROGRAM DEVELOPMENT, AND ACCREDITATION FOR GERONTOLOGY EDUCATION

Chair: H.L. Sterns, *The University of Akron, Akron, Ohio*
Co-Chair: M.R. Gugliucci, *University of New England, Biddeford, Maine*

It is essential that there is a well- educated and trained workforce in gerontology. A major step was taken with the development of AGHE Gerontological Competencies that are now being used to design courses and programs. International examples will be presented. In addition, these competencies are being used to develop dimensions of program evaluation for accreditation. To this end and in partnership with the Association for Gerontology in Higher Education the Accreditation for Gerontology Education Council in (AGEC) was formed. Four features of this process will be presented (1) the history of curriculum development starting with the Foundations Project, multiple iterations of the Standards Document, Competencies and how these have led to application in course and program design and the formation of the accreditation council; (2) the design of the accreditation council including its mission, vision, international outreach, organizational chart, Board of Governors, and its procedures for accreditation and reaccreditation; (3) the implementation of accreditation for gerontology degree granting programs by the AGEC including preparing for accreditation, curriculum mapping, and the council's focus on quality control; and (4) the outcome focusing on what accreditation does for the program regarding marketing and what it does for the students.

HISTORY, DEVELOPMENT, AND DESIGN OF THE FIRST GERONTOLOGY ACCREDITATION ORGANIZATION (AGEC)

H.L. Sterns^{1,2}, M.R. Gugliucci³, 1. *Psychology & Inst. Life-Span & Gerontology, The University of Akron, Akron, Ohio*, 2. *Northeast Ohio Medical University, Rootstown, Maine*, 3. *University of New England College of Osteopathic Medicine, Biddeford, Maine*

Throughout its history, accreditation has served as the nongovernmental process of educational quality assessment and enhancement, through educational institutions and programs, governed by the principle of voluntary commitment to self-evaluation and peer review, in a manner that engenders confidence and trust among the public it serves by: 1. fulfilling that purpose by requiring clear statements of objectives and thorough and candid self-evaluation reports of institutions and programs 2. providing due process in program reviews and appeals, 3. provide wide dissemination of information concerning the purposes, practices and decisions of accreditation, and 3. assuring competent personnel on accrediting bodies and site visit teams. The accreditation process is intended to be open and standardized. With this design plan in mind, the Accreditation for Gerontology Education Council (AGEC) was created in 2016 and is the only global accrediting body for gerontology degree programs. This

presentation provides the overview for this innovative new 5013c organization.

INTEGRATION AND ASSESSMENT OF THE GERONTOLOGY EDUCATION COMPETENCIES (GECs) INTO THE CURRICULUM

P. Elfenbein¹, J. Abushakra², J.D. Damron-Rodriguez³, L.K. Donorfio⁴, 1. *Sociology and Human Services, University of North Georgia, Gainesville, Georgia*, 2. *Portland Community College, Portland, Oregon*, 3. *UCLA, Los Angeles, California*, 4. *University of Connecticut, Waterbury, Connecticut*

Educational outcomes must shift from knowledge acquisition to professional skill competence to develop a well-educated and trained workforce in gerontology to meet the issues and needs presented by the demographic imperative aging poses. A brief history of the development of the AGHE GERONTOLOGY COMPETENCIES for UNDERGRADUATE & GRADUATE EDUCATION will be followed by a discussion regarding the many ways that the competencies can be worked into existing course structures new courses, Degree, Certificate and Concentration programs.

At the conclusion of this session, participants will:

- (1) Know the reasons for and the consensus-based process for development of the GECs;
- (2) Identify important components, processes, and possible outcomes of competency based gerontology education as linked to professional competencies in the contexts within which gerontologists work;
- (3) Identify ways GECs can be integrated into curriculum and used as the basis for assessing programs, student learning, and student self-assessment.

ACCREDITATION IN THE EU: A FIRST STEP IN BENCHMARKING GERONTOLOGY PROGRAMS

J.S. Jukema^{1,2,3}, E. Schoenmakers⁴, 1. *Applied Gerontology, Windesheim University of Applied Sciences, Zwolle, Netherlands*, 2. *Huntington University, Sudbury, Ontario, Canada*, 3. *Saxion University of Applied Sciences, Deventer, Netherlands*, 4. *Fontys University of Applied Sciences, Eindhoven, Netherlands*

The Dutch and Flemish accreditation systems of higher education regulate educational quality of programs. Foundations include Dublin descriptors and ten general competencies of higher education. AGEC is an important body for benchmarking gerontology programs in an international context. This will enhance improve faculty and student movement and exchange. For that reason, a Dutch BSc program in Applied Gerontology applies Association for Gerontology in Higher Education (AGHE) competencies in 3 different ways: (1) as input of programs' core competencies; (2) as core for the development of learning outcomes; and (3) as input for learning objectives in classes. We present our method of mapping Dublin Descriptors; general competencies of higher education and the AGHE competencies on program and class levels. Our method promotes unequivocal use of AGHE competencies in the international arena of gerontology education. It may serve as a point of reference for other European programs in gerontology.

ACCREDITING GERONTOLOGY PROGRAMS IN CANADA? LET'S DO IT!

B. Pianosi, *Gerontology, Huntington University, Sudbury, Ontario, Canada*

In Canada, no known efforts are currently being made to develop regulations of gerontology professionals. However, new innovations and actions on the behalf of aging individuals will, in future, require the organized development and utilization of gerontological competencies, knowledge, and education, spurring further action to 'move with the times' and develop a professional, gerontological identity and framework. It is our hope that this will occur sooner, rather than later. How can Canadian organizations work with the Accreditation for Gerontology Education Council (AGEC) to support the future development of gerontology as a profession in Canada? First steps in the initial process will be outlined and encountered opportunities and challenges will be discussed.

WHAT HAVING AN AGEC ACCREDITATION CAN DO FOR YOU!

K.F. Kopera-Frye¹, J.C. Mendez², J. Masters³, D.E. Schafer⁴, J.L. Howe⁵, M.A. Guest⁶, 1. *Gerontology, University of Louisiana at Monroe, West Monroe, Louisiana*, 2. *Wayne State University School of Medicine, Detroit, Michigan*, 3. *University of Nebraska at Omaha, Omaha, Nebraska*, 4. *National Assoc for Professional Gerontologists, Healdsburg, California*, 5. *Icahn School of Medicine Mt. Sinai, New York City, New York*, 6. *University of Kentucky, Knoxville, Kentucky*

The innovative 5013c accreditation body, Accreditation for Gerontology Education Council (AGEC), is the first of its kind with its global purview of gerontology programs. The purpose of AGEC is to serve as an accrediting entity for bachelors and masters programs, both nationally and internationally. AGEC uses competencies involving skills, knowledge, and abilities necessary to educate a prepared workforce in the gerontological field. While this is a critical function, how is receiving an AGEC accreditation perceived by academic institutions? This paper will discuss survey results examining perspectives from both students and administrators. The survey examining attributes of institutions which influence student attendance decisions involved a sampling of graduate students and administrators from the Association for Gerontology in Higher Education (AGHE) member institution directory. The discussion of results will highlight the perceived benefits and value-added to degree programs attaining an AGEC accreditation.

SESSION 4400 (SYMPOSIUM)

A CROSS-SPECIES AND CROSS-NATIONAL EXAMINATION OF SEX DIFFERENCES IN HEALTHY AGING

Chair: E.M. Crimmins, *University of Southern California, Los Angeles, California*

Co-Chair: S.N. Austad, *The University of Alabama at Birmingham, Gardendale, Alabama*

Discussant: C.E. Finch, *University Southern California, Los Angeles, California*

Sex or gender is an important determinant of aging outcomes. However, the role of sex or gender is not well-understood as it represents both distinct biological and social differences in life circumstances. Within human populations, a widely accepted generalization is that men have higher mortality while women have worse health; however, researchers have recently questioned whether this is, in fact, true. While female-life expectancy exceeds male life expectancy in virtually every country, the gender differences in health and life expectancy are quite variable. Symposium participants Drs. Saito and Lee, relying on newly available data from national populations in a number of countries including Japan, the United States and India, will discuss gender differences in multiple aspects of human health. Animal research often points the way to understanding mechanisms underlying human health. Laboratory animals also show marked sex differences in aging and longevity, but until recently those differences have been virtually ignored. Dr. Austad will discuss these sex difference patterns across species and note how laboratory species can be employed to provide insight into human sex differences. Increasing numbers of animal studies have found that drug treatments that extend life and preserve health surprisingly have sex-specific effects. That is, males but not females may be affected or vice versa. Dr. Kennedy will describe a specific example, female mouse health and longevity being preferentially affected by manipulation of the TOR cellular network, and present data on the reason for this sex difference.

USING SEX DIFFERENCES IN AGING IN LABORATORY ANIMALS TO UNDERSTAND HUMAN SEX DIFFERENCES

S.N. Austad, 1. *Biology, The University of Alabama at Birmingham, Gardendale, Alabama*, 2. *American Federation for Aging Research, New York, New York*

Women live longer than men in virtually all places and at virtually all times. Often, if not always, women suffer more functional limitations and illnesses than men, however. This has been called the mortality-morbidity paradox. Common laboratory animal species from small roundworms to mice have been used historically to dissect general underlying mechanisms of aging. Yet because none of these commonly used species have a uniform survival advantage of one sex over the other, it has been assumed that they could not be useful for investigating mechanisms involved in the mortality-morbidity paradox. This assumption is false. I will present several new experimental paradigms that use the known conditional variability in sex-biased survival in laboratory species to understand mechanisms underlying the mortality-morbidity paradox.

SEX DIFFERENCES IN BIOLOGICAL AGE: JAPAN AND THE U.S.

Y. Saito², J. Kim¹, M. Levine³, Y. Zhang¹, E.M. Crimmins¹, 1. *University of Southern California, Los Angeles, California*, 2. *Nihon University, Tokyo, Japan*, 3. *University of California Los Angeles, Los Angeles, California*

Chronological age is a significant predictor of mortality; however, recent research indicates that biological age is a better predictor of mortality and once it is controlled chronological age no longer predicts mortality. Biological age may

be a summary indicator that better captures population health. We estimate biological age among older people in Japan and the US and compare sex differences in biological age within each country. Data for the US come from National Health and Nutritional Examination Survey conducted between 2010 to 2013 (NHANES); for Japan, National Health and Nutritional Surveys between 2010 and 2013 are used. To construct biological age, we include a set of biomarkers available in both data sets and known to associate with age including indicators of metabolic function, cardiac function, and immune function.

WHAT CONTRIBUTES TO FEMALE DISADVANTAGE IN LATE-LIFE COGNITION IN INDIA?

J. Lee, *University of Southern California, Los Angeles, California*

In developing countries, women exhibit substantially lower cognitive abilities than males. Using data from the national baseline of the Longitudinal Aging Study in India, we examine two hypotheses of the female disadvantage: lack of education and discriminatory experience in earlier life. We estimate regression models with and without education to assess what fraction of the gender gap in cognitive ability is explained by education. We perform a Blinder-Oaxaca decomposition to distinguish the gap attributable to sex differences in observable characteristics and the part attributable to differences in coefficients. The latter represents the gap unexplained by differences in “endowments” which may reflect the influence of other factors such as discrimination. To test the discrimination hypothesis, we introduce interaction terms between gender and caste and between gender and region of residence. This allows us to assess whether women in castes and areas where discrimination is greater, exhibit larger cognitive disparities.

SEX DIFFERENCES IN RESPONSE TO INTERVENTIONS IN THE MTOR NETWORK

B.K. Kennedy, *Buck Institute for Research on Aging, Novato, California*

Manipulation of the mTOR network, a cellular network that responds to food availability and stress, differentially affects the sexes. For instance, chronic treatment with the drug, rapamycin, an mTOR inhibitor, has larger beneficial effects in female compared to male mice. Additionally, when one key component of the mTOR network, S6K1, is genetically inactivated, female life- and health-span are enhanced, but males are unaffected. This latter genetic effect is particularly interesting because while sex differences in drug processing might underlie this sex difference, a gene when inactivated necessarily is inactivated in both sexes. My laboratory has been studying the impact of mTOR activity on health and longevity and we have discovered plausible mechanisms for these sex differences. Our work suggests that successful interventions for delaying or retarding aging may differ between the sexes.

SESSION 4405 (PAPER)

POLITICS, POLICY, AND HOUSING

DID THE AFFORDABLE CARE ACT CHANGE PREVENTIVE SERVICE USE FOR MEDICARE BENEFICIARIES IN POVERTY?

L. Bakk¹, T. Cadet³, S. Burke², O. Rostant⁴, J. Mitchell⁵, 1. *Social Work, University at Buffalo, West Henrietta, New*

York, 2. Florida International University, Miami, Florida, 3. Simmons College, Boston, Massachusetts, 4. National Institutes of Health, Baltimore, Maryland, 5. The University of Michigan, Ann Arbor, Michigan

Out-of-pocket costs can be a barrier to receiving preventive services, particularly for lower income older adults. In response to the emphasis on disease prevention, an Affordable Care Act (ACA) provision stipulated that cost sharing be eliminated for Medicare preventive services. Whether the provision changed utilization for lower income beneficiaries remains largely unknown. Using the 2008 and 2012 waves of the Health and Retirement Study, this investigation examined preventive service use before and after the ACA provision implementation. The sample contained 8,207 respondents age 65 and older and enrolled in Medicare. The outcome variables were five preventive service measures. A differences-in-differences approach was used to compare preventive service use between beneficiaries above and below the Federal Poverty Level (FPL) at both time points. Results indicated that uptake of all preventive services was significantly less for beneficiaries below the FPL before and after the ACA cost-sharing provision. Mixed-effects logistic regression analyses showed that receipt of a recent flu shot significantly increased over time for those below the FPL and in comparison to those above the FPL, they had a greater increase in use. Utilization did not significantly change between pre- and post-ACA provision implementation for any of the other preventive measures. However, cholesterol and prostate screening use slightly increased over time for those below the FPL. Findings suggest that some benefits were achieved through the ACA cost-sharing elimination for Medicare recipients. However, differences continue to persist between those above and below the FPL. Thus, affordability alone may not sufficiently increase use.

INVOLVING VOLUNTEERS IN OLDER PEOPLE'S HOUSING SCREENING: THE ACTIVE CARING COMMUNITY PROJECT

A. Smetcoren, L. De Donder, D. Duppen, B. Team, *Faculty of Psychology and Educational Sciences, Vrije Universiteit Brussel, Brussels, Belgium*

In 2013 the Flemish Government launched a call for innovative projects named ‘Care Living Labs’ to tackle future care challenges such as the rising demand for care, staff shortages and budgetary restrictions. The main objective of these care living labs was to create new care concepts, processes and products and to test them in daily practice. For this paper, the living lab of ‘Active Caring Community’ will be discussed with a specific focus on the ‘OPA-project’. OPA is a Dutch abbreviation for ‘Ouderen wonen PASSend’ which can be translated as ‘appropriate housing for older adults’. The OPA-project wants to examine the housing adequacy of older people's dwellings in the neighbourhood by including older volunteers in the housing-screening process.

The paper will discuss the results of the longitudinal data (12 focusgroups and 11 individual interviews with volunteers and older participants), which were administered during three phases of the project (2014, 2015, 2016). The results indicate that it is of significant importance to inform older people about their housing possibilities. While the OPA project operated in neighbourhoods with a high amount of low housing quality, the OPA project was able to empower older people in their housing situation by stimulating anticipative

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behaviour. Older volunteers perform home visits with a professional checklist to offer older residents advice about the appropriateness and safety of their house. These volunteers, together with the older resident, search for possible solutions and provide tips and tricks concerning ageing safely at home.

QUALITY OF LIFE OUTCOMES OF HOUSING WITH CARE FOR OLDER PEOPLE IN ENGLAND

R.A. Darton¹, T. Atkinson², T. Bäumker³, S. Evans², A. Netten¹, 1. *University of Kent, Canterbury, Kent, United Kingdom*, 2. *University of Worcester, Worcester, United Kingdom*, 3. (Formerly) *University of Kent, Canterbury, Kent, United Kingdom*

Housing with care has become increasingly popular in recent years, and has been viewed by policy-makers and commissioners as offering a more enabling, homely and cost-effective alternative to care homes. However, most residents enter with fewer care needs than those admitted to care homes, and with different expectations. Although a previous study (Bäumker et al., 2011) compared the functional outcomes for matched groups of residents, most comparative studies have used unmatched groups.

This paper will compare the social care related quality of life (SCRQoL) obtained using the Adult Social Care Outcomes Toolkit (ASCOT) for residents in housing with care and those receiving home care. The housing with care residents were drawn from the ASSET (Adult Social Services Environments and Settings) project, which was commissioned and funded by the Department of Health's NIHR School for Social Care Research. The home care recipients were drawn from the OSCA (Outcomes for Social Care for Adults) project. Matched groups of 124 individuals in each were created using propensity score matching.

Residents in housing with care had less unmet need (current SCRQoL) than people receiving home care ($p < 0.0001$); similar expected SCRQoL in the absence of social services ($p > 0.05$); and a higher gain (current compared with expected) ($p < 0.0001$). The improvements in outcomes were achieved without increased costs in providing personal care.

Housing with care is relatively scarce, but this study adds further evidence for the value of developing more specialised housing and increasing the choice available to older people wishing to move from unsuitable accommodation.

LONG-TERM SERVICES AND SUPPORTS POLICY IN THE UNITED STATES AND CANADA: COMPARATIVE POLICY LESSONS

W. Dawson, *Oregon Health Care Association, Portland, Oregon*

This session will explore recent developments in long-term services and supports (LTSS) policy in Canada and the United States in light of an aging demographic in both nations. Based on the findings of a qualitative research study that included in-depth interviews with policymakers, advocates, researchers and other policy elites in the health and aging policy arena, this session will specifically explore the way current economic and political forces are shaping long-term services and supports policy in both countries. The findings suggest that political institutions, culture and cost concerns are key drivers of policy outcomes in both the United States and Canada, and in particular policy outcomes relating to the financing of long term services and supports.

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POLITICAL ECONOMIES OF AGING IN THE DEVELOPING WORLD—NEOLIBERALISM, SOCIAL EXCLUSION, AND GROWTH

L. Polivka¹, B. Luo², 1. *Claude Pepper Center, Tallahassee, Florida*, 2. *Western Washington University, Bellingham, Washington*

Population Aging is occurring across the world and the older populations of many countries are projected to grow at unprecedented rates over the next thirty years. Most of the growth in the 60+ population by 2050, however, will occur in developing countries mainly in Asia. Some of these countries, such as China, have experienced extraordinary economic growth since 1980, but even these countries will be strongly challenged to develop even minimal, by developed nations standards, income support, health and long-term care programs for their increasingly larger populations of older people. Any effort to address this growing tension between the increasing need for services generated by large increases in their older populations and the limited resources available to policymakers must occur in the context of concerns regarding economic policy and social justice. That is, what kind of political economy might give a developing nation the best chance of achieving enough sustained growth to meet the needs of its vulnerable populations, including elderly persons threatened by poverty and poor health? In addressing this fundamental public policy issue the authors will offer a critique of the neoliberal economic model that is currently dominant in the U.S. and European Union (EU) and in many developing countries and make the case for an alternative model based on Keynesian concepts of the role of the state in economic growth and social provision. The authors will argue that public investments in income support and health programs are essential to generating equitable economic growth and meeting social needs.

SESSION 4410 (SYMPOSIUM)

KEYNOTE: WHAT COULD COME FROM UNDERSTANDING THE BIOLOGY OF AGING?

Chair: F. Kuipers, *University Medical Center Groningen, Groningen, Netherlands*

Co-Chair: J.L. Kirkland, *Mayo Clinic*

Discussant: S.E. de Rooij, *Groningen, Netherlands*

Evidence is increasingly tying fundamental aging processes to the genesis of the major chronic diseases that account for the majority of morbidity, mortality, and health costs in developing and developed countries. These age-related chronic disorders include atherosclerosis, dementias, most cancers, diabetes, arthritis, blindness, and many others. By targeting basic aging processes, it could be feasible to delay, prevent, alleviate, or even cure these common chronic diseases as a group instead of one at a time, as well as the geriatric syndromes (frailty, sarcopenia, cognitive impairment, etc.) and age-related loss of resilience. Drugs and other interventions have recently been discovered that target basic aging processes. In a growing number of studies, these interventions not only enhance lifespan and healthspan in animals, they also appear to delay age-related chronic diseases and disabilities. If these interventions can be translated into clinical application, they could transform healthcare and even society as we know it. Funding for research in this

area is far lower than reasonable given the potential benefits should this approach be successful.

PROOF-OF-CONCEPT CLINICAL TRIALS OF INTERVENTIONS THAT TARGET FUNDAMENTAL AGING PROCESSES

J.L. Kirkland, *Mayo Clinic, Rochester, Minnesota*

Interventions targeted at fundamental mechanisms of aging hold promise for enhancing healthspan by delaying, preventing, or alleviating a range of age-related diseases and conditions—a theory termed the “geroscience hypothesis.” Early, proof-of-concept clinical trials will be a critical step in translating therapies emerging from cell culture and animal model preclinical studies into clinical practice. The goals of such proof-of-concept trials could include generating preliminary signals of efficacy in age-related diseases or outcomes that will test the value of proceeding to larger trials, contributing data and biological samples to support additional research through strategic networks, and furthering dialogue with regulatory agencies about registration indications. We will consider frameworks for proof-of-concept trials that target age-related chronic diseases, geriatric syndromes, or resilience to stressors. We propose that a strategic infrastructure and shared resources are needed to accelerate translation of therapies targeting fundamental aging processes into clinical treatments.

HOW CAN INTERVENTIONS BE TRANSLATED FROM THE LABORATORY INTO CLINICAL PRACTICE

S.E. de Rooij, *Department of Internal Medicine and Center for Geriatrics, University Medical Center Groningen, Groningen, Netherlands*

Individuals with a parental history of dementia often worry about their own risk of developing dementia. The average lifetime risk of developing Alzheimer disease (AD) is 10–12% and this risk doubles with the presence of a first-degree relative with AD. This increased risk has apparently more than one reason. Firstly, adult children of patients with AD are more often carrier of the apolipoprotein E (APOE) ε4 allele, a risk factor for AD, than those without a parental history of AD. Secondly, familial clustering of high blood pressure and vascular disease is seen among middle-aged offspring with a parental history of AD in old age. This study confirmed earlier findings that midlife hypertension is associated with the development of AD later in life. Thirdly, other vascular risk factors such as diabetes type 2, obesity and hypercholesterolemia cluster in families. Fourthly, the psychosocial behaviour runs in a family and affects health behaviour and contributes to dementia.

Recently was also demonstrated that the human microbiome is associated with neuroinflammation: the gut-brain axis. Secretory products of the GI microbiome and translocation of these signaling molecules via the lymphatic and systemic circulation throughout the CNS are just beginning to be identified. New insights of the etiology of neuroinflammation might help us to design new therapeutic strategies to prevent or delay dementia.

THE ECONOMIC RETURNS TO DELAYED AGING: PROMISE AND PITFALLS

D.P. Goldman, *USC Schaeffer Center for Health Policy & Economics, Los Angeles, California*

Most medical research remains focused on combating individual diseases, despite robust evidence that delayed aging remains a realistic goal. Using the Future Elderly Model—a microsimulation of future health and spending of older Americans—we compared optimistic “disease specific” scenarios with a “delayed aging” scenario to see their effects on longevity, disability, and Federal spending. We find that delayed aging is a particularly good investment, as it could increase life expectancy by an additional 2.2 years, most of which would be spent in good health. The value to society is \$7 trillion over fifty years. Disease-specific investments have more modest returns, mainly due to competing risks. The fiscal challenges of delayed aging are manageable through modest policy changes. Overall, more research to delay aging appears to be a highly efficient way to forestall disease, extend healthy life, and improve public health—albeit with the potential to exacerbate existing health disparities.

SESSION 4415 (SYMPOSIUM)

KEYNOTE: THE LONGEVITY REVOLUTION AND THE PRIVATE SECTOR—REDEFINING WORK, LEISURE, MONEY, PURPOSE, AND SUCCESS

Chair: K. Crain, *Bank of America, New York City, New York*

With the aging of a significant portion of the global population, and many people living and working longer, issuing pertaining to longevity, funding for later years, and discussions of life priorities in the next phase of their lives are coming to the fore. In a series of national thought leadership studies, Bank of America Merrill Lynch and Age Wave conducted research to examine how Americans are preparing for retirement and reshaping their lifestyles during their later years.

Traditional dreams of retirement – a life of leisure and a home in the desert – are rapidly changing as a growing majority of older adults seeks lifelong work, learning, challenge and contribution. The changing culture of aging is generating exciting possibilities for individuals and opportunities for businesses and investors in the massive, growing and global longevity economy.

One of the most important underlying conclusions we found is that today’s ‘retirees’ are not simply retiring- they are exploring new options, pursuing old dreams, and living life to the fullest. They are taking advantage of longer life spans to devote energy to pursuits they may not have had the time or freedom to chase during the ‘career’ portion of their lives. They are staying active, engaging in new pastimes, and strengthening and expanding their social networks.

A new era of volunteerism, philanthropy and purposeful engagement is evolving. The emerging cohort of older adults is painting a very different picture of retirement than the tired visions of an earlier generation. How will the redefinition of retirement change our lives, communities and institutions? Every one of us and our families will be affected.

At a macro-economic level there is a revolution brewing as well. The longevity economy is becoming an increasingly powerful force, and the spending power of 60+ consumers is expected to reach US\$15tn by 2020E. The US longevity sector alone is currently estimated at US\$7.1tn, making it the world’s #3 economy. This section of the economy is expected

to account for over 50% of US and Japanese GDP by the 2030s. The longevity economy is becoming an increasingly powerful force – encompassing both the economic activity serving the needs and wants of the 50+ global population, as well as directly purchased products and services, and the knock-on economic activity that this generates.

Join these thought leaders for a stimulating conversation about our future as families, communities and economies.

THE LONGEVITY REVOLUTION AND THE PRIVATE SECTOR—REDEFINING WORK, LEISURE, MONEY, PURPOSE, AND SUCCESS

K. Dychtwald, *Age Wave, Emeryville, California*

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THE LONGEVITY REVOLUTION AND THE PRIVATE SECTOR—REDEFINING WORK, LEISURE, MONEY, PURPOSE, AND SUCCESS

A. Sieg, *Bank of America Merrill Lynch, New York City, New York*

With the aging of a significant portion of the global population, and many people living and working longer, issuing pertaining to longevity, funding for later years, and discussions of life priorities in the next phase of their lives are coming to the fore. In a series of national thought leadership studies, we conducted research to examine how Americans are preparing for retirement and reshaping their lifestyles during their later years. At a macro-economic level there is a revolution brewing as well. The longevity economy is becoming an increasingly powerful force, and the spending power of 60+ consumers is expected to reach US\$15 trillion by 2020. The US longevity sector alone is currently estimated at US\$7.1 trillion, making it the world's #3 economy. This section of the economy is expected to account for over 50% of US and Japanese GDP by the 2030s. The longevity economy, encompassing both the economic activity serving the needs and wants of the 50+ global population, as well as directly purchased products and services, and the follow-on economic activity that this generates.

SESSION 4420 (SYMPOSIUM)

KEYNOTE: DIETARY DETERMINANTS OF LIFELONG HEALTH

Chair: S. Maggi, *CNR, Padova, Italy*

Discussant: C. Bales, *Duke Med. Center, Durham, North Carolina*

J. Woo, *The Chinese University of Hong Kong, Hong Kong, Hong Kong*

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Existing knowledge suggests that major chronic conditions affecting older adults (CVD, diabetes, cancer, musculoskeletal disorders, dementia) can be largely prevented with appropriate, lifelong dietary habits. We will present results of observational and intervention trials, aiming to assess the efficacy of the Mediterranean Diet in preventing chronic diseases. Nutrition can make a substantial impact on the health and function of older individuals. Beyond dietary preventive measures, it is of utmost importance to identify biopsychosocial and cultural factors affecting the dietary behaviors, and, ultimately, the nutritional well-being of older individuals. The epidemic of obesity in older adults is bringing a new phenotype of frailty—the "fat-yet-frail" elderly person. New studies of diet- and exercise-based interventions for sarcopenic obesity are exploring safe approaches for restoring physical function. These interventions must protect lean and bone mass during body weight reduction and need to be scrutinized for their long-term impact on health and quality of life.

THE MEDITERRANEAN DIET: NEW EVIDENCE IN THE LIFELONG APPROACH TO HEALTHY DIET

S. Maggi, *CNR, Neuroscience Institute, Aging Branch, Padova, Italy*

The Mediterranean diet represents the heritage of millennia of exchange of people and their cultures throughout the Mediterranean basin. The work of Ancel Keys in the 1950s established the Mediterranean diet as the original prototype for current dietary guidelines. Keys conducted the "Seven Countries Study" (with centers in Finland, Holland, Italy, United States, Greece, Japan and Yugoslavia), in order to document the relationship between lifestyles, nutrition and cardiovascular disease in different populations, to prove scientifically the nutritional value of the Mediterranean diet and its contribution to the health of the populations that adopted it. Since then, it has been demonstrated that it can improve the health, well-being, lifestyle and quality of life in the general population, at any age. Growing evidence demonstrates that the Mediterranean diet is beneficial to health; the evidence is stronger for coronary heart disease, but it also applies to cancer and, more recently, also to cognitive decline. Results from recent studies, not only observational, but also interventional (eg. PREDIMED trial) provide a strong biomedical foundation for its beneficial effects. The main components of the Mediterranean diet are: high monounsaturated/saturated fat ratio (extra-virgin olive oil as the main source of fat); ethanol consumption at moderate levels and mainly in the form of wine during meals; high consumption of vegetables, fruits, legumes, and grains; moderate consumption of milk and dairy products, mostly in the form of cheese; and low consumption of meat and meat products. Physical exercise and active social interaction are also considered key components.

INTERVENTIONS FOR OBESITY IN FRAIL OLDER ADULTS: FINDINGS AND IMPLICATIONS FOR FUNCTION

C. Bales, *Duke University School of Medicine, Durham, North Carolina*

A high prevalence of geriatric obesity in many regions of the world has created a new phenotype of frailty—the "fat yet frail" older adult. For these individuals, obesity leads to a negative cycle of functional decline due to reduced physical activity and deleterious effects of inflammatory cytokines,

compounded by age-associated sarcopenia. Concerns about loss of muscle mass have limited obesity interventions in elders but recent studies of diet- and exercise-based interventions for “sarcopenic obesity” are exploring safe approaches for restoring physical function. This session considers findings to date, emphasizing nutritional interventions for those whose ability to exercise is limited. Interventions include increasing protein intake at meals and for the day to support lean mass retention and muscle function. While initial findings are promising, the benefits of these interventions need to be studied over the long-term to evaluate their lasting impact on functional independence and health-related quality of life.

BIOPSYCHOSOCIAL AND CULTURAL FACTORS INFLUENCING DIET AND NUTRITION: IMPACT ON AGE-RELATED DISEASES

J. Woo, *Centre for Gerontology and Geriatrics, Center for Nutritional Studies, Chinese University, Hong Kong, Hong Kong*

Studies of different dietary patterns across different cultures provide insight into the influence of dietary patterns on geriatric syndromes and diseases. Relationships between micronutrients and bone health, dietary pattern and obesity, cardiovascular diseases, may be different between Western and Chinese populations. Dietary pattern influences health-related quality of life and frailty. The use of functional foods (such as soy, tea, black rice) in different cultures may also contribute to ageing well in different cultures. Examination of oxidative stress in the same person after consuming four different cultural diets show the highest value for the hamburger/French fries/coca-cola combination, and lowest for the Southern Cantonese meal. Values for the Indian and Northern Chinese meals were in between. Dietary patterns have been shown to be associated with frailty, sarcopenia, cognitive impairment, depressive symptoms hypertension, diabetes, and successful ageing in older people in recent studies, and nutrition plays an important role in frailty intervention programmes.

SESSION 4425 (SYMPOSIUM)

KEYNOTE: WHERE WE GROW OLD—ENVIRONMENTAL PERSPECTIVES

Chair: G.D. Rowles, *University of Kentucky, Lexington, Kentucky*

Co-Chair: M.B. Neal, *Portland State University, Portland, Oregon*

Increased recognition of the role of physical and social contexts in shaping the experience of growing old has resulted in the emergent field of environmental gerontology. Initiatives by the World Health Organization and AARP have generated global awareness of the importance of creating age-friendly communities. There has been burgeoning interest, as well, in the design of individual neighborhoods and dwellings to fit the needs of an aging population. At all levels along the continuum of settings, an underlying focus has been on developing negotiable environments imbued with meaning for residents, that enable aging in place, and enhance health and well-being. This plenary session will provide fresh international and cross-cultural perspectives on contemporary theoretical and empirical research in

environmental gerontology. Speakers from different parts of the world will consider trends and future needs in relation to research, policy, planning and human service opportunities for enhancing the places where we grow old.

REDESIGNING COMMUNITIES FOR AN AGED SOCIETY

H. Akiyama, *Institute of Gerontology, University of Tokyo, Tokyo, Japan*

Currently 26% of Japan's population is 65+; in 2030 33% will be 65+. Redesign of both hard and soft infrastructure is required. This presentation describes a social experiment, organized by the Institute of Gerontology at the University of Tokyo, in Kashiwa, a bedroom community 30 km from Tokyo where a huge number of baby boomers recently retired. Age-friendly workplaces, flexible schemes of employment even for those age 80+, and products to provide a safe and productive work environment are being tested. Evidence shows that working after age 65 helps to maintain physical and cognitive functions and enhances social activities. Projects focused on life-long learning, frailty prevention, community-based health and long-term care, housing, transportation, and effective utilization of ICT are also in progress. Not only is collaboration among researchers in different disciplines required but also full collaboration with local governments, the business community, non-profit organizations, and residents.

FROM CITIES TO STATES AND COUNTRIES: THE AGE-FRIENDLY CITIES MOVEMENT

A. Kalache, *1. International Longevity Centre-Brazil, Rio de Janeiro, Brazil, 2. International Longevity Centre Global Alliance (ILC-GA), New York, New York*

The culmination of a two-year consultation with governments, civil society organisations and academia, the Active Ageing Policy Framework was launched by the World Health Organisation (WHO) at the 2nd UN Assembly on Ageing in Madrid, 2002. This holistic framework firmly established a life course perspective for the WHO's work while embracing the social determinants of health (giving them an ageing dimension) and bringing the environmental perspective to ageing policy development. To translate the framework into practice, WHO initiated the “age friendly cities global project” at the IAGG Congress in Rio in 2005. A common methodology was devised and simultaneous qualitative research in 33 cities was conducted, leading to the WHO's “Age-friendly Cities, a Guide” (October 2007). Since then, hundreds of cities have developed local projects and adapted the Guide. This presentation will focus on some examples of good practice and take the approach beyond cities - to states and countries.

KNOWLEDGE TRANSLATION BASED ON RESEARCH ON HOME, HEALTH, AND DISABILITY ALONG THE PROCESS OF AGING

S. Iwarsson, *Dept of Health Sciences, Lund University, Lund, Sweden*

Initiated as a cross-national European research endeavour 15 years ago, we have established a mixed methods research program with the overarching purpose to increase and deepen the knowledge on how aspects of home interplay with health and disability trajectories along the process of ageing. With a comparative ambition, samples representing

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different age and diagnosis groups are studied longitudinally. More knowledge is needed to target problems related to societal planning for the ageing population, integrating housing provision with health care and social services development. Traditional dissemination of research findings is insufficient to achieve genuine impact from research. To contribute to societal and economic benefit, efforts moving results into the public domain are imperative. While maintaining high scientific standards, researchers must find ways to make their research more appealing and easier to access. Concentrating on user-oriented activities integrated in a complex research program, an emerging model for knowledge translation will be outlined.

SESSION 4430 (POSTER)

AGE-FRIENDLY COMMUNITIES AND NEIGHBORHOODS

OLDER ADULTS AS AGENTS OF NEIGHBOURHOOD CHANGE

C. Hand, D.L. Rudman, S. Huot, J. Gilliland, R. Pack,
School of Occupational Therapy, University of Western Ontario, London, Ontario, Canada

Transactional perspectives emphasize that individuals and collectives engage in ongoing relationships with their environments, shaping and being shaped by the places in which they live. Understanding how older adults engage with their neighbourhoods can inform age-friendly practices and policy. This presentation reports on a study that explored ways in which older adults shape their neighbourhoods to support their social engagement, participation and connectedness. We employed an innovative, interdisciplinary methodology combining narrative inquiry, go-along interviews and GPS tracking with 16 older adults living in a medium-sized Canadian city. Analysis suggests that older adults engage in 'Active Shaping' and 'Being Present', but sometimes experience 'Powerlessness' in interactions with their neighbourhoods. 'Active Shaping' of the neighbourhood is characterized by inviting social engagement through a variety of strategies, for example, cutting down trees to allow visibility into a porch, greeting people and pets, and patronizing local businesses to support their sustainability as well as interact with others. 'Being Present' in a neighbourhood involves few social interactions in the neighbourhood combined with frequent use of local businesses and resources, gaining a sense of familiarity and providing others with a sense of familiarity. 'Powerlessness' identified areas where older adults feel unheard, for example, regarding unwanted neighbourhood growth. Study findings suggest that older adults are active agents in their communities and can be forces for change. Findings also highlight the potential to work with older adults to shape neighbourhoods to support inclusion and well-being, and point to areas for advocacy and education of community members.

CARE FROM YOUR COMMUNITY: A PILOT PROGRAMME TO BRING CARE CLOSER TO SENIORS

S. Wang, E. Phua, L. Sing Ai, W. Lim, W. Loong Mun,
J. Cheah, *Agency for Integrated Care, Singapore, Singapore*

Care From your Community (CFC) modelled after the Naturally Occurring Retirement Community (NORC) Programme, coordinates various social and health care services to support seniors to age in place in Singapore. Unlike NORC, which is implemented in different communities (dense urban developments, sprawling suburbs and remote rural towns), Singapore's CFC is developed to address the needs of densely low income urban populations.

CFC is a 3-year pilot that provides home personal care and care coordination for the seniors. The programme leverages on existing Senior Activity Centres (SACs) that are drop-in centres situated within cluster of lower-income housing estates to provide social, wellness and recreational activities for lower-income seniors. This programme integrates health and social care between various community providers, capitalising on the strategic location and connection of SACs to provide care more efficiently. The patient-centric approach supports active ageing, chronic disease management and home care for residents in their own homes. The programme has rolled out to 11 SACs, enrolled 1060 seniors, is actively serving 468 seniors. 55% of the beneficiaries are female and approximately 61% have complex chronic conditions. Preliminary results showed that there have only been 10 nursing home referrals to date (self-reported) and 80% of participants are satisfied with the programme.

An evaluation framework has been developed to assess if this pilot lead to greater operational efficiency and better outcomes. A comparison of the outcomes (specifically quality of life, caregiver burden of carers and client satisfaction) will be performed to analyse the pre-enrolment and post-enrolment to the programme.

VILLAGE COALITIONS: POWER IN NUMBERS FOR PARTNERSHIPS AND VISIBILITY

R.F. Nicholson^{1,2}, A.E. Scharlach³, C.L. Graham³, 1. *Mather LifeWays, Evanston, Illinois*, 2. *University of Chicago, Chicago, Illinois*, 3. *University of California Berkeley, Berkeley, California*

The Village Movement has emerged as an innovative, nationwide, grassroots social movement that aims to support older adults aging in community by providing social engagement, referrals to services, and volunteer support. Because Villages tend to be relatively small (half have fewer than 110 members) and isolated, there is growing interest in the potential value of regional coalitions. Our 2016 National Villages Organizational Survey of 119 Villages found that 45% reported being part of a regional coalition or a coalition in formation. Qualitative follow-up interviews with these Villages revealed that a primary motivation for forming such coalitions was to attract partnerships with larger organizations that are not possible due to the smaller size of individual Villages. The larger population served by a coalition is thought to also potentially enable a stronger voice for the Village Movement on policy matters. Villages also view coalitions as a potential mechanism for creating greater visibility. However, as Villages have an average of only 1.73 paid staff, concerns remain about the additional demands that coalition participation and initiatives may place on organizations already heavily dependent on volunteer manpower to meet the needs of Village members. Despite the advantages that coalitions can potentially confer, balancing the priorities

of individual Villages with coalition priorities remains an ongoing concern. For Aging Services as a whole, this study sheds light on the potential of coalitions for increasing visibility and funding for smaller organizations, as well as the challenges that participation in such coalitions may pose.

REMOVING FINANCIAL BARRIERS TO MEMBERSHIP WITHIN THE VILLAGE MOVEMENT

R.F. Nicholson^{1,2}, A.E. Scharlach³, C.L. Graham³, 1. *Mather LifeWays, Evanston, Illinois*, 2. *University of Chicago, Chicago, Illinois*, 3. *University of California Berkeley, Berkeley, California*

The Village Movement has emerged as an innovative, nationwide, grassroots social movement that aims to support older adults aging in community by providing social engagement, referral to existing services, and volunteer support. One barrier to Village growth and sustainability is that Village membership is largely white and middle class. However, the results of our 2016 National Villages Organizational Survey show that many Villages are attempting to address potential economic barriers to membership. In this survey 71% of Villages reported offering discounted memberships or scholarships for lower income members. In addition to reduced cost memberships, 30% of Villages also provide other forms of discounts or assistance to help members with low or moderate incomes, ranging from payment plans, to discounts on events with a fee, to funds to help members pay for services that they cannot afford. Even with these efforts to accommodate lower income membership, 68% of Villages reported that fewer than 10% of members were impoverished, and another 10% of Villages reported that 10–24% of their members were impoverished. Half of the Villages had fewer than 10% of members economically vulnerable, and another 25% reported that 10–25% of their members were economically vulnerable. These data suggest that for Aging Services organizations like Villages looking to attract lower-income members, simply removing financial barriers may not be sufficient. These data and prior qualitative research suggest that additional outreach efforts addressing sociocultural differences may also be needed.

BUILDING HONG KONG INTO AN AGE-FRIENDLY CITY: RESULTS FROM A BASELINE ASSESSMENT

R. Yu¹, J. Woo¹, T. Lum², V. Lou², C. Ma³, M. Kwan³, A. Au⁴, D.W. Lai⁴, 1. *The Chinese University of Hong Kong Jockey Club Institute of Ageing, Shatin, Hong Kong*, 2. *Sau Po Centre on Ageing, The University of Hong Kong, Pokfulam, Hong Kong*, 3. *Asia-Pacific Institute of Ageing Studies, Lingnan University, Tuen Mun, Hong Kong*, 4. *Institute of Active Ageing, The Hong Kong Polytechnic University, Hung Hom, Hong Kong*

Funded by the Hong Kong Jockey Club Charities Trust, the baseline assessment, including a survey and focus groups, was conducted between July 2015 and February 2016 across Hong Kong. Community-dwelling adults aged 18+ were invited to respond to a structured questionnaire and give views on eight domains of age-friendliness (outdoor spaces and buildings, transportation, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, and community

support and health services) as suggested by the World Health Organization. Socio-demographics, self-rated health, use of community center, and sense of community were also collected.

A total of 4,274 respondents completed the survey, with 63.6% aged 65+ (mean age, 66.9 years) and 68.8% being women. Mean scores of each domain ranged from 3.7 to 4.3 (scale of 1–6), with social participation and housing had the highest and lowest scores respectively. Multivariate analyses showed that respondents who were older, living in public rental housing, users of community center, had higher self-rated health and sense of community gave significantly higher scores in at least three domains (all $P < 0.01$). Data from 40 focus groups ($n=347$) were also analyzed to identify advantages, barriers and suggestions for improving age-friendliness in their community. For example, respondents reported satisfaction with variety of social activities available in the community but barriers in housing maintenance services.

The baseline assessment offered valuable information on the current age-friendliness of Hong Kong and gave evidence-based direction to inform community programmes. Follow-up assessment will be carried out to evaluate effectiveness of the programmes.

CREATING DATA REPORTS TO SUPPORT AGE-FRIENDLY EFFORTS IN THE NEW ENGLAND REGION OF THE US.

E. Dugan, F.W. Porell, N.M. Silverstein, C. Lee, H. Lee, B. Kim, *Gerontology, UMASS Boston, Boston, Massachusetts*

The aging of the population has raised interest in optimal aging. Across New England older adults, policymakers, service providers, philanthropists, researchers, and advocates are working together to promote healthy aging (see mahealthyagingcollaborative.org). This effort has championed the use of data to inform policy development, resource allocation, and service delivery. In MA approximately 14% of the state is age 65 or older. We developed community profiles reporting more than 120 indicators of healthy aging for the 351 cities and towns in the state and 16 Boston neighborhoods. In RI approximately 21% of the state's 1,052,567 residents are 60 or older. We created community profiles reporting 120+ indicators for the 41 cities and towns in RI. Rarely is data reported at such a local level. Analyses were conducted using data from CMS, BRFSS, US Census and other sources using small area estimation techniques to determine age/sex adjusted community rates. We compared community and state rates, and state rates to national rates. Interactive online maps show the distribution of disease. Selected results include state rates for MA/RI adults 65 or older ever being diagnosed with: diabetes (32%/36%), hypertension (78%/79%), stroke (13%/13%), Alzheimer's disease or related dementias (14%/14%), depression (29%/30%), and 4+ chronic conditions (59%/64%). This poster describes both the methodology and findings of the reports. We also report on how communities have used these data for developing new partnerships, identifying priorities and becoming more age-friendly at the state and community levels. Research supported by the Tufts Health Plan Foundation.

AN UPDATE ON PROJECT SOAR: THE EFFECTS OF COMMUNITY ENGAGEMENT AMONG COMMUNITY-DWELLING OLDER ADULTS

K. Murry, K. Ivey, D. Dragan, P. Payne-Foster, J. Oliver, C. Spencer, M.R. Crowther, R.S. Allen, *Psychology, University of Alabama, Tuscaloosa, Alabama*

Project SOAR (Sharing Opinions and Advice on Research), is examining issues of aging, ethnically-diverse, and underserved individuals facing health and mental health disparities. Using Community-Based Participatory Research (CBPR) enables research-community partnerships to address persistent problems of health care disparities among these populations. SOAR partnered with one rural community and one urban community, and recruited and trained 15 community members into Project Advisory Councils (PACs). PAC members show high levels of psychological flexibility ($M = 12$; $SD = 5.44$) in comparison with college-aged samples and international norms (Bond et al., 2011). On the CIROP measure (King et al., 2009), PAC members reported high levels of personal knowledge ($M = 22.5$ high of 35), group access to information ($M = 63$ high of 70), and community development ($M = 74.5$ high of 84). The urban site provides an example of a community engaging in healthier practices as a result of research community partnerships. CBPR has enabled the urban community PAC to allocate resources to implement a Potted Plant Project to meet the physical health concerns of their community. The project allows community members to grow healthy fruits and vegetables in their home, while promoting physical activity and nutrition education. The rural community PAC members have focused on increasing knowledge of diabetes and other chronic health conditions by enhancing the resources available to them at their local hospital. These initiatives have helped generate new research partnerships that address the specific needs of these communities.

SESSION 4435 (POSTER)

AGE-RELATED POLICY

DEVELOPMENT OF THE ADULT PROTECTIVE SERVICES VOLUNTARY CONSENSUS GUIDELINES

J. Kuhne², J. Bobitt³, M. Twomey⁴, J. Carter⁵, S. Whittier Eliason⁴, R. Mabe⁶, 2. *Department of Veterans Affairs, Columbus, Ohio*, 3. *University of Illinois at Urbana Champaign, Champaign, Ohio*, 4. *Administration for Community Living, Washington, District of Columbia*, 5. *Medicare Rights Center, Washington, District of Columbia*, 6. *Department of Veteran Affairs, Salt Lake City, Utah*

The Administration for Community Living (ACL), seeking to ensure that the policies and practices of Adult Protective Services Programs (APS) are consistent nationwide, opened a process of public and stakeholder input on draft Voluntary Consensus Guidelines for State APS Systems in 2015. This draft was created by a working group of experts in the abuse, fraud, and neglect of vulnerable adults, and is intended to provide a framework for state APS jurisdictions when updating, refining, or clarifying current APS rules and laws. Seven domains of APS Practice were identified that informed the Guidelines project: Program Administration, Time Frames for Response,

Reporting, Investigating, Interventions, Training, and Program Evaluation.

ACL received public comment on the draft Guidelines in 2015 and convened listening sessions to invite stakeholder input. In order to incorporate stakeholder ideas effectively, ACL engaged a Health and Aging Policy Fellowship (HAPF) team, to provide a qualitative research analysis of the public comments on the draft Guidelines. This analysis will inform efforts to revise the guidelines based on the stakeholder input. The Guidelines in final form will provide consensus expert recommendations, best practices when identifiable, and information regarding evidence-based interventions. This session will provide an overview of the development of the guidelines, including the stakeholder engagement process. We will then discuss the qualitative research methods used to analyze the public comments by the HAPF team. Finally, we will conclude by sharing updates to the guidelines based on the results of the data analysis.

REFRAMING PUBLIC POLICY OPTIONS FOR LONG-TERM CARE FINANCING: HAWAII'S EXPERIENCE AND ITS IMPLICATIONS

S. Yuan, E.L. Wegner, L.H. Nitz, *Center on the Family, University of Hawaii, Honolulu, Hawaii*

A public long-term care financing program was introduced during the 2016 Legislative Session in Hawaii. The proposed program was based on the recommendations of a Long-term Care Commission study and an actuarial study funded by the State Legislature. While Hawaii was the first state in the U.S. to introduce a public long-term care financing bill, it was Hawaii's second attempt to pass a similar bill since 2002. This paper will present public discourse analysis using testimonies submitted during the 2016 session, compared to those submitted 14 years ago. We will also examine a community awareness campaign that aims to increase knowledge of options for long-term care among the public. We will present the media message as well as describe community forums which have taken place and the impact of these efforts in shaping public's opinion on the proposed public long-term care financing program.

COMMUNITY-BASED ORGANIZATION INTEGRATION IN THE U.S. HEALTHCARE SYSTEM: BUILDING THE BUSINESS CASE

R.J. Schreiber^{1,2}, N. Super³, 1. *Hebrew Senior Life, Boston, Massachusetts*, 2. *Harvard Medical School, Boston, Massachusetts*, 3. *National Association of Area Agencies on Aging, Washington, District of Columbia*

As the global population ages, countries and health systems all over the world are struggling to adequately meet the unique and complex care needs of older citizens. In the United States, an increased emphasis on value-based care that will hold them accountable for quality and cost has led health care payers to focus on social services that can keep vulnerable populations out of high-cost, institutional settings. Traditional United States medical systems do not have much experiencing delivering these types of services, however, and the social service agencies that do have experience (such as Area Agencies on Aging) typically do not have contracting, billing, and infrastructure experience necessary to partner effectively with the health care system. The types of services these community based organization deliver include evidence

based self management programs, consumer education, care transition programs in addition to home and community based long term service supports. A new National Aging and Disability Business Center was established to provide training and technical assistance to enhance the business capacity of community-based organizations, positioning them to negotiate, secure, and successfully implement contracts with health care entities. This workshop will provide an overview of the Business Center – its goals, objectives, tools and resources. The symposium will show how this national approach will help these organizations make the business case for reimbursement for services that improve value, i.e., improve health, healthcare at lower per capita costs. Examples of successful partnerships will be described and the value proposition that exists as the result of these linkages.

PRIVATE INSURANCE VERSUS MEDICAID AND ADHERENCE TO MEDICATION IN OLDER ADULTS WITH FIBROMYALGIA

I.A. Vaughn¹, M. Laberge^{1,2}, N.M. Marlow¹, 1. *Health Services Research, Management & Policy, University of Florida, Gainesville, Florida*, 2. *Department of Operations and Decision Systems, Université Laval, Quebec City, Quebec, Canada*

Background: Fibromyalgia, defined as chronic, widespread musculoskeletal pain, affects 4 to 10 million Americans and up to 6% of the world population. Medication nonadherence results in \$100 to \$300 billion in US health expenditures annually. Previous studies have examined medication adherence in commercial health plans or public health plans, but relatively few have compared both populations. The purpose of this study was to estimate the effect of type of insurance on adherence to medication for older adults with fibromyalgia.

Methods: The retrospective cohort study analyzed medical claims of fibromyalgia patients collected between January 1, 2005 to June 30, 2011 from the Blue Cross Blue Shield South Carolina State Health Plan (BCBS) and Medicaid data. Older adults age 60 and older were included if they were prescribed duloxetine, milnacipran, or pregabalin (N=3,187). The primary outcome, medication adherence, was defined as having a medication possession ratio (MPR) of $\geq 80\%$. Independent variables included health insurance, FMS medication, selected comorbidities (FMS-related, musculoskeletal pain, or neuropathic pain), gender, age, and the interaction between health insurance type and treatment.

Results: Logistic regression showed older adults with fibromyalgia on Medicaid were over 3 times more likely to be adherent when compared to BCBS in both unadjusted (OR: 3.21, $p < 0.0001$) and adjusted models (OR: 3.74, $p < 0.0001$).

Conclusion: Most states do not require a Medicaid prescription co-pay; whereas, private insurers, like Blue Cross Blue Shield, require more out-of-pocket costs. Our study suggests that the co-pays for medications in private plans may present a barrier to patient adherence.

EVALUATING BASIC PENSION SCHEME IN SOUTH KOREA: FOCUSING ON ITS INTERGENERATIONAL EQUITY

H. Kang, 1. *School of Social Welfare, University of Kansas, Lawrence, Kansas*, 2. *Center for Research on Aging and Disability Options, University of Kansas, Lawrence, Kansas*

Basic Pension Scheme (BPS) in South Korea, which provides non-contributory pensions, was implemented in 2014 to ensure basic income security for older adults who below the poverty level. Since its implementation, the structural weakness and financial instability for the long term development has been pointed out. Taking note of intergenerational equity, this study conducts an analytic and detailed examination through Barusch's (2009) social justice framework as to whether BPS was established through fair and proper processes and will be implemented to equally benefit all generations. The social justice framework can explain whether BPS brings about inequitable distribution of power, resources, and individual access and how BPS resists inequity and unfairness. The four elements were evaluated: the fairness of the policy development process, the allocation rules, the effect on vulnerable populations, and policy's impact on social justice. The findings indicated that the process of making BPS did not proceed by an established rule and BPS focuses on only its short term effects for current older adults by ignoring its potential long-term consequences. Available funds for BPS is expected to be in danger of being exhausted and this will lead to either reducing the amount of payment or increasing contribution rates. Our findings also revealed that the financial resources for maintaining BPS do not disproportionately burden between current and future generations to fund. The government is required to prepare and provide the public with a long-term financial plan of BPS by designing a more equitable funding and benefit scheme.

THE AFFORDABLE CARE ACT'S MEDICAID EXPANSION: THE EFFECTS ON LOW-INCOME MID-LIFE ADULTS

S. Choi, *University of Tennessee at Knoxville, Knoxville, Tennessee*

Purpose: This study aimed to examine how the state Medicaid expansion under the Affordable Care Act affected insurance status and access to healthcare among low-income mid-life individuals in 2014, the first year of Medicaid expansion.

Methods: The 2012 and 2014 Behavioral Risk Factor Surveillance System data were linked to state-level data including Medicaid expansion status. The analysis included a nationally representative sample of 298,376 mid-life adults (50–64) from 50 states and Washington, DC. Among them, 23.1% were low-income with family income below \$25,000. Using multi-level modeling (individuals < states), this study compared low-income mid-life residents living in Medicaid expansion vs. non-expansion states. Additionally, pre- and post-Medicaid expansion data (2012 vs. 2014) were compared.

Results: Regardless of income status, U.S. mid-life adults' access to healthcare improved from 2012 to 2014. However, the rate of improvement was greater among low-income residents living in Medicaid expansion states. For example, the insured rate increased from 66.5% (2012) to 80.4% in 2014 (20.9% increase) among low-income mid-life residents in Medicaid expansion states, while it increased from 61.3% to 70.0% (14.2% increase) among their counterparts in non-expansion states. The conditional multi-level models indicate that after controlling for individual- and state-level covariates, low-income mid-life adults from Medicaid expansion states were more likely to have health insurance (OR=2.14, $p < .001$) and less likely to miss a doctor visit due to cost

(OR=0.79, $p=.003$) compared to their low-income counterparts residing in non-expansion states.

Implications. This study clearly demonstrates that state-level Medicaid expansion improved healthcare access among low-income mid-life residents.

PRODUCTIVE ENGAGEMENT FROM A SYSTEM DYNAMICS PERSPECTIVE: RESULTS FROM GROUP MODEL BUILDING

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Gerontologists have argued that the human capital of older adults can be marshalled through working, volunteering, and caregiving for the benefit of families, communities, and society at large. This active, purposeful engagement can also produce positive outcomes for older adults themselves. In this presentation, we propose that existing conceptual frameworks that articulate the antecedents and outcomes of productive engagement in a linear fashion can be improved using system dynamics. This approach offers a more complete understanding of the feedback loops between individuals, families, and society, as well as the impact of potential program and policy changes intended to increase the productive engagement of older adults. Using the qualitative method of group model building, seven experts in productive aging and system dynamics met weekly over five weeks for more than 10 hours of in-person discussion to model the facilitators and barriers to productive engagement of older adults and their impacts on human and social capital. First drawn on white boards, the models were then built using the Vensim PLE software package. Findings include a system dynamics model of productive engagement in later life that illustrates the reciprocal relationships between older adults' human and social capital and family resources, as well as societal attitudes and expectations about older adults, programs and policies to support productive engagement, and organizational capacity for engaging older adults. This unique, qualitative effort at developing a system dynamics model for productive engagement in later life advances theory and helps refine the productive aging research agenda.

DEPENDING ON WHOM? INCOME AND POVERTY OF OLDER ADULTS IN CHINA

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Objective: The goal of this study is to investigate elderly poverty and analyze the extent to which Chinese elders rely upon their employment, shared living, and pension plus other government transfers.

Method: Using the China Health and Retirement Longitudinal Study (CHARLS) Wave II in 2013 (N=8,630), I calculate pre- and post-transfer income-per-capita measures. Poverty rate is calculated based on the World Bank international poverty line of \$1.90/day. Regression analysis is conducted on poverty headcount ratio after controlling for individual characteristics.

Results: The poverty rates of post-transfer income for urban, rural, and migrant older population are 76%, 30%, and 74%, respectively. Pension has had a beneficial impact on poverty alleviation, especially on urban elderly ($\beta=-1.493$, -0.317 , and -0.582 for urban, rural, migrant elders,

respectively). For both urban residents and migrants, pension significantly decreases dependence on employment. For the rural elders, working still remains to be an important resource to alleviate poverty ($\beta=-0.634$). Multigenerational living arrangement has a statistically significant negative correlation with poverty status ($\beta=-1.966$, -0.381 , and -2.222 for urban, rural, migrant elders, respectively). Other public transfers have a moderate effect on antipoverty protection among all three groups.

Discussion: Work, co-residence, and pension support play key roles in financing income and in keeping older adults out of poverty, but functions differently among the three groups. These findings can be interpreted as the key roles played by the three factors (individual, family, and state) in aging policies and suggest welfare expansion on targeted low-income rural and migrant elders with supportive anti-poverty programs.

PROFILES OF SOCIALLY ISOLATED ELDERLY: A TYPOLOGY WITH INTERVENTION IMPLICATIONS

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Recent statistics show a growing number of older adults who are living alone and are socially isolated. It is against this background that, in recent years, many interventions have been developed to address social isolation among the elderly. Evaluative studies show that most interventions are hardly effective, though. An important reason for this is the heterogeneity of the socially isolated. This paper offers insight into this heterogeneity by presenting a typology with different profiles of socially isolated older adults and the intervention implications of this typology. The typology is derived from an extensive qualitative study on socially isolated elderly individuals in the Netherlands. The typology imposes some degree of order to a diversity of circumstances, ambitions, and possibilities of the socially isolated elderly, thereby deepening the understanding of the heterogeneity of this population. The definition of social isolation used in this study starts from a societal angle of incidence, namely the current policy context of Western European welfare states, in which governments emphasize the importance of independence and self-reliance of their citizens. Developed from that perspective, the typology provides a theoretical basis for applying interventions aimed at increasing self-reliance of social isolated elderly.

HETEROGENEOUS EFFECTS OF RAISING SOCIAL SECURITY ENTITLEMENT AGE ON OLDER ADULTS

Y. Zhu, J. Zissimopoulos, *University of Southern California, Los Angeles, California*

One policy proposal at the center of discussions on how to address America's aging population and the corresponding threats to the solvency of the Social Security Trust fund is a policy aimed at increasing the age of eligibility for Old Age and Survivors Insurance (OASI) benefits. This change would impact older adults' well being by reducing their lifetime OASI and disability insurance (DI) benefits and delaying their retirement decision, which would expand their private savings. In addition, social security policy change would influence aged adults' private financial transfer such

as bequest and inter vivos gifts, and their non-market productive activities including volunteer and care provided to family members. Specifically, individuals vary by health and socioeconomic status (SES) may respond differently to the policy change. Consequently the policy effects can be heterogeneous.

In this study, we consider how increase in the social security entitlement age differentially impacts labor supply, claiming decisions, private financial transfer and engagement in unpaid productive activities of older adults with different health and socioeconomic status, especially how it affects the vulnerable adults. We utilize a dynamic microsimulation model, the Future Elderly Model that uses data from Health and Retirement Survey (HRS) to project the heterogeneous impacts of a change in the OASI eligibility age on the well being and contributions of workers differentiated by their health and socioeconomic characteristics from 2010 to 2050. This research provides insights into differential effects of Social Security policy change on different target population, particularly on the target population with lower SES.

POPULATION AGEING AND AGEING-RELATED POLICIES IN RUSSIA

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Globally, the number of elderly grows faster than sizes of other age groups. For Russia, matters of ageing are also of great importance, especially because the country's total population size had been decreasing since the early 1990s for more than 15 years.

For the analysis, census and vital statistics data provided by Rosstat and Human Mortality Database were used. Computations of ageing indicators were made in Excel.

Our study shows that ageing in Russia is expected to continue, moreover, it is highly heterogeneous – it is characterized by significant gender imbalance and great regional differentiation. Progressing aging requires large-scale, adequate, and versatile actions.

Until recently ageing issues were not focused on sufficiently. The Concept of demographic policy of the Russian Federation for the period up to 2025 approved by the Order of the President of the Russian Federation N 1351 of 09.10.2007 includes few measures related to the elderly.

This year the Strategy of actions for the benefit of citizens of older generation in the Russian Federation until 2025 has been approved by the Decree of the Government of the Russian Federation N 164r of 05.02.2016. The Strategy, though not without shortcomings, means a step forward to building the society for all ages. When implementing the Strategy, it is crucial to take into account various heterogeneities of ageing process in Russia.

DEVELOPING A MODEL OF CARE FOR ELDERLY—A PIONEER PROJECT FOR AGE-FRIENDLY COMMUNITY IN S. INDIA

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India, 2. *Rajagiri College of Social Sciences, Kochi, India*, 3. *University of Maryland, Baltimore, Maryland*

Ageing population in India is growing. Presently, 13.1% of Kerala population is above 60 years. The shift in age demographic could bankrupt India if appropriate measures are not taken and there is currently no coordinated program addressing the needs of elders.

As a result, we initiated an action research with two specific aims. First, to identify key areas of concern that is unique to elders in order to create age-friendly communities. Second: to develop appropriate action plan and programs that effectively address identified key problems.

In consultation with stakeholders, such as key governmental departments, NGOs, lay public - young and old, we used purposive sampling to conduct 13 focus groups in Ernakulam district.

Data obtained from the focus groups highlighted three key priority needs: safety and security, transport and mobility, developmental issues.

Next, we developed a model of intervention specific for the state using two theoretical frameworks. We reasoned that an effective and sustainable intervention is one that is owned by the communities. Second, understanding that crisis of old age are ever-present, we believe communities will naturally act to resolve their problems. It is only when their resources are exhausted that the members willingly seek outside help. Thus, we develop strong trained volunteers from the communities at grassroots for initial response and remedial action with the support of NGOs and governmental departments.

Using this model, we established an Elder-line for safety and security, Senior Taxi Program for transportation issues. The response to developmental need is the University of Third Age.

SESSION 4440 (POSTER)

AGING-IN-PLACE AND GEOGRAPHIC MOBILITY

INTEGRATED HOME AND DAY CARE PROGRAMME: A PILOT TO CARE FOR FRAIL ELDERLY IN THE COMMUNITY

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In Singapore's current eldercare services landscape, frail seniors who require multiple services may be managed by different service providers, leading to high overall out-of-pocket costs and poorly coordinated care. Modelled after United States' Program of All-Inclusive Care for the Elderly and Australia's Home and Community Care Packages, Integrated Home and Day Care (IHDC) programme aims to provide better services integration by delivering a comprehensive and co-ordinated suite of services in a single package. A multi-disciplinary care team comprising healthcare professionals and support staff will personalise a care plan that consists of core services such as case management, personal care, and caregiver support. Other services such as nursing, rehabilitation and transportation will be added if required. The packages are funded on a capitated model, giving providers more flexibility in deploying resources, especially for

services such as care coordination and tele-consults, which are poorly resourced currently.

To date, the programme has benefitted 155 seniors (average age 77 years; assessed nursing home eligible and are moderate dependency on activities of daily living). Preliminary findings from the IHDC pilot have shown that the programme was effective in managing the care of the seniors, only 9.8% were discharged to nursing homes and a 75% decrease in hospital service utilisation was observed. 98% of the seniors and their caregivers are also satisfied with the IHDC programme. An evaluation framework will be used to determine the programme's effectiveness in increasing number of days spent within the community, improvements in quality of life and satisfaction with care arrangements.

EDUCATING HOME CONTRACTORS ON UNIVERSAL DESIGN MODIFICATIONS: AN ACADEMIA AND CORPORATE COLLABORATION

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The Hartford Center for Mature Market Excellence® collaborated with the University of Southern California Andrus Gerontology Center (USC) on a research and education effort to support policyholders' ability to live in their home for a lifetime. A 2012 study investigated whether educating homeowners about universal design (UD) to promote their independence and reduce accidents influenced repairs they made following a home claim. Home insurance policyholders who submitted claims for damage to bathrooms or kitchens received an educational brochure introducing UD features. Homeowners completed follow-up surveys from USC and descriptive and bivariate analyses were conducted. Thirty-three of 37 respondents (89.2%) had implemented UD modifications, making an average of 9.1 UD modifications. Most respondents rated the brochure positively and respondents' self-rated knowledge of UD improved after reading it. Due to these findings, in 2014, The Hartford and USC developed a voluntary 6-week online training program to educate contractors who work with customers of The Hartford to be able to discuss and promote UD with policyholders at the time of a claim. Goals include: 1) creating a value-added service for policyholders at the critical time of a claim; 2) increasing the likelihood that policyholders will make design changes to facilitate their staying in their homes longer; and 3) equipping contractors with unique skills that will give them a competitive advantage in the marketplace. Student evaluations have repeatedly shown increased knowledge level by contractors to meet customers' needs and the ability to upsell their services.

OBJECTIVE AND SUBJECTIVE VIEWS ON HOME SAFETY ACROSS HOUSING TYPES OF OLDER ADULTS

H.H. Ewen, M. Smith, T. Washington, A. Carswell, K.G. Emerson, *University of Georgia, Athens, Georgia*

It is well established that older adults prefer to age-in-place, but their ability to do so is dependent upon their health and functional abilities as well as the structure and safety of

their living environment. This study uses the second wave of data collected in the Pathways to Life Quality Study to investigate both the objective and subjective aspects of the living units among three types of residences: those within their own homes in the community (n=402), service-rich senior housing (e.g. CCRC; n=206), and service-poor senior housing (e.g. HUD subsidized apartments; n=160). Comparisons across housing types result in significant differences with service poor housing residents being older, taking more prescription medications, more hospitalizations, and poorer health. Differences in objective measures of home safety were evident among all three housing types, with service-poor housing having more safety features and community dwellings the least. Subjective perceptions of adequacy of the home features meeting needs and abilities differed, with community-dwelling residents reporting greater adequacy. Similarly, differing satisfaction with functional aspects of housing (e.g., function of built-in features, fixtures, and lighting). Greater satisfaction was seen in community-dwelling residents and least among service-poor housing residents. Conclusion: Service-rich communities entail access to healthcare and guarantees of remaining onsite for the remainder of life. Despite more safety features, residents of service poor housing had poorer health, insecurity about adequacy of essential features (e.g. lighting), and were more dissatisfied with the functional aspects of their homes. They are at greatest risk of being unable to age in place.

PLANNING FOR MOVES IN LATE LIFE: WHO PLANS AND HOW DOES PLANNING INFLUENCE OUTCOMES?

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The gerontological literature has documented older adults' desire to age in place. Recently, focus has shifted to potential benefits of moving in order to "age in the right place" (Golant 2015). This research examined characteristics of older adults who undertake planned vs. unplanned moves from their independent community residence. We also explored the influence of planned vs. unplanned moves on post-move experiences of older adults. We used data from the ECRC longitudinal study of successful aging, waves 7 to 11 (Kahana, Kelley-Moore and Kahana 2012). During a four year period, 132 of the original 1000 participants relocated. We defined unplanned moves as those planned for less than 3 months (30%). T-test showed that poor health was the top reason for moving among those who spent less time on planning. The desire to live closer to adult children was the top reason for moving among those who were longer term planners. The latter group were more likely to move to life care communities. Those with less lead time for planning, also reported experiencing more difficulties after moving. Interestingly, satisfaction with post move neighborhood was not influenced by the length of time spent in planning the move. The current study illustrates the relative benefits of planned moves among older adults. While planning is not always possible, as in cases of sudden illness situations, older adults should be encouraged to engage in planning for

residential moves by healthcare professionals to help them better adjust to a new living environment.

AGING IN REMEMBERED AND IMAGINED PLACES: FINDINGS FROM AN ETHNOGRAPHIC STUDY OF AGING IN POLAND

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Aging in place is an influential global movement that aims to create possibilities for increasing numbers of older people to achieve a good old age. By growing old at home or in one's community, older people who age in place aim to avoid the negative effects associated with living in institutional care (e.g., increased costs, social upheaval, dehumanization). However, the concept of aging in place rests on an implicit moralized binary opposition between the categories of "home" and "institution," such that "home" is assumed to be the only option for a good old age, while "institution" is assumed to be the only option for a bad old age. In fact, the moral dimensions of homes and institutions are culturally and historically specific. Moreover, the focus on the physical location of the home itself belies the ways that other imagined and remembered places shape experiences of living a good life in old age. In this presentation, I draw on twenty months of ethnographic research among older people in a range of institutional and non-institutional contexts in Poland to argue that both homes and institutions can offer possibilities for a good old age, and that imagined and remembered places make important contributions to experiences of a good old age.

SEX DIFFERENCES IN PHYSICAL ACTIVITY AMONG OLDER ADULTS LIVING IN URBAN AND RURAL NEIGHBORHOODS

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A better understanding of sex differences in physical activity (PA) may inform sex-specific promotion programs. Between 2013 and 2015, we queried 111 men and 102 women 65 years and older living in urban and rural neighborhoods in Central Massachusetts about their PA and use of neighborhood resources. The participants wore an accelerometer and a Global Positioning System (GPS) device for 7 consecutive days. Level and location of self-report PA were validated against accelerometer/GPS measures. We evaluated level, type and location of PA by sex. Compared to men, women reported more frequent PA inside the home (mean (SD) 59.1 (25.2) vs. 47.8 (30.0) times per month, $p=0.004$), and similar frequencies of PA outside home and utilitarian and recreational walking. Daily step counts were highly correlated with reported frequency of recreational walking and PA away from home but not with PA in home. Men had substantially higher average daily step count (4339 (2131) vs. 3661 (1725), $p=0.01$), self-report weekly frequencies of all exercise (21.4 (13.8) vs. 16.9 (9.4), $p=0.007$) and moderate-high-intensity exercise activities (11.8 (9.4) vs. 6.8 (6.4),

$p<0.001$). Men had a higher monthly frequency of visiting private membership clubs (5.7 (8.3) vs. 3.5 (6.2), $p=0.037$), and were more likely to perform golfing, heavy housework, heavy gardening, and moderate-heavy strength training ($p<0.05$ for all). Women were more likely to perform yoga and aerobic dancing. These results suggest that level, type and location of PA differed substantially between older men and women, which should be considered when promoting PA in older populations.

EUSKADI LAGUNKOIA – AGE-FRIENDLY BASQUE COUNTRY

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Euskadi Lagunkoia is a proactive strategy to make living spaces more age-friendly, without physical obstacles and barriers. Goals: Tapping the potential of seniors in villages and cities as welfare generators; promote community participation processes; create a Network of friendly initiatives; and facilitate changes in the environments.

First a Practical guide to implement in municipalities was developed with tools and best practices to build a friendly territory. Baseline assessment was made in 15 towns, with secondary data sources, an Age-Friendly Survey (N 1.447 people 16+), Citizen forums (345 participants) and other 77 stakeholders involved. It provides guidance on how to develop an age-friendly project.

In a second phase (2015–2016) it was scaled up to 18 new municipalities and the three main cities (36 in total). Elderly associations have created self-managed groups for qualitative assessment.

Some indicators:

Evaluation: Active Ageing Index score in 2014 was 36.6. The aim is to increase to 38.4 in 2020.

326 Stakeholders involved: 36 City councils, 4 Government Departments, 37 Elderly Associations, 24 Schools, 176 Business and 49 others. And 2044 Citizens in the survey, 420 in Forums.

Examples Actions:

Course how to improve the friendliness of businesses. 13 towns and 176 businesses. AF Business Guide: 2.075 downloads

Legacy: Intangible cultural heritage by elders 12 videos 2646 views.

Dementia Friendly Citizen awareness and guidelines. 16.850 distributed.

Acknowledgements:

2016: European Commission: EIP on AHA Reference Site 4 stars (good practice).

2014: International Federation on Ageing: Top ten overall in the Best Future Vision category of the Age-Friendly Innovation Competition.

FAMILY ELDER CARE AND ACTIVE CITIZENSHIP OF OLDER EUROPEANS: A CHALLENGING RELATIONSHIP

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Current European socio-demographic developments as population ageing and increasing care needs in older age, explain the current policy call to provide informal family care and to be active citizens in older age to the benefit of society. Since providing informal care may hinder, for instance by reducing time availability, being a fully active citizen in other social domains, these two policy calls may be conflicting. By using a longitudinal approach, this study aims to elucidate whether, in line with role extension and role enhancement theories, the provision of informal family care to older relatives affects positively active citizenship in other social domains, as measured by the Active Citizenship Composite Indicator (ACCI), or whether, on the contrary, it could be a risk factor for social exclusion. Data were drawn from waves 1 and 2 of the Survey of Health, Ageing and Retirement in Europe (SHARE), which address European people of 50 years or older. Results showed that informal family caregiving outside the household positively affects active citizenship and so it can be considered as concurring to the concept of active citizenship. However, interaction terms showed that this could be less true for women, which may have less opportunities than men to be active citizens in other social domains. To prevent social exclusion of older women informally caring for older family members, stakeholders and policy makers should support their active participation in the wider society, by helping them e.g. in terms of training, respite services, as well as volunteering and social opportunities.

RACIAL AND DISPOSITIONAL DIFFERENCES IN FUTURE CARE PLANNING AMONG COMMUNITY DWELLING OLDER ADULTS

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Although many older adults fear loss of autonomy in late life, relatively few make plans for their future care. Given the benefits of future care planning (FCP), it is important to understand factors that facilitate or hamper FCP in late life. Our study explored racial and dispositional influences on thinking about and engagement in FCP among 409 community dwelling older adults in Cleveland, OH (Mean age=78.47; SD=5.88). Logistic regression estimates suggest that racial and dispositional characteristics not only play a role in who thinks about FCP, but also who executes FCP. In terms of executing FCP, blacks had significantly lower odds of FCP ($\beta=0.36$, $p<.05$) when compared to whites. However, after the inclusion of education, disability status, optimism, and religiosity, the estimate for blacks becomes statistically insignificant suggesting the potential role of these variables in producing racial differences in FCP. We also found significantly higher odds of thinking and executing FCP among older adults who had at least high school education. In contrast, we observed significantly lower odds of thinking about FCP among married older adults. Moreover, our estimates indicate that an increase in the level of optimism leads to a decrease in the odds of FCP with similar results for religiosity and pessimism. Although certain demographic and

dispositional characteristics may be considered as resources in later life (optimism, marriage, religiosity), our findings highlight that these resources may serve as barriers to FCP for black and white community dwelling older adults.

A LONGITUDINAL STUDY ON THE EFFECTS OF PHYSICAL ENVIRONMENT ON BEHAVIORS OF RESIDENTS WITH DEMENTIA

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The challenges in investigating the effects of the physical environment on residents with dementia include having a sample of comparable study groups and a lack of long-term follow-up evaluation. This study attempted to address these two challenges by carefully matching residents between groups in sample selection and including three points of time of evaluation in the study design. The main aim of the study is to examine whether residents with dementia living in different physical environment, focusing on large-scale institutional design and small-scale homelike environment exhibit a difference in health and behavioral outcomes. Physical environmental assessment of the two care facilities was conducted using the Therapeutic Environment Screening Survey for Nursing Homes. Behavior assessments of residents were performed using three tools at three assessments over a period of 1 year: (a) Multidimensional Observation Scale for Elderly Subjects, (b) Minimum Data Set, and (c) Dementia Care Mapping. The longitudinal results suggest that older adults with early to moderate stage dementia can be supported to become socially active and engaged with others in an optimal environment. It is possible that a small-scale, home-like unit makes it easier to socially relate with others, as fewer people in the setting are not as overwhelming or over-stimulating. A smaller home-like environment may also offer a sense of comfort, security, and belonging.

THE STUDY OF THE ELDERLY AND THE GUIDE BOARD SYSTEM

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Faced with the aging vision of the elderly, hospitals need to deal with a complicated issue that how the guide board system in the hospital can provide sufficient information and help the elderly find the location they are looking for.

The study is based on the spatial cognition theory by Kevin Lynch. Different attributes of spaces and guide board systems combinations are discussed. An in-depth interview and a questionnaire survey are adopted as research methods. Thirty-four elders survey the spatial organization and guide board system of two medical centers and then conduct comparative discussion.

Research result shows that the guide board system of the hospital should put emphasis on the following points: 1) the color contrast should be strengthened between the color of the text and the surrounding environment 2) the guide board system should have enough light and illumination 3) a common standard needs to be established for distinctive patterns and the texts should be added to them 4) walls and floor

use should be strengthened for the guiding sign 5) the differences of public channels and other areas should be marked clearly for directional sign and the current position should be enhanced 6) the text of descriptive sign should be bigger than 20mm 7) the sign and guidance of the service counter need to be strengthened

Hospital guide board system affects the convenience of the patients' medical environment. It also has an influence on the evaluation of the elderly to the service quality. Hospitals should enhance the descriptive and directional signs and with the service training of the medical care providers, they would be able to provide the elderly better medical environments.

EFFECTS OF MIGRATION AND SETTLED LIFESTYLE ON THE PHYSICAL AND MENTAL ABILITIES OF CENTENARIANS

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The study involved 153 centenarians ages 90–105 years (43 migrant and 110 settled) using test Mini Mental State Examination. Mobility studied for the test, "Sit-to-Stand", hand grip strength - with the help of dynamometer, lifestyle, degree of self-service - on the Barthel Index. Contingency coefficient was used to assess the qualitative characteristics. Quantitative characteristics were evaluated by Student t-test. The results are summarized using the correlation and regression analysis. The amount of self-service (by Barthel index) in the migrated group was $(71 \pm 4)\%$ and in the group do not change their place of residence - $(80 \pm 2)\%$ ($P < 0.05$). It was found association between the indices of cognitive capacity in the migrants ($r = -0.183$, $P < 0.05$). According to the results of the MMSE, a moderate degree of dementia was observed less frequently in the group of migrated centenarians than not to change their place of residence in the group. In the group migrated average MMSE scale was (21 ± 1) points, non-migrant centenarians - (18 ± 1) points ($P < 0.05$). Hand grip strength of the right and left hands of migrants was (9.6 ± 1.06) kgF and (8.7 ± 0.95) kgF, and non-migrant group - (7.24 ± 0.5) kgF and (6.7 ± 0.41) kgF ($P < 0.05$). Elderly migrated subjects need greater amount of care and were less self-sufficient than sedentary individuals of the same age. In centenarians showed a trend toward migration, which is largely questioned the paradigm of their preferred residence.

SESSION 4445 (POSTER)

ASSESSMENT II

NATURAL ADULT WOMEN GAIT VARIABILITY: CADENCE AND STEP WIDTH PREDICTORS OF PREMATURE RISK OF FALLS

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Aim: Gait variability is associated with future risk of falling. It's a gait instability indirect measure and its natural changes over years are not described in the literature. The aim was to describe and identify the age group of healthy women classified as: youngest, adult and older adults, which can predict early falls, through gait variability analysis. **Methods:** Cross-sectional study performed with 45 Brazilian women (20–67 years) at gait lab from Goiás University, Brazil. Fifteen reflective markers were attached to specific anatomical landmarks on their lower limbs and they walked on an 8-meter way. Six infrared cameras and Peak Motus8.1® software were used. Coefficient of variability was applied to ten gait cycles for: step and stride length step; stride, stance and swing period; single and double support; stride width; all with right and left sides, as well as cadence and gait speed. **Results:** There was a statistically significant difference between youngsters and older adults for cadence ($p = 0.003$) as well as between adults and older adults for cadence ($p = 0.003$), right step width ($p = 0.01$) and left step width ($p < 0.001$). Linear regression demonstrated that, after a period of three years, there is an increase of one unit in cadence variability and after four years, for right and left stride width, which influences accidental falls risk. **Conclusions:** Cadence and stride width variability showed increased risk of falls from 30 years of age. Implementation of prevention programs for young women not considered at risk is suggested.

CORRELATION BETWEEN QUADRICEPS CROSS-SECTIONAL AREA, FAT INFILTRATION, AND TORQUE IN OLDER WOMEN

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Aging is related to changes in the neuromuscular system that can lead to decrease muscle mass and strength (sarcopenia) and increase the fat infiltration. The aim of this study was to measure the quadriceps cross sectional area (CSA), the fat infiltration and to verify their correlation with knee extensor torque. Cross-sectional study, approved by the Research Ethics Committee of Federal University of Paraná (36003814.2.0000.0102), included 16 older women (70 ± 4 years-old; BMI: 27 ± 4 Kg/m²). The CSA was measured by Magnetic Resonance Image and the Image Pro plus software was used to calculate the quadriceps cross-sectional area (CSA) and fat infiltration (FI) in cm². The concentric and eccentric knee extensors peak of torque were evaluated by an isokinetic dynamometer (System4, Biodex®), range of motion 60° (start at 90° and stop at 30°), three repetitions each set performed at 60°/s. The data were analyzed as mean, standard deviation. To verify the association between variables the Spearman correlation test was used ($p < 0.05$). The mean quadriceps CSA was 34.4 ± 3.7 cm² and the fat infiltration was 9.8 ± 4.8 cm². The concentric PT was 104 ± 17 N/m and eccentric 95 ± 15 N/m. The following correlations were not statistically significant: PT Concentric and CSA ($r = 0.35$, $p = 0.17$); PT Eccentric and CSA ($r = 0.18$, $p = 0.48$); PT Concentric and FI ($r = -0.22$, $p = 0.39$); PT Eccentric and FI

($r=-0.23$, $p=0.37$). It can be concluded that the fat infiltration represents one third percent of the quadriceps muscle total area. Muscle mass and fat infiltration were not associated with knee extensor torque.

DEVELOPMENT OF THE JAPANESE VERSION OF THE TILBURG FRAILTY INDICATOR

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The Tilburg Frailty Indicator (TFI), which has been translated to several languages, screens frailty in older adults by assessing their physical, psychological, and social domains. This study aimed to develop the Japanese version of the TFI (TFI-J) in older adults living at home and testing its internal consistency and concurrent validity. After we translated the TFI, the TFI-J surveyed 682 Japanese older adults (mean age = 81.3, SD = 6.7) who were ambulatory frail according to an in-home assessment conducted by care managers. To examine the concurrent validity, a comprehensive frailty index (Kaigo-Yobo-Checklist) developed in Japan, as well as unidimensional alternative measures including handgrip strength, body mass index, the Geriatric Depression Scale-5, the Rapid Dementia Screening Test, and two single questions regarding physical and social frailty were assessed. Cronbach's alpha of the TFI-J was .68. Total scores of the TFI-J were significantly correlated with the total scores of the Kaigo-Yobo-Checklist ($r = .55$, $p < .001$). The logistic regression analyses adjusted for demographic data showed that frailty, screened by the TFI-J, was associated with low handgrip strength (odds ratio (OR) = 1.8, 95% confidence interval (95%CI) = 1.14–2.73), depression (OR = 4.3, 95%CI = 3.04–6.15), difficulty in climbing stairs (OR = 2.1, 95%CI = 1.51–2.93), and not having neighbors to talk to (OR = 1.8, 95%CI = 1.28–2.57). The TFI-J showed acceptable internal consistency and concurrent validity, and it could be used for identifying multidimensional frailty in Japanese older adults living at home.

GRIP PERFORMANCE AGILITY MEASURED WITH A NEW DYNAMOMETER IN SUBJECTS OF ALZHEIMER'S DEMENTIA PATIENTS

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Background: We are developing a grip dynamometer with a time axis for older adults. The associations between proposed agility-related indices for this dynamometer and Alzheimer dementia severity were investigated.

Methods: 562 female memory disorder outpatients (mean 76.0 y.o.) were classified into groups of normal (N), mild cognitive impairment (MCI) and Alzheimer dementia (AD), which was sub-classified as Mild (ADmi), Moderate (ADmo), Moderate severe (ADms), and Severe (ADse) based on total MMSE score. The agility indices are 1) maximum grip strength (MS), 2) response time, 3) time to MS, 4) time to turning point (TP), 5) strength at TP, 6) inclination from start to TP, 7) time TP to MS, 8) inclination from TP to MS, and 9) ratio of strength (TP/MS).

We conducted age adjusted multiple comparisons of the above 9 indices among six groups by hand dominance.

Results: In the dominant hand, significant differences were seen in the items of 1) (ADse vs N, MCI, ADmi), 3) (ADse vs ADms), and 5) (ADse vs N, MCI, ADmi). In the non-dominant hand, significant differences were seen in 1) (ADse vs N, MCI, ADmi, and ADms vs ADmi), 2) (ADse vs N, MCI, ADmi, ADmo, and ADms vs N, ADmi), 5) (ADse vs N, MCI, ADmi) and 6) (ADms vs N, ADmi).

Conclusion: Multiple comparison of these agility-related indices and dementia revealed significant differences in the maximum strength and strength at TP in both hands, as well as in some time-related indices like reaction time in the non-dominant hand only.

MONTREAL COGNITIVE ASSESSMENT (HEARING IMPAIRED) (GERMAN VERSION) IN GERIATRIC COGNITIVE SCREENING

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Introduction: Cognitive screening is a crucial part of the geriatric assessment. Up to now all current test rely on the subjects ability to follow auditory verbal instructions and therefore present a major pit-fall in the assessment of senior patients with a hearing loss leading to a probable false negative test result due to misunderstanding of the oral commands and requirements. Our objective was to adapt the "Development of a Cognitive Screening Test for the Severely Hearing Impaired" by Chung J, Shipp D, Friesen L, Black S, Masellis M, Lin V for the German language and to introduce it as a standard cognitive screening in our geriatric assessment.

Method: Subjects were recruited from our geriatric clinic. All volunteers first underwent a battery of cognitive screening tools (MMSE, clock completion test) in a standard environment and a hearing assessment (MAT). After that all were administered the MoCA-HI. 50 normal hearing and 100 hearing impaired (>40 dB(A)) subjects were tested. As an additional cognitive test the CERAD test battery was performed on all subjects in a hearing adjusted environment.

Results: There was a significant correlation between the test results of the MoCA-HI and the CERAD plus battery were as the normal cognitive test showed an inclination towards lower scores in the hearing impaired subjects. The MoCA-HI was introduced to our geriatric clinic as our standard cognitive screening test.

Conclusion: The MoCA-HI should be used in cognitive screening in geriatric patients to avoid false negative scores due to hearing impairment.

ASMI CUTOFF POINTS AND HEALTH-RELATED QUALITY OF LIFE IN KOREAN OLDER PEOPLE

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Background. This study was conducted to determine the prevalence of a low appendicular skeletal muscle index (ASMI) using three cut-off points (mean ASMI-2SD of a gender-specific young reference group (aged 18–39 years), mean ASMI-1SD of a gender-specific young reference group, and the lower 20 percentile value of a gender-specific older group (aged ≥ 65 years)) in Korean older people and the

relationship between ASMI and subjective health-related quality of life.

Methods. This study utilized data acquired during the Korean National Health and Nutrition Examination Survey (KNHANES) from 2008–2011. Dual-energy X-ray absorptiometry body compositional data was obtained from a subsample of 6538 subjects (men 2804, women 3734) aged 18–39 and 4413 subjects (men 1872, women 2541) aged 65 years and older. The three definitions of low appendicular skeletal muscle and the EQ-5D-3L-Korean descriptive system were applied to Korean older people.

Results. For the ASMI cutoff points used, in men, the three cutoff points were ASMI 2SD (6.09 kg/m²), ASMI 20 (6.48 kg/m²), and ASMI 1SD (6.95 kg/m²). In women, ASMI 2SD (4.38 kg/m²) was the lowest, followed by ASMI 1SD (4.96 kg/m²) and ASMI 20 (5.33 kg/m²). By multivariate ordinal logistic regression analysis, men with a low ASMI had significantly high odd ratios for the three domains of mobility ($p < 0.001$), self-care ($p = 0.005$), and usual activities ($p = 0.004$) among the five domains of the EQ-5D and EQ-5D index ($p = 0.010$).

Conclusions. We suggest that the cut-off point of the lowest 20% of Korean older people (men: 6.48 kg/m², women: 5.33 kg/m²) be used for older Koreans.

EVALUATION OF NUTRITIONAL STATUS AND ITS RELATIONSHIP WITH FUNCTIONAL STATUS AND FRAILTY

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MATERIAL AND METHOD: Cross-sectional observational study of patients over 60 years institutionalized during January and February 2016.

All patients were evaluated for: nutritional status with Mini Nutritional Assessment (MNA), degree of dependence based on the Barthel scale and fragility according to Fried criteria.

RESULTS: 70 patients, 41 women and 29 men were evaluated. The average age for women was 79.34 $\pm$ 11 years and for men 70.72 $\pm$ 8.9 years.

Regarding the nutritional assessment, 21.23% did not show nutritional risk, 32.85% presented risk of malnutrition and 45.71% were malnourished.

50% of the patients studied had full or severe dependence, the largest percentage in women (women 51% and men 41%), 28.5% showed no dependence, with a higher percentage in men. (34% men and 24% women).

70% of all cases observed were frail, being more frequent in the female population (women 78% and men 58%).

Statistical significant association was found between the nutritional status and the presence of frailty ($r: 0.56$ $p: 0.000$) as well as between nutritional status and degree of functionality ($r: 0.49$ $p: 0.000$).

CONCLUSIONS: Malnutrition showed statistical association with functionality and frailty in our patients

Our results emphasized the importance of including nutritional evaluation in the global geriatric assessment to raise multidisciplinary strategies and manage more efficiently the expenses in the third level of attention.

ICT IN COMPREHENSIVE GERIATRIC ASSESSMENT

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Effective introducing and spreading of diagnostic technologies in geriatrics is possible on the base of ICT devices. **Aim** of the research is to work out and introduce into geriatric practice the ICT based comprehensive geriatric assessment.

Material and methods. On web-site www.gerontology.by we submitted the special original program for physicians for performing comprehensive geriatric assessment which can be downloaded into ICT device and allows to estimate automatically the risks of functional decline, problematic geriatric syndromes and targets of personalized coaching in rehabilitation process. In the same time such program gives possibility to perform the eLearning of physicians on better ways of rehabilitation and care of elders on the base of syndromatic approach in geriatrics.

Results. 537 physicians experienced work with original computer program. Using ICT for comprehensive geriatric assessment reduced time of diagnostic procedure on 23,5%, increased the number of correct prognosis of geriatric syndromes on 18,5%, decreased the number of mistakes in diagnosis and rehabilitation on 10,0%. Using ICT for consultations and eLearning of physicians was most important factor of positive changes in quality of geriatric care. As a result was observed the positive changes in occurring of acute functional decline, decreasing of functional ability, quality of life was increased ($p < 0,05$).

Conclusion. Introducing ICT technologies in comprehensive geriatric assessment improved quality of diagnostic process, geriatric care and health status of elderly patients.

USE OF AUTOMATIC SPEECH ANALYSES WITHIN A MOBILE APPLICATION FOR THE ASSESSMENT OF COGNITIVE STATUS

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Irregularities in the language domain could be a strong predictor of disease progression. Automatic speech processing and machine learning techniques, which enable extraction of dementia, relevant information from the speech audio signal may be of great interest

To evaluate the interest of using automatic speech analyses for the assessment of mild cognitive impairment (MCI) and early Alzheimer disease.

Participants $n = 165$ (Healthy elderly subjects (HC), MCI patients, Alzheimer's disease (AD) and mixed dementia (MD) patients) were recorded with a mobile application while performing several short vocal cognitive tasks during a regular consultation. These tasks included verbal fluency, picture description, counting down and a free speech task. The voice recordings were processed in two steps: in the first step, vocal markers were extracted using speech signal processing techniques; in the second, the vocal markers were tested to assess their 'power' to distinguish between HC, MCI, AD and MD.

The second step included training automatic classifiers for detecting MCI and AD, based on machine learning methods, and testing the detection accuracy.

The fluency and free speech tasks obtain the highest accuracy rates of classifying AD vs. MD vs. MCI vs. HC. Using the data, we demonstrated classification accuracy as follows: HC vs AD = 92% accuracy; HC vs. MD = 92% accuracy; HC vs. MCI = 86% accuracy and MCI vs. AD = 86%.

These results indicate the potential value of vocal analytics cognitive and the use of a mobile application for accurate automatic differentiation between HC, MCI and AD.

SARCOPENIA IN OLDER ADULTS: A NATIONALLY REPRESENTATIVE SAMPLE IN MEXICO

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Currently, sarcopenia is considered a geriatric syndrome of growing importance in the world. The European Working Group on Sarcopenia in Older People (EWGSOP) define sarcopenia as a syndrome characterized by progressive and generalized loss of skeletal muscle mass and strength with a risk of adverse outcomes such as physical disability, poor quality of life and death. The objectives of this study were: to estimate the national prevalence of sarcopenia in Mexico, and to identify the main risk factors that determine the presence of sarcopenia. Cross-sectional study conducted in 2014 with a nationally representative sample of 3263 older adults aged 50 and over in Mexico. Sarcopenia was defined according to the three dimensions suggest by the European Working Group on Sarcopenia in Older People (EWGSOP): muscle mass, muscle strength, and physical performance. Individuals were considered sarcopenic if they presented moderate or severe sarcopenia. Global prevalence of sarcopenia was 6.89%; for older adults aged 50–59 was 1.97%, and for those aged 60 and plus was 10.30%. Main risk factors associated with the presence of sarcopenia were: Sex (OR=1.66, $p<0.01$), Age (OR=1.08, $p<0.01$), and the following chronic conditions: diabetes (OR=1.38, $p<0.05$), Stroke (OR=1.95, $p<0.05$), and arthritis (OR=1.94, $p<0.01$). Observed prevalence of sarcopenia is similar to those found in other studies where prevalences between 5% and 10% have been observed. Chronic conditions associated with sarcopenia were also observed in other studies, mainly diabetes, which implies that an important emphasis must be put in older adults with both outcomes, sarcopenia and diabetes.

LIFE-SPACE MOBILITY IN OLDER STROKE SURVIVORS: A CROSS-SECTIONAL STUDY

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To facilitate and maintain mobility in older adults suitable and effective measures and compounding assessments are needed. Life-space mobility assessment may contribute to a better understanding of mobility in old age. The aim of this study was to examine the relationship between life-space mobility and cognition, care dependency, activities of daily living, fall risk and sociodemographic factors.

A cross-sectional study design was used. The data were retrieved from the baseline data of a longitudinal study. The study was performed in an area of Berlin, Germany in

the living environments of the participants. The study sample consisted of stroke or TIA survivors with and without dementia age 55 or older. Data were collected from 2014 to 2015 using the Life-Space Assessment (LSA), the Barthel Index (BI), the Mini-Mental State Examination (MMSE), the Care Dependency Scale (CDS), the St. Thomas's risk assessment tool (STRATIFY) for risk of falling as well as gender, age and the residential area and the living situation.

In total, 48 individuals participated in the study. The mean LSA score was 46.68, indicating restricted life-space. Statistical analysis could not reveal significant effects of variables on LSA scores.

Further studies are needed to examine the relationship between life-space and influencing factors using larger sample sizes and diverse old age populations. Future research on life-space should focus on longitudinal studies.

BIOMETRICAL QUALITY OF STRATEGIES TO ASSESS DUAL TASK PERFORMANCE IN PERSONS WITH DEMENTIA

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Attention-based cognitive functions have become a focus of interventional or diagnostic research as they represent early markers of cognitive decline, relevant for ADL autonomy. However, assessment methods have not been comprehensively validated including sensitivity data and feasibility for different assessment approaches, especially in the target population with cognitive impairment.

The study objective therefore was to investigate validity, test-retest reliability, sensitivity to change and feasibility of dual task (DT) assessment strategies in patients with dementia.

In geriatric patients ($n=105$) with dementia (age 82.7 ± 5.9 , MMSE score 21.9) motor and cognitive DT assessments were analyzed, including relative DT-Costs (DTC) calculated as percentages of single task performance for motor, cognitive, combined measures.

Construct validity (Spearman's rank correlations (r_s) of DT-tests was moderate to high for motor tasks ($r_s=.29-.90$), for cognitive tasks ($r_s=.12-.55$) for DTCs (motor $r_s=.02-.61$, cognitive $r_s=-.19-.06$, combined $r_s=-.11-.31$) as compared to the counting while walking test. Correlations with established external non-dual task assessment were small to high for motor tasks ($r_s=.25-.84$), cognitive tasks ($r_s=-.10-.46$) and for DTCs (motor $r_s=-.09-.17$, cognitive $r_s=-.03-.21$, combined $r_s=-.07-.26$). Test-retest reliability (ICCs) was low to excellent for motor tasks (.75-.96), cognitive tasks (.51-.88), and DTCs (motor: .10-.74, cognitive: .05-.65, combined: .15-.71). Sensitivity to change was acceptable to excellent for trained DT-tests ($p \leq .01$, Standard response means, SRMs=.30–1.12), large for cognitive tasks (.82-.95) and small to large SRMs for DTCs (motor: .15-.77, cognitive: .56-.98, combined: .40–1.10). Completion time ranged from 13.1 to 16.9 min. All patients could perform the assessment battery.

Dependent on DT-tests showed acceptable to excellent psychometric quality in cognitively impaired patients

ULTRASONIC ECHO INTENSITIES OF THE SKELETAL MUSCLE AND LIVER IN ELDERLY AND YOUNG INDIVIDUALS

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Age-related changes in muscle tissue include muscle qualitative changes. Ultrasound devices can be used to estimate the muscle quality. Muscle tissue with fat mixed in will usually generate a spread of propagation time for the ultrasound wave and causes a deterioration of the ultrasonic image with an increase of echo intensity (EI) resulting from directional spread. Fat is also accumulated in large vacuoles of the liver in the form of triglyceride fat, which can lead to hepatic steatosis. In this study, ultrasound was used to record cross sectional images of the skeletal muscles and the liver of elderly and young persons. The EIs were calculated for the rectus femoris (RF) and vastus intermedius (VI). Moreover, the EI of an ultrasound image for the liver is calculated by comparing the EIs for the RF and VI. The EIs of RF and VI of elderly subjects were larger than the ones of young subjects. The EI of RF was larger than the one of VI in young subjects. However, EIs of the liver were not different between elderly and young subjects. The EIs of RFs had a significantly positive correlation with the EIs of livers in elderly and young subjects. These results suggest that the EIs of RFs and VIs of elderly subjects are larger than those of young subjects, whereas EIs of livers are not very different between elderly and young subjects. However, the EIs of RFs correlated with the EIs of livers.

A STUDY OF GAIT AND FALLS IN OLDER INDIANS

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Gait and balance changes with ageing and these changes predispose to falls. In this ongoing cross sectional study we are looking at the Gait and balance parameters in older adults and their association with falls. Gait parameters of ambulatory older patients (> 60 years) were assessed at their usual pace, using Biodex gait trainer-3, a validated electronic walkway. The patients also underwent comprehensive geriatric assessment and were further assessed for fall risk using the Tinetti POMA Scale. 28 Subjects (22 males and 6 females) were included in this preliminary analysis. Mean age was 74.53(± 10.05) years. Mean (±SD) values of gait speed was 0.48metre/second (±0.17), Step Cycle time 0.83 cycle/second, (±0.16), Stride Length (Right) 64.64 centimeter (±29.20), Stride Length (Left) 59.85 centimeter (+ 29.57). Around 1/5th of the patients had one or more indoor fall in past year and less than half (42.86%) also had Polypharmacy. The mean TUG score was 15.63 seconds (+ 5.08) and mean Performance Oriented Mobility Assessment score was 20.71(± 3.78). 20 subjects were having difficulty in balance and at risk of fall. The Hindi Mental State Examination score was 26.89 (±3.74) and 18 were Frail. This study group was having slow gait speed, low TUG score and polypharmacy which increases the risk of having a fall.

WOULD THE DIFFERENT POSTURAL KINDS IN UPRIGHT POSITION BE RELATED WITH AGING STABILITY PARAMETERS?

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Introduction: Posture undergoes changes with advancing age by changing the alignment in the sagittal plane and the mechanisms responsible for controlling the balance. Objective: To investigate the influence of different postural classes on the history of falls and balance in elderly people who are physically independent. Material and Methods: The sample had a convenience genre and composed of 50 elderly people with an average age of 71.9 years (±6.73), mostly women engaged in physical activity, with visual and multiple chronic diseases changes in 50% and 60%, respectively. The Timed Up and Go test and Unipedal Stance Test were used to evaluate balance, muscle strength in hand grip, and postural classes we used the model Nakada which classifies the elderly flexed posture, extended posture, S-shaped posture and hands-on-the-lap posture. Results: Statistically significant differences were observed with higher prevalence of falls in postural flexed type classes and extended where the elderly remained long in one-leg support in different sensory situations, compared with the normal posture type group. It was not found differences in age, BMI, manual strength and TUG, between postural classes. Conclusion: Elderly people with postural changes in the sagittal plane may adopt different mechanisms of postural adjustments to control and balance in Unipedal Stance Test, leading the falls.

ASSOCIATION BETWEEN SARCOPENIA WITH NUTRITION AND EXERCISE IN COMMUNITY-DWELLING OLDER CHINESE

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Sarcopenia is the age-related decline in skeletal muscle mass and function, which may result in falls and fractures, poor quality of life, and increased risk of death in older people. Our study was conducted on 836 community-dwelling Chinese individuals aged ≥60 years to evaluate sarcopenia using the Asian Working Group for Sarcopenia criteria. Sociodemographic characteristics and lifestyle habits were collected using a general questionnaire. Nutritional status was assessed using the Mini Nutritional Assessment (MNA) and biochemical parameters, whereas physical activity was assessed using the long form of the International Physical Activity Questionnaire (IPAQ). In addition, univariate and multivariate analysis was used to analyze the association between sarcopenia with nutritional status and physical activity. The total prevalence rate of sarcopenia was 10.5%, 47 (11.3%) men and 41 (9.7%) women of whom were classified as sarcopenia. Compared with the participants with sarcopenia, those without sarcopenia had a higher levels of prealbumin (p<0.05) and hemoglobin (HGB) (p<0.05) for both sexes. The prevalence of sarcopenia was significantly lower among the participants in normal nutrition status. In the multivariate model, after adjustment for all covariates, the MNA score (adjusted OR 0.769, 95% CI 0.689–0.859,

$p < 0.001$) was statistically significantly associated with sarcopenia. The relationship between physical activity and sarcopenia was not significant.

In conclusion, the prevalence of sarcopenia in the Chinese community-dwelling population aged 60 years and older was high. There was significant association between sarcopenia and nutritional status. Maintaining a good nutritional status may be effective in lowering the risk of sarcopenia.

SESSION 4450 (POSTER)

ASSESSMENT III

MAKING FUNCTION PART OF THE CONVERSATION: PHYSICIANS' VIEWS ON MEASURING FUNCTION IN PRIMARY CARE

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The ability to perform basic daily activities ("functional status") is central to older adults' quality of life and strongly predicts health outcomes. However, data on function are seldom collected during routine clinical care in a way that can be used for clinical programs and research. Understanding clinician perspectives on barriers and facilitators to routine functional status assessment is critical to successful implementation of standardized measurement. As part of an initiative to introduce standardized functional status measurement in U.S. Department of Veterans Affairs (VA) outpatient clinics, we conducted a qualitative study to evaluate barriers and facilitators to implementation.

We identified 6 VA Medical Centers with varying strategies for documenting functional status. To date, we have completed 10 of 25 planned interviews with primary care geriatricians and internists. Interviews focus on provider experience and opinions about functional status assessment and are analyzed iteratively using a hybrid deductive/inductive thematic approach.

First, we found that contextual factors in the clinic strongly influence routine assessment, including team structure, roles and responsibilities, and documentation requirements. Second, the usability of assessment instruments is important, including benefits of structure versus flexibility, and integration in electronic health records. Third, provider experience and beliefs related to the use of functional status data impact readiness to embrace assessment, including utility of data for informing clinical decision-making, and familiarity with assessment.

Understanding providers' perspectives and contextual factors that impact functional status assessment will inform development of a robust intervention that can be implemented across varied practice settings.

THE EFFECTS OF EXERCISE TRAINING ON ACTIVITIES OF DAILY LIVING AND QUALITY OF LIFE IN FRAIL ELDERLY

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Introduction: The decreasing level of physical activity in frail elderly effects negatively both physically and spiritually. The aim of the study to investigate the effect of exercise training on activities of daily living, quality of life, fatigue and depression in frail elderly.

Methods: Forty-eight frail elderly were included. Subjects were divided into three groups as control group (free exercise training), low intensity (40% of 1RM) and high intensity (70% of 1RM). Exercise training program included strengthening, balance and flexibility was applied 40–50 minutes a day, three times a week for 8 weeks with a physiotherapist. Activities of daily living, quality of life, fatigue, and depression assessment were recorded in the baseline and eighth week of the study.

Results: Mean ages of the control group, low and high intensity exercise groups were 85.4 ± 4.7 , 84.5 ± 4.8 , and 84.2 ± 6.9 years, respectively. After the exercise training program, it was shown that high intensity group had better results ($p < 0.05$) in quality of life and had similar increasing ($p < 0.05$) of activities of daily living, fatigue and depression.

Conclusion: In our study, it was recorded that the fatigue and depressive symptoms, which were often seen in frail elderly decreased and also the level of independence in activities of daily living and quality of life increased as a result of exercise training. Although this general evaluation, especially high-intensity exercise training was been found more effective. The high-intensity exercise training should be considered for prevention and treatment of frailty in elderly subjects.

EXTERNAL VALIDATION OF SAFES 6-WEEK MORTALITY-RISK INDEX ON AN AFRO-CARIBBEAN OLDER PATIENTS COHORT

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Geriatric guidelines recommend considering prognosis in the context of clinical decision making. Several mortality-risk indexes have been developed. While external validation is a recognized crucial step before implementation in clinical practice, few of these indexes have actually been externally validated. Our aim was to test the external validity of the SAFEs (*Sujets Ages Fragiles: Evaluation et suivi*) 6-week mortality-risk index developed from a multicentre prospective French cohort on an Afro-Caribbean cohort of older patients. This cohort was collected through a prospective study of 287 patients from the University Hospital of Martinique (French West Indies) from January to June 2012. Patients 75+ hospitalized for an acute condition were eligible. The SAFEs 6-week mortality-risk index of each patient was collected. It included assessments of delirium, risk of malnutrition and functional impairment. Mean age was 86 years. Six-week mortality rate was 19.9%, 52.1% were severely dependant for activities of daily living, 96.1% were at risk of malnutrition, 16.0% had a delirium. The external validity of the SAFEs 6-week mortality-risk index was poor in terms of calibration and discrimination: observed and predicted

probability of mortality differed of more than 10% for two out of three risk levels, and the area under the receiver operating curve was 0.58 [0.49–0.66]. Our results corroborate a recent literature review on external validation of risk prediction models showing that external validation is rarely done and often leads to poor results when performed. Clinicians should be aware of these limitations and exercise caution before implementing prognostic indexes in their practice.

USEFULNESS OF THE NEW SHORT COGNITIVE SCREENING TEST (STMT-R) IN ACUTELY ILL GERIATRIC PATIENTS

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Introduction: Cognitive dysfunction is a prevalent condition in acutely ill geriatric patients, but often remains undetected. The MMSE (Mini-Mental State Examination) is broadly used, however a quicker clinical identification in acutely ill geriatric patients would be useful. We herein use a revised version (STMT-R) of STMT (Simplified Short-Term Memory Recall Test) (a maximum score 8) to evaluate its usefulness and compared with age, gender, underlying diseases and clinical outcome as comparative factors.

Method: Previously, MMSE and STMT-R scores were compared in 32 outpatients and we found a positive correlation ($r=0.625$ $p<0.001$). The inclusion criteria were to measure in STMT-R within one week after admission, age ≥ 50 yo and being non-critical ill. Among 1190 patients (between October 2014 and September 2015), 885 consented and were enrolled. STMT-R ≤ 4 was considered as cognitive dysfunction.

Result: Enrolled subjects had a mean age of 78.9, 52.2% were female. They had uncompleted cognitive testing with delirium and poor hearing ($n=159$), cognitive dysfunction (STMT-R ≤ 4 ; $n=460$) and non-cognitive dysfunction person (STMT-R >4 ; $n=266$). Statistically, the significant differences were recognized to age, history of dementia, internal medicine diseases, respiratory illness and clinical outcome (hospitalization death rate, the degree of serious illness and a hospitalization period) by cognitive dysfunction ($p<0.01$).

Conclusion: 1) STMT-R is expected to be a standard cognitive test in acute ill geriatric patients. 2) It was suggested that age, history of dementia, internal medicine diseases and respiratory illness had an influence on the cognitive functional decline, and the cognitive dysfunction could affect the clinical outcome.

SELF-REPORTED AND OBJECTIVE MEASURES TO ASSESS PERFORMANCE OF ADL IN COMMUNITY-DWELLING OLDER ADULTS

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Disability and functioning assessments are indicated as a good option to check the health in aging process at community. Many instruments are proposed in order to assess functional conditions and to evaluate capacity or performance. Self-reports or objective assessment can be done during performance evaluation. Objective: To compare the evaluation

of performance in basic activities of daily living (ADL) by self-reported and objective measure in community-dwelling older adults. Methods: Cross-sectional study that evaluated 40 older adults. The assessment of functional performance was possible by Functional Independence Measure (FIM) and reported performance was observed from the use of a standardized questionnaire. Twelve ADL were assessed by both methods. To enable a comparison of obtained responses with each instrument, the subjects were classified as *independent*; *with difficulty* or *using adaptation to perform the activity*; or *who needing help from others*. We used the Kappa coefficient test to compare the agreement between the methods. Results: There were a moderate agreement between the methods at kappa=0.57. We observed a higher discrepancy between *assessed* and *reported* in activities related to the use and access to toilet (kappa<0.40). In general, the percentage of difference showed that older persons self-reported perform a better function than the activities they really do (clinical assessment). The study highlights that the evaluation of ADL by reported and measured performance had moderate responses in the study population. However, these methods are complementary and should be applied at the same time to guarantee coherent results.

THE ASSESSMENT OF UNMET HEALTH NEEDS AND CONSULTATION REASONS OF ELDERLY PEOPLE

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Introduction: The aim of this study was to evaluate unmet health needs of elderly people living in community and the specialty consultation needs of family physicians caring this population.

Methods: Three hundred eighty volunteers, aged sixty-five and older participated in this study. Participants were asked at the outpatient setting of Akdeniz University to participate at a short comprehensive geriatric assessment (sCGA). The sCGA included 10-Minute Comprehensive Screening Test (WWHO-Aging-Friendly PHC Toolkit), Mini Nutritional Assessment (MNA) Scale, Oral and Dental Health Scale (DENTAL), Clock Drawing Test and Lubben Social Network Scale. Additionally a demographic and medical history questionnaire delivered information on demographic characteristics, health status and health needs of the participants.

Results: In our study 179 of the participants (47%) were female and 201 (53%) were male. The mean age was found as 71.6 (SD=5.25; min=65-max=91). Most of the participants (84%) had two and more non-communicable disease (NCD) (multi-morbidity group). They suffered in average of 3.6 (SS=2.28; min-max=0–12) diseases. Multi-morbidity, excess of BMI, urinary incontinence, depression, falls and lack of physical function was more frequently stated by women patients ($p<0.05$). Participants stated that accessibility to health care facilities was at medium level (6.73 of 10 points). Almost one tenth (9.5%; $n=13$) did not apply, even they had a health problem, to any health institution during the last 1 month. Cognitive/ memory status, physical function, hearing and vision problems, oral-dental health problems and poly-pharmacy were the most frequent reasons for consulting a specialist outpatient clinic of a hospital by a family physician.

Conclusion: This study shows that despite well-structured hospital health care programs for elderly people, unmet health needs are still present in primary care setting. The detection of these needs in low-resourced settings are an important problem for family physicians. The sCGA might be an important instrument to overcome these challenges and it would be also an important tool for case finding and sending the appropriate patients for specialty care in hospital setting.

FEASIBILITY OF HOME MONITORING TO TRACK ACTIVITY PATTERNS IN OLDER ADULTS

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Physical activity and sleep are important outcomes in gerontological research, particularly where the researcher is interested in fear of falling among community-dwelling older adults. Self-report measures, however, have limited reliability and validity. Wearable devices are more accurate, but wearing over time may cause participant burden, thus, limiting the duration of monitoring. To explore a passive system for tracking physical activity and sleep over time, we evaluated the feasibility of a commercially-available home monitoring system to track activity patterns over three-months. The sample was community-dwelling women with fear of falling who lived alone in senior apartments ($n=4$; mean age 85.6). Passive monitors included a bed sensor, 3 motion detectors, and a door detector. Average physical activity and sleep profiles were generated for 4 participants using sensor data. Other measures were used to generate data for comparison with sensor data: actigraphy (MotionWatch 8) worn for 1 week to provide total sleep time and daytime activity counts and a modified CHAMPS questionnaire to examine current and changes in activity participation. Physical activity tracked similarly, indicating low activity levels and lower self-reported activity. However, there was consistently lower average total sleep time as measured by actigraphy compared to the bed sensor (452.5 minutes; 534.4 minutes, respectively). Challenges were encountered in recruitment, equipment, and data retrieval and analysis, which demonstrate the difficulty of conducting this type of research. Further development of systems that provide data may provide passive objective long-term physical activity data among community-dwelling older adults may be beneficial for future studies.

GAIT SYMMETRY AFTER STROKE: DO CEREBRAL HEMISPHERES INFLUENCE EQUALLY?

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Stroke responds to a high death rate and is the world major impairment cause. The risk of going through this condition increases 22% after the age of 55 years and increases further 13% every 5 years. The brain damage brings loss of selective muscle control and primitive locomotor patterns may arise to reinforce stability. This adaptation causes asymmetry

and is related to the constant postural balance compensation need. It is known that the cerebral hemispheres have different motor tasks. The right one is responsible for the motor control while the left one controls the spacial orientation. The aim of this cross-sectional 3D gait analysis study was to assess stride width and gait speed symmetry among stroke survivors (SS), using the Symmetry Index (SI), and compare those with left (LBD) from those with right brain damage (RBD). A sample of 32 SS ($47\text{yo}\pm 17,32$) and 32 able-bodied ($25,09\text{yo}\pm 3,77$) were divided in three groups: LBD (16, $43,87\text{yo}\pm 17,90$), RBD (18, $49,76\text{yo}\pm 16,83$) and Able-bodied (32). Results showed less stride width symmetry and slower gait ($0,5\text{m/s}\pm 0,2$) at RBD while LBD symmetry was not different from Able-bodied ($p=0,074$). The LBD group showed better recovery and motor compensation bringing their symmetry next to those able-bodied. Less stride width asymmetry leads to less center of mass sway and benefits dynamic postural balance. The more asymmetrical LBD group showed a slower gait as a compensation. Differences in symmetry bring different level of stability challenges. It is important to keep that in mind when managing stroke survivors in rehabilitation programmes.

EXPERTS' CONSENSUS ON ACCEPTABILITY OF EASYCARE (2010) INSTRUMENT: A DELPHI SURVEY FROM PORTUGAL

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Background: Originally developed as a World Health Organisation project, EASYCare is today used in more than 40 countries involving all World Health Organization's regions.

Aim: To assess the acceptability of EASYCare Standard (2010) instrument by professionals and researchers that apply at the National Health Service (NHS) on older people.

Methods: This is a Delphi study using a two-Round mixed-methods design. A convenience sample of 18 experts from the all regions of Regional Health Administration in mainland Portugal were recruited. Two Rounds have taken place: the first Round of qualitative nature and the second Round was mostly of quantitative nature (with two open-ended questions). In the first Round it was collected 13 experts's responses (10 NHS professionals). Five experts that did not answer were withdrawn from the study. In the second Round it was collected 12 experts's responses.

Results: In the first Round, the response rate was 72% and the second Round was 92%. Consensus was obtained in 31 items (93.9%) items presented to the expert group. Of these, 43% of the items were obtained "consensus by unanimity" and 51% "consensus by majority". Only two items did not achieve consensus. More than half the experts consider that the application of the EASYCare Standard (2010) instrument is lengthy (62.5%) but important.

Conclusions: The Delphi study conducted herein reached a consensus concerning acceptability of EASYCare Standard (2010) in the context of primary health care in mainland Portugal by health workers and researchers. Items with lack of consensus provide excellent areas for future research.

INTERVENTION OF GERIATRIC MOBILE TEAM IN TRAUMATOLOGY DEPARTMENT OF NANCY UNIVERSITY HOSPITAL FRANCE

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BACKGROUND: The annual number of surgical fractures among elderly people is growing in context of an average age that is increasing. Because of comorbidities, management of geriatric patients usually requires a multidisciplinary management.

In Nancy University Hospital elderly inpatients can benefit of a geriatric assessment by the Geriatric Mobile Team (EMLG).

Since April, 2015, a geriatric assessment is systematically proposed for elderly people, over 75 years-old, admitted in the Traumatology Department by the Emergency Department.

PURPOSE: Purpose of the study is to analyze the impact of the systematic assessment of the EMLG in the Traumatology Department by a comparative retrospective study of type before/after during 7 consecutive months (June to December) on 2014 (without systematic assessment by EMLG) and on 2015 (with systematic assessment by EMLG).

The main results concern: future of the patients (home, nursing home, rehabilitation department), rate of death and rate of rehospitalisation at a month, and follow-up of recommendations of EMLG.

PRELIMINARY RESULTS: During the seven consecutive months on 2015, 196 inpatients received geriatric assessment by EMLG. The main recommendations were therapeutic adjustments for 92 patients and advices for pain management for 65 patients. Recommendations were partly or completely followed for 109 patients.

122 inpatients were transferred by Nancy University Hospital to rehabilitation departments. During the first month of follow-up, 9 patients died and 19 patients were readmitted in Nancy University Hospital. Intervention of the Geriatric Mobile Team trend to reduce hospital readmissions.

The definitive results of two periods will be presented during the congress.

INCORPORATING FORMAL INTERPROFESSIONAL CASE DISCUSSIONS INTO A FAMILY MEDICINE GERIATRIC ROTATION

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The majority of literature regarding interprofessional education involves only two health care professions and is associated within a formal classroom or a simulation setting. There are none published that report outcomes from family medicine residents' rotational activities, none that

involve more than two professions simultaneously, and none that utilize case discussions built from 'real world' scenarios. Our objective is to take advantage of a real world interprofessional teaching clinic and build upon relationships fostered from direct patient care in order to create an interprofessional case series where learners from medicine, psychology, pharmacy and social work collaborate to create a comprehensive care plan for selected patient cases. In a setting separate from clinic (where concern for patient flow may limit time for simultaneous whole team conversation) patient cases are presented to learners on their geriatrics rotation, and learners are encouraged to collaborate with each other in order to gain knowledge necessary to create an appropriate care plan. Learners are assessed by a baseline and followup Interdisciplinary Education Perception Scale before and after the case discussion, and are surveyed about educational merit of the exercise and their suggestions for improvement. At the time of this abstract the case series has met monthly for 9 months: it has been positively regarded by learners in all professions. It is our hypothesis that the interprofessional case series will positively influence learners' perception of interprofessional work, and will be a novel, rich learning opportunity for learners to work together to enhance a complex patient's care.

A COMMUNITY STUDY EXAMINING THE HEALTH NEEDS OF THE ELDERLY IN DUBAI, UNITED ARAB EMIRATES

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With the improved health care, the percentage of elderly in the Middle East is expected to increase as the youthful masses work their way up the population pyramid. According to the WHO's Department of Aging 2000 report, most Middle Eastern countries will be entering the window of opportunity during this decade, and the window is expected to last until midcentury. It is during this lucrative period that the groundwork for future geriatric services should be firmly established and nurtured. Therefore, this cross sectional study aims to assess the health needs of the elderly in order to deliver solid data for providing future geriatric services that can improve the quality of life. Information was gathered from several facilities in Dubai, UAE. People who lived in the UAE and were 65 years old or above were included. Overall, the total elderly population in Dubai is estimated to be 32,000 people. With a margin of error of 5% and a confidence level of 90%, the recommended sample size turned out to be 269 people. Therefore, 300 individuals were included. The interRAI organization's community health assessment instrument (interRAI CHA) was used as a tool for gathering information. After filling in all the questionnaires, the data was entered into the SPSS Statistics program for analysis. The results obtained delineated which diseases need our support and improved prevention or management. By filling the gaps in elderly health care and by recognizing which aspects of care need our attention, we can ensure a better quality of life.

EFFECTIVENESS OF PEER-BASED REMINDERS TO SUSTAIN CARE PROVIDER PRACTICE CHANGE: A CLUSTER RCT

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Increasing demand for residential aged care has strained already tight healthcare budgets. Identifying novel strategies to optimize best-practice use in these settings may improve quality and efficiency of care and reduce caregiver burden. The purpose of this study was to assess the effect of peer-based and paper-based reminders targeting direct care providers to sustain a mobility innovation with older adults in residential care facilities. START (Sustaining Transfers through Affordable Research Translation) was a 23-site cluster-randomized controlled trial that took place in Alberta, Canada. A mobility intervention was introduced to 23 study sites; between March 2014 and April 2015, 11 sites were randomly assigned to receive paper reminders and a peer reminder intervention either monthly (n=5) or quarterly (n=6) for 1 year. The remaining 12 sites were randomly assigned to receive paper-reminders only either monthly (n=6) or quarterly (n=6) for 1 year. Direct care staff daily documented the uptake of the mobility intervention for 1 year in all 23 sites. Uptake data were analyzed using linear mixed models that mirrored the clustered repeated-measures factorial trial design. A statistically significant improvement was detected in sustainability of the mobility intervention in the sites receiving peer and paper reminder interventions, compared with sites receiving paper-only interventions ($p = 0.007$). No significant difference was detected in sustainability between monthly or quarterly implementation of either the paper or peer intervention ($p = 0.72$). This peer reminder intervention is an effective knowledge translation strategy to change and sustain care provider behaviour in residential care.

CHANGES IN OXYTOCIN AND MUTUALITY IN DIRECT CARE STAFF USING A CALMING INTERVENTION

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Behavioral symptoms of dementia (BSDs) such as restlessness, agitation, aggressive behavior, yelling, and nighttime awakenings, exhibited by more than 85% of nursing home residents, result in distress for the person with dementia (PWD) and fear and avoidance in caregivers. Teaching direct care staff (DCS) calming interventions (CALM), specifically therapeutic touch and the use of therapeutic communication skills, can potentially promote social “bonding” between residents and staff, strengthen relationships, decrease staff burnout and turnover and improve the quality of care. This pilot study tested the effect of the use of the CALM protocol by DCS on DCS urine oxytocin and mutuality. Seven of the 10 DCS who began completed the study. DCS training was completed over 4 months. Four of 7 (57%) showed an increase in urine oxytocin (30 – 60 min post treatment), and 5 of 7 (71%) showed an increase in mutuality compared to baseline, indicating increased social bonding. Direct care staff interview data supported positive experiences of relaxation during a resident treatment for the DCS and a reported decrease in BSD for the residents after treatment.

This pilot study provides beginning evidence for the effect of CALM on the DCS, increasing bonding and mutuality with persons with dementia, thus potentially minimizing stress and burnout in DCS as well as improving the quality of resident care.

DEMYSTIFY ELDERLY: MATERIAL, INSTRUMENTAL, EMOTIONAL AND COGNITIVE ASSISTANT IN AGING

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Aging perception seems to be related with dependence, illness, disability and loss of capacity for help others. This perception and the notable increased longevity population implies social and family dynamics that need to be elucidate. Even with aging involves changes like higher prevalence of chronic and degenerative diseases that may affect the independence of elderly population, it appears incoherent to related longevity with disability and dependence. In order to analyze the kinds of help or assistant (material, instrumental, emotional and cognitive) that give and receive elderly people, we recruit data from 2000 in Bogota (Colombia) citizens, taken from *Encuesta Salud Bienestar y Envejecimiento SABE*. Statistical analyzes were carried out. Lambda coefficient (symmetric) indicate an absence relationship between the different types of help and age, gender, schooling and social status; demonstrating that social concepts about the growing need of aid are wrong.

LOW BACK PAIN RISK AMONG OLDER TURKISH ADULTS

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Background and Aims: Low back pain is well documented to be an extremely common health problem. The aim of this study was to evaluate the low back pain risk among older Turkish adults.

Methods: Five hundred fifty six elderly people (279 females; 277 males; mean age: 71.45 ± 5.99 yr.) included the study. The pain intensity was measured with Visual Analog Scale (VAS). The risk of low back pain was evaluated with low back pain risk scale.

Results: The mean pain intensity was 4.43 ± 1.98 cm. Low back pain rate was found as 60.4% among the participants. While 36% of the sample were found as potential, the 34.2% of the participants were found as risky.

Conclusion: The findings indicate that mostly older Turkish adults are at risk in terms of low back pain. That's why older adults should be evaluated about a chronic low back pain to improve their quality of life.

GERIATRIC HEALTH SCREENING: AN INTERPROFESSIONAL EDUCATION OPPORTUNITY

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The Institute of Medicine, among other organizations, has established interprofessional education (IPE) as a goal for all health professions. Most academic accrediting agencies are now requiring activity in this area. Programs located

in largely rural areas without an academic medical center may have more difficulty in achieving IPE for their students.

The Montana Geriatric Workforce Enhancement Program at the University of Montana provides interdisciplinary student training through geriatric health screening. Pharmacy, nursing, medicine, physical therapy, social work, and speech pathology students from four Montana academic institutions participate. In a typical year, approximately 65 pharmacy students, 40 physical therapy students, 20 nursing students, 30 social work students, and varying numbers of students from other disciplines are involved in over 50 screening events held throughout the state.

Under faculty supervision, teams of students provide screenings for older individuals in rural communities, including counseling on the results and follow up of abnormal values. Screenings for lipids, hemoglobin A1c, bone density, blood pressure, hepatitis C, balance testing and fall risk assessment, caregiver stress, cognition and depression are provided. Barriers to participation include varying formats and schedules for clinical training, requirements for appropriate supervision of students and identification of community referral resources. Approaches utilized by pharmacy, two different nursing programs, physical therapy, social work, speech pathology, and medicine will be described and compared. Evaluation results from surveys of faculty and students will be included.

AGE-RELATED EAR ASYMMETRIES IN THE ASCENDING AUDITORY PATHWAYS EXPLAIN A BIGGER RIGHT EAR ADVANTAGE

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Existing evidence suggests that the left-ear deficit exhibited by older adults in dichotic listening tasks using linguistic stimuli may be explained by either age-related declines in the inter-hemispheric transfer through the corpus callosum or age-related declines in the right hemisphere. Little is known about the possible effect of ear asymmetries at the peripheral level that may contribute to the right-ear advantage (REA) observed in older adults for dichotic listening tasks. This study aims to determine if an age-related asymmetry in the peripheral auditory system is observed, and if so, if it correlates with an increased REA for dichotic listening tasks in older adults. In this PhD research project, a number of participants aged between 60 and 79 years with mild to moderate age-related hearing loss will be selected. Pure-tone thresholds, distortion product otoacoustic emissions with and without contralateral stimulation and electrophysiological techniques (e.g. click-ABR and complex-ABR) will be used to investigate the peripheral auditory function. Binaural integration will be measured with single, double and triple dichotic digit and single dichotic syllable tests. We hypothesize that age-related ear asymmetries in the peripheral auditory pathways are associated with an increased REA observed in older adults for linguistic dichotic listening tasks. In this presentation the methodology and preliminary results will be addressed.

RELATION BETWEEN GLYCEMIC CONTROL WITH DEPRESSION, MCI, AND DEMENTIA IN ELDERLY WITH TYPE 2 DIABETES

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Introduction: 26% of elderly people have diabetes mellitus and it will increase in the coming decades. Type 2 Diabetes Mellitus in the elderly is a risk factor for depression, cognitive impairment and dementia.

Methods: Observational, descriptive, longitudinal, retrospective study; 54 files from diabetic patients, from the Geriatrics Service, University Hospital in Monterrey, México; from January to June 2016. Divided in groups: Without cognitive impairment, with mild cognitive impairment (MCI) or dementia: Alzheimer (AD), Vascular (VD) and Mixed (MD) and with or without depression.

Results: mean age 76 (± 7) years of age. The glycated hemoglobin (HbA1c) mean results in the group without cognitive impairment was 8.0% ± 7 , VD 6.6 %(± 0.9), AD 6.4% (± 0.4), MD 6.9% (± 0.5), MCI 8.6% (± 2); without depression 7.45% (± 1) and with depression 7.2% (± 1). The mean fasting glucose levels in patient without cognitive impairment were 136mg/dl (± 38); VD 150mg/dl (± 27), AD 142mg/dl (± 45) and MCI 146mg/dl (± 39), the group without depression showed 133mg/d (± 40) and with depression 148mg/dl (± 35). VD had low density lipoprotein (LDL) mean of 95.3mg/dl (AD 121mg/dl and MD 111mg/dl). Significant statistical difference was observed in depression having higher BMI than other groups (p : .01). There is a statistical tendency in the glycemic control in dementia (p : .01).

Conclusion: There is a tendency of greater glycemic control in MCI, dementia and depression groups. LDL levels in VD group meet the therapeutic goals unlike other subgroups of dementia. A high prevalence of obesity (42%), depression (51%) and both MCI and dementia (66%) in our diabetic population confirms the importance of geriatric assessment.

SESSION 4455 (POSTER)

CAREGIVING

SUPPORTIVE SUPPORT BROKERS: FAMILY CAREGIVERS' PERCEPTIONS

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The "support broker" (also called "coach" or "counselor") is an essential element of participant directed (PD) programs. The primary function of the support broker is to help participants develop the skills to self-direct. This study explored caregiver perceptions of characteristics of effective support brokers. Family caregivers ($n=53$) with a range of developmental, physical, and aging-related disabilities enrolled in PD programs were interviewed (age 34–78, M

59.9 ± 8.8; male 19%; spouse 17%; parent 60%). Qualitative content analysis revealed rich information about the characteristics of supportive support brokers, and also about support broker characteristics that were not supportive. Support brokers directly influenced many of the challenges caregivers identified. A responsive, imaginative, and involved support broker was identified as a major source of effective support. Conversely, frequent support broker turnover, limited knowledge and involvement, and the perception that the support broker was simply there to “check boxes” became sources of additional stress. Support brokers are uniquely positioned to help caregivers navigate the complexities of the healthcare system, thereby decreasing stress and strain. For example, many of the roadblocks that caregivers identified as difficult could often be negotiated by a support broker. Support brokers can serve as an avenue for caregivers to find out about additional supports within the PD program, as well as organizations outside of PD, such as disease-specific support groups, which caregivers identified as an additional source of support. This research is part of the Family Support Research & Training Center.

THE CHALLENGES OF SHARED DECISION-MAKING IN DEMENTIA CARE NETWORKS

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Background

People with dementia want to be involved in the many decisions they have to make over time in order to adjust care to their values and preferences. Involving informal caregivers in decision-making can promote autonomy for people with dementia by using their extant capacities. However, informal caregivers have their own interests in the decisions made. Our aim was to describe the challenges of shared decision-making in dementia care networks.

Methods

Our study involves a multi-perspective qualitative study using face-to-face interviews with 113 respondents in 23 care networks consisting of 23 people with dementia, 44 of their informal caregivers, and 46 of their professional caregivers. The interview guide addressed the decision topics, the decision-making participants, and their contributions to the decision-making. We used content analysis to delineate categories and themes.

Results

The three themes that emerged describe the challenges of shared decision-making for dementia care networks: (1) adapting to a situation of diminishing independence, including shifting roles in the decision-making; (2) tensions in network interactions, resulting from different perspectives and interests and requiring agreement about what constitutes a problem in the situation; and (3) timing decisions well.

Conclusion

The challenges described have consequences for a shared decision-making approach in dementia care networks. Such an approach should (1) be flexible regarding the changing capabilities of the person with dementia to preserve his or her autonomy; (2) work towards a shared view about what constitutes a problem in the situation; and (3) be adjusted to the decision-making pace of the care network.

INITIATIVE TO PROMOTE KNOWLEDGE OF GERIATRIC SYNDROMES IN MINORITY OLDER COMMUNITIES AND CAREGIVERS

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In addition to the ageing of the population, a significant sociodemographic change in the United States is the growth in the number of minorities. Minorities and older adults are particularly vulnerable to receiving suboptimal healthcare. The Health Resources and Services Administration (HRSA), is the primary Federal agency for improving and achieving health equity. Queens County in New York City is the most ethnically diverse urban area in the world. Funded by a grant from HRSA, in collaboration with various local community organizations, the Geriatric Resource Interprofessional Program (GRIP) at Memorial Sloan Kettering Cancer Center (MSKCC) spearheaded a multi-prong educational initiative on geriatric syndromes targeting minority communities in Queens County. To date, 13 sessions were conducted at 7 community centers in Queens. A total of 521 people who spoke 13 different primary languages attended. The mean age of the participants was 63 (27–99, median 67); 53% were women, 8% were born in the USA, 56% were born in Bangladesh, 22% in India. Consecutive interpretation of the lectures was performed to the predominant language of the group; written materials were translated. Pre and post test questionnaires were administered to measure understanding. A focus group was set up to identify the needs of caregivers of older adults, and educational sessions have been offered based on those needs at main Community Centers. Main challenges included differences in literacy, multiple cultures and languages. Successes and barriers faced in implementing the educational initiative, as well as pre and post-test results will be presented.

CULTIVATING FAMILY CAREGIVER RESILIENCE AND PREVENTING AVOIDABLE HOSPITALIZATIONS IN DEMENTIA

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Enhancing and maintaining family caregiver (CG) self-care is a national priority for long-term societal wellbeing. The National Alzheimer's Plan Act recognizes widespread

deficiencies in detecting and addressing the needs of CG of PWD and identified CG assessment and interventions as one of its five key goals. Additionally, CG who are better prepared to manage their care recipient's health and maintain their own wellness may be more effective in preventing potentially avoidable hospitalizations, thereby meeting a key dementia-related objective of Healthy People 2020. This poster describes efforts towards improving characterization of CG "jobs" for managing PWD's health at home and designing the tools and interventions to support clinicians and family CGs working together to avoid preventable health crises of both CGs and PWD. We recruited 100 CG of PWD recently hospitalized for Ambulatory Care Sensitive Conditions and triangulated data from CG interviews and assessments, and PWD medical records in order to map the chain of events leading to hospitalization, identify missed opportunities for prevention, and create a repository of CG descriptions of early symptoms of conditions that lead to PWD hospitalization. We create a CG self-care inventory to identify and monitor CG self-care practices and how such practices change during PWD health crises and stratified CG into those with high vs. low risk for experiencing difficulties in responding effectively to a PWD health crisis and maintaining self-care. The ultimate goal of this work is to enable CGs to manage health of their care recipients without sacrificing their own health and wellness.

USABILITY TEST OF WEB BASED PROGRAM FOR FAMILY CAREGIVERS

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In the area of healthcare intervention, an interactive web-based program gains popularity with the development of computer technology. The purpose of this study is to develop a web-based program to support family caregivers who are taking care of patients with dementia and to test its usability. This web-based program included interactive contents as animation formats. The program consisted of 4 modules including understanding dementia, understanding family caregiving, reducing caregiving stress, and networking social support. Family caregivers were recruited for a pilot evaluation. Usability test was comprised of learnability, efficiency, satisfaction and errors. Learnability was tested to see the easiness of the web program for new users. Efficiency was tested to see how quickly users could complete tasks on the site. Satisfaction was tested to see whether users enjoyed the design of the website and errors was tested to identify the number of errors users make. After receiving the results of the website usability tests, the researcher analyzed the common issues that testers had in using the website and the amount of time the family caregivers to complete various tasks on the web. The narrative feedback from family caregivers were analyzed. The results in the pilot test suggested that the animation's speed and texts' difficulty level need to be adjusted to increase learnability and to reduce error rate to facilitate effective online support for family caregivers.

THE IMPLICATIONS OF THE TIMING OF DEMENTIA DIAGNOSIS ON THE DEMENTIA CAREGIVER—A SYSTEMATIC REVIEW

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To provide relevant and effective support, it is important to understand caregiver perspectives of the implications of the care-recipient receiving a diagnosis of dementia in earlier stages as compared with later stages of dementia.

A systematic literature search of four computerised data bases of published literature was conducted. Two researchers independently assessed abstracts and full text articles for eligibility. 4335 articles were found. Removal of duplicates and applying inclusion and exclusion criteria to titles and abstracts left 152 articles. Full text assessment of eligibility left 25 articles (reporting on 22 studies). Qualitative and quantitative studies were eligible. Quality criteria were applied.

Five primary issues at diagnosis relevant to the care-giving experience were identified: 1. dealing with the immediate and subsequent emotional impact of the diagnosis; 2. dealing with grief, loss and the uncertain future course of the dementia; 3. coping on an on-going basis with care-giving responsibilities; 4. the importance of acceptance of the diagnosis to assist adaptation and adjustments in the caregiving role; 5. the need for post-disclosure follow-up with practical information, guidance and advice relevant to their situation and expectations rather than generic information.

Caregivers require person-centred advice, guidance and information that are relevant to their needs and expectations at diagnosis and at follow-up. No study has been done to demonstrate the differential needs of earlier stage dementia caregivers compared with later stage caregivers at diagnosis. This review has identified the importance of exploring caregiver needs at diagnosis and their expectation for post-diagnostic follow-up

THE ROLE OF CARERS FOR PEOPLE LIVING WITH MULTIPLE COMORBIDITIES

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Within an era of austerity in which rhetoric regarding a 'grey tsunami' are intensifying (Stevens, 2016), the need to future proof procurement of health and social care services worldwide is paramount. The widespread re-engineering of such services remains economically implausible (McNulty & Ferlie, 2004). In this context, the role carers have in supporting patients experiencing multi-comorbidities, to help them to live independently and well, emerges as economically, socially and culturally important. In the United Kingdom unpaid carers, such as family members and members of voluntary sector organisations, have come to play a vital role. A wide variety of research has highlighted the impact of caring for patients with multiple comorbidities in terms of carer physical and mental health and well-being (Pinquart & Sörenson, 2003; Sörenson, Duberstein, Gill & Pinquart, 2006).

As reliance upon carers continues to grow, this paper will outline analysis from quantitative and qualitative data and provide recommendations regarding ways to reshape existing services to better interconnect and communicate with carers. Drawing upon data from a survey of 90 carers measuring levels of depression, anxiety and coping and rich in-depth qualitative interviews with an additional 6 carers,

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the paper will illustrate carers' vulnerability for experiencing anxiety-depression. Adaptive coping styles to mitigate against this vulnerability will be discussed with recommendations to address a current disconnect between health and social care information provision and carers/patients communicative needs.

CHRONIC DISEASES, ADLS, AND SOCIAL NETWORKS PREDICT RECEIPT OF WEEKLY CARE AMONG OLDER SWEDISH TWINS

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Population aging is increasing the need for formal care services. As demand for these services increases, older adults with more health problems may remain at home and increasingly rely on help from their social networks. This study explored the role of social networks, as well chronic disease burden and physical function, on receipt of care among older adults. Data were collected from 3 questionnaire waves of the Swedish Adoption/Twin Study of Aging (1987, 1990, 2007). A total of 1065 individuals older than 55 years at baseline were included. The outcome was self-reported receipt of weekly care. Physical function was measured using 5 self-reported Activities of Daily Living (ADL) and chronic disease burden was measured using a modified Cumulative Illness Rating Scale. Social networks were measured by the number of relatives, friends, neighbors, and caregivers. Results: At baseline, older age, higher chronic disease burden and worse function were all associated with receiving care. After three years, older age and worse ADLs predicted receipt of care for all participants. However, among women, more chronic disease and having friends with similar interests also increased the likelihood of care, while for men, having a caregiving friend increased this likelihood. Finally, at 20 years, older age at baseline and higher chronic disease burden increased the likelihood of receiving care. Conclusion. Factors associated with receiving formal care changed over time, but increasing chronic disease burden was a consistent predictor for women. Social network factors were only associated with receipt of care in short-term follow-up.

IMPACT OF EFFORT-REWARD IMBALANCE ON PSYCHOLOGICAL DISTRESS IN JAPANESE CARE STAFF

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In 2005, the proportion of care workers in the Japanese labor force was 1.7%. By 2025, the proportion is projected to increase to 3.4–4.4%. However, many care workers are leaving their jobs because of low wages and/or excessive burden. Therefore, this study aimed to investigate the work-related stress and mental health status of care workers and elucidate the impact of work-related stress on psychological distress. The study participants were care staff who were working at care facilities. Self-administered questionnaires were used to collect information about demographic factors, working conditions, self-rated health status, work-related stress,

and psychological distress. The Effort-Reward Imbalance Questionnaire was used to assess work-related stress, while the K10 scale was used to examine psychological distress. Responses from 173 participants (45 men, 128 women; mean age, 41 years; age range 18–70 years) were analyzed in the study. The proportion of participants with psychological distress was 17.9% (n=31). Among all participants, 27 care staff (16%) rated their health as poor, 82 (47%) rated it as fair, and 64 (37%) rated it as good. Regarding the effort-reward imbalance, the effort-reward ratio was significantly associated with psychological distress ($p < 0.001$). These findings indicate that to prevent psychological distress in care workers, it is important to focus on reducing work-related stress, especially the effort-reward imbalance in the workplace.

INDIAN CAREGIVERS' PERCEPTIONS OF FORMAL LONG-TERM SUPPORTIVE SERVICES: A MIXED-METHODS STUDY

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In India, a greater burden of chronic disease related care and smaller families question the sustainability of traditional family-based, in-home long term supports and services (LTSS). This study used data from the Jodhpur Elder Caregiving Study, a mixed-methods study of caregivers in Jodhpur, Rajasthan, to 1. explore family caregivers' perceptions about formal care services, and 2. identify which kinds of services caregivers report needing and likely to use. 30 one-on-one semi-structured in-depth interviews and 100 quantitative surveys of family caregivers were collected in 2015. Interview data were transcribed and translated into English and coded with content analysis approaches. Adjusted poisson and logistic regression models were used to estimate average total number of LTSS and probabilities of self-reporting wanting individual LTSS, respectively. Respondents expressed: 1. a neutral to negative sentiment about formal LTSS, especially residential options, and 2. a "duty" to provide care to one's family that "others" and those "doing it for money" could not meet. Of 10 LTSS and caregiver supports, caregivers reported on average needing and being likely to use 2.8 (95% CI: 2.5, 3.2). More caregivers reported higher probabilities of needing caregiver services, like caregiver education (34%) and self-care activities (44%). Despite providing intensive amounts of informal LTSS and care for their family members, Indian caregivers consistently reported disinterest in using formal LTSS alternatives in both qualitative and quantitative data. Caregivers reported stronger desire for services that support their ability to carry out their caregiving roles in-home.

HEALTH CARE STAFF'S PERCEPTION OF EXISTENTIAL LONELINESS AMONG OLDER PEOPLE

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Loneliness and thoughts about existential aspects are common among older people and unmet needs to share their thoughts can lead to existential loneliness. Knowledge

about how health care staff perceive existential loneliness in older people and what they do to meet their needs is scarce. The aim of the study was thus to explore health care staff's perception of older persons' existential loneliness. Ten focus group interviews were performed with staff (n=55) representing different professions, such as nursing aids, nurses, physicians, occupational therapists, physiotherapists, social counselors and social workers. Different care contexts were included to reach variation; home care, nursing homes, palliative care, primary care, hospital care and prehospital care. Data was analyzed using a qualitative content analysis. The results show that existential loneliness appears in various forms depending on the older person, their life experiences and the situation at hand and seems to be connected to issues about time and place. Staff perceived that existential loneliness emerged when physical disabilities became barriers, when they felt excluded by people in their vicinity or when they themselves excluded others from their life-world. Existential loneliness also emerged when they felt alienation, guilt or regret for situations in the past. Preparedness among staff to identify and deal with existential loneliness varied while the care environment seems to hinder or support their possibility to discover and encounter existential loneliness.

SESSION 4460 (POSTER)

CAREGIVING AND CARE VALUES II

FAMILY CAREGIVERS IN ORGANIZATIONS: THE HIDDEN CAREGIVER

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There is growing recognition of the implications of caring for a family member while employed. Nevertheless, studies conducted in Israel have found that there is no structured organizational policy addressing this issue. Awareness of this issue is one of the biggest challenges.

Method: A survey was administered at 4 large organizations (400+ employees), 2 NGOs and 2 industrial plants. Altogether, 851 employees responded to the survey (34% response rate).

Findings: Fifty-five percent reported that they were family caregivers. A third of them reported that they had spoken to someone in the organization about caring for their relative: 28% with their direct supervisor and 10% with human resources.

A multivariate analysis revealed that family members who refer to someone in the organization provide more than 8 hours of weekly care (OR 2.88), are caring for a patient with a diagnosed illness (e.g., cancer) (OR 2.66), and work in social organizations (as opposed to industry) (OR 2.71). Moreover, even when employees have to take days off work, have their daily schedule and concentration interrupted, and even consider leaving work, they do not talk about it more than those who have not experienced such interruptions. They talk about it more only when they declined a promotion or report that "work helps me to keep my sanity".

Conclusion: In order to have "Caregivers Friendly workplaces," the first step is to develop organizational awareness and legitimacy to this issue (e.g. through workshop for managers). The next stage is developing organizational policy to support caregivers.

AGEING CHINESE ADULTS' CARE EXPECTATIONS: A PHOTOVOICE STUDY IN HONG KONG

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Changing family structures and values form great challenges to traditional family dynamics and care arrangements in Hong Kong. This study adopted a qualitative and empowering approach by using Photovoice techniques, aiming to investigate ageing Chinese adults' future care expectations and the determinant factors. To examine a possible cohort differences, the study included both older adults aged 65 or above and younger baby boomers in late middle age (50 to 64). With data collected from 36 ageing Chinese adults in Hong Kong, it was found that Hong Kong older adults have a broader range of care expectations beyond the popular perceptions. Their major expected care domains can be categorized as financial and material care, emotional care, medical care, long-term care, residential care and social engagement. The expected care sources differ in every care domain. Government is most needed in providing financial and medical care; family and friends are most frequently chosen to meet emotional care needs; community services and public residential care homes are most voted as long-term care solutions. Cohort differences were identified as younger baby boomers conveyed more independent care values. The findings also indicated that demographic characteristics, intergenerational relationship and previous life experiences have influence on care expectations. The study results could support a broader and improved awareness of the care needs and challenges facing ageing adults in Hong Kong, and further inform the development of targeted policies and services to ensure that different support sources can effectively respond to the spectrum of future care requirements.

DISTANCE CARE: CHALLENGES AND POTENTIALS BEYOND NATIONAL DISTANCES AND INTERNATIONAL BOUNDARIES

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In the course of demographic dynamics, increased labor market mobility and changing family patterns caring for a family member far away becomes more of a challenge. In this context "distance caregiving" is a new and so far under researched field. The binational Distance Caregiving "DiCa" project (2016–2019) with an interdisciplinary German and Swiss research team aims to investigate different dimensions and involved parties of distance caregiving: caregivers, employers and health care services. The focus is on distance caregivers who have a national but in some cases also a cross-border long distance to overcome to identify challenges and

areas of burden for these caregivers. The aim of this study is on one hand to identify strategies to help both employed and unemployed caregivers with this particular challenge and burden. On the other hand the project aims to sensitize employers and health care services so that they are able to provide adequate help and communication.

In this paper, results for Germany and Switzerland from a secondary data analysis from the Survey of Health, Aging and Retirement in Europe (SHARE) and the German Ageing Survey (DEAS) will be presented as well as first results from qualitative expert interviews with employers from different sectors (e.g. automobile, insurance company, healthcare institution). Supporting distance caregivers with appropriate actions and instruments is important to relieve these employees and to maintain their employability. Offering support with caregiving over a larger distance can also be seen as a strategic instrument for recruitment in the long term.

MATCHING CAREGIVER SUPPORT NEEDS WITH CHARACTERISTICS OF PARTICIPANT-DIRECTED PROGRAMS

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The purpose of this study is to learn how the design and implementation of services and supports within participant-directed programs compare with facilitators versus barriers to support experienced by family caregivers. This study uses a sequential mixed methods design. First, telephone interviews with a purposive sample of family caregivers (n=53) explored their perceptions of challenges they face and the usefulness, effectiveness and gaps in family support resources in participant-directed programs across the caregiving trajectory. The second phase involves describing participant-directed program policies and procedures in Medicaid waivers (n=240) identified as important by caregivers including family assessment, hiring restrictions for caregivers, budget authority, training requirements, accessible resources and qualifications of support brokers. Descriptive statistics are used to identify trends across programs and compare their alignment with best practices and gaps in supportive characteristics identified by family caregivers. Results show variability in the frequency of facilitators and barriers within and across programs, discrepancies between resources available and caregiver perceived gaps and inconsistencies in qualifications of support brokers whose role was perceived as essential. Qualitative data were used to enrich the interpretation of quantitative results, shedding light on barriers to the ability to benefit from program resources such as respite that are designed to be supportive, the impact of policies on caregivers and the benefits of budget, as well as employer, authority enabled through participant direction. This research is part of the Family Support Research & Training Center to inform practice and policy to support family caregivers.

SUPPORTING CARING AND CARERS IN LATER LIFE

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In common with many other countries, around three quarters of carers in the UK now care for older people and a third of carers are aged 65+. Although internationally there is a wealth of material about carers, evidence is fragmented and

dispersed. This impedes the capacity of existing knowledge to inform research and practice. This paper outlines a unique scoping review and how it is being used to promote the wellbeing of those caring for older people and older carers. Funded by the UK's National Institute for Health Research, this review - *for the first time* - synthesised international carer-related research and evidence. It has also been used to underpin an internationally accessible web-based repository of research and resources about carers. During the review, in consultation with the project's interdisciplinary and interprofessional Advisory Group, vertical and horizontal approaches to analysis were developed and integrated using a matrix that allowed cross-reference between different elements. Outcomes of the resultant synthesis include comprehensive summaries of existing evidence about the needs of those caring for older people and older carers, and effective ways of supporting these groups of carers. This summary is available through the repository. It can play an invaluable role in supporting caring and carers in later life as it can be used by many stakeholders, not only in the development of research but also for the development of high quality practice with carers of older people, older carers and importantly too, the older people for whom they care.

WHAT MATTERS TO OLDER CARERS: EVIDENCE FROM PRACTICE-RELATED RESEARCH

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A third of the UK's six million carers are aged 65 years and over. Older carers disproportionately provide intensive care to their relative, care over many years and yet receive very limited support from care agencies. Research with older carers suggests that one of the key reasons for this failure is that policy and service models do not take account of 'what matters' to older carers. Older carers tend to protect the cared for person by resisting framing what they are doing as 'caring' nor identify as a 'carer'. As a consequence they are less likely to recognise the impact of caring on their health and wellbeing or seek help. The 'emotional work' older carers are involved in e.g. bolstering their relative's identity, tends to dominate how they 'become' carers. It is not instrumental care tasks that defines their role and yet this is how most agencies conceptualise caring and what often determines service allocation. That care is embedded in a relationship and a shared life-course is also important to older carers which is at odds with a model of assessment focused on an individual 'user' or 'carer'. There is also emerging evidence that the shift towards direct payments in UK welfare policy is linked not only to devolving responsibility for care decisions to carers but is also associated with the devolution of stress and increased anxiety. Until more of what matters to older carers informs policy and service development they will continue to be marginalised and unsupported.

HEALTH INFORMATION TECHNOLOGY FOR RURAL CAREGIVERS: INTERSECTING SCIENCE, POLICY AND PRACTICE

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More than 5.4 million people in the U.S. are affected by Alzheimer's disease and other dementias (AD), most of whom receive care and support from family caregivers and are medically managed by their primary care provider (PCP). However, there are a number of barriers to providing care to those with AD: PCPs report difficulty in communicating with AD patients, their caregivers, and their in-home providers; in addition, caregivers experience compromised health and psychiatric and physical consequences to the burden associated with caregiving. AD caregivers in rural settings experience additional unique challenges, given local limitations in services, significant distance of services, and limited availability of information regarding AD and available services. To address these issues, a multi-disciplinary team, along with community partners, has developed CareHeroes, a bilingual (English/Spanish), internet and Android-based App that has multiple functions aimed to: improve disease management; provide case managers, caregivers, and PCPs with the ability to share critical health-related information in real time; and increase access to caregiving information and resources. This presentation will summarize pilot data from several studies of CareHeroes to highlight: perceptions about usability and satisfaction among users (caregivers, home care case managers, PCPs) and lessons learned about developing health information technology for a diverse population of dementia caregivers. Then, it will discuss specific policy, practice, and technical considerations that present opportunities and challenges for extending CareHeroes to rural AD caregivers as a cost-effective, sustainable mechanism for providing them with ongoing support, caregiving information and ability to communicate with healthcare providers.

CHINESE OLDER ADULTS' PREFERENCES FOR CARE PROVISION: DO THEY DEVIATE FROM TRADITIONAL FAMILIAL CARE

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In Chinese tradition, the responsibility for elder care belongs to adult children. However, traditional family model is less sustainable nowadays. This study aims to provide timely information of Chinese older people's care preferences. Two research questions are addressed: What type of care provision do Chinese older people prefer? What factors affect their care preferences? Data came from a survey completed in Shanghai and Hong Kong between 2014–2015. Respondents (aged 55 and older) were sampled through a stratified multistage probability sampling design. A total of 1,400 were sampled and 1,041 completed, with a response rate of 74.35%. Multinomial probit models were employed to study care preferences, which were coded as: family care provided by children, family care provided by spouse, community care, and residential care. Three sets of explanatory variables were examined: socioeconomic resources, perception of children's filial piety, and practicality factors. Results show that family care provided by spouse and family care provided by children were most preferred by Shanghai elders and Hong Kong elders, respectively. Community care and residential care were least preferred by Shanghai elders and

Hong Kong elders, respectively. Older people who experienced more filial piety from children, and provided grandchild care were more likely to prefer care from children. Living in a relatively aging-friendly community enabled elders to choose community care. The study suggests that modernization does not necessarily result in less traditional familial care preferences. Developing aging-friendly communities encourages community care preference and thus could ease the family burden of increasing demand for elder care.

EMPLOYMENT OUTCOMES OF CAREGIVING ACROSS THE COUNTRIES: A REVIEW AND ANALYSIS

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There is general consensus that informal caregiving results in negative outcomes on caregivers' employment. While a rich body of research has investigated the differences in the outcomes in terms of gender, race, and income, there is scant research that explain differences at a macro level such as structural arrangements that may enhance or mitigate these outcomes. This study asks whether cross-national variation in patterns of employment outcomes of informal caregiving can be explained by national demographic and socioeconomic differences between individuals, or whether structural and cultural factors are more important. Studies were limited to original quantitative research, written in English and published from January 2000 through December 2015. The countries examined included Australia, Canada, China, Denmark, Germany, Italy, Japan, Netherlands, Norway, Korea, Spain, Sweden, UK, and US. Results are summarized with respect to different care regimes such as family-based care model vs. de-familialised, and with respect to different regions such as European, North American, and Asian countries. Macro-level factors were significant in attenuating the effects of caregiving on employment-related outcomes. Findings suggest clustering eldercare models helps to focus on some important aspects and identify similarities and differences among countries in terms of the outcomes of informal caregiving. Cultural and institutional differences might explain the differences among countries. Different systems of eldercare have been shaped over time by a complex array of historical, cultural, social and economic factors. Many of these factors are not directly part of care systems but nonetheless have important implications for different caring regimes.

IT TAKES A COMMUNITY: IDENTIFYING SUPPORT FOR RURAL-COMMUNITY DEMENTIA CAREGIVERS

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Dementia is one of the costliest and most time-consuming diseases among older persons. Although informal caregivers provide the majority of care for persons with dementia, little is known about experiences of dementia caregivers in rural

communities. Based on Putnam's social capital framework, this study examined dementia caregivers' familial and community supports in rural communities of Ohio and Kentucky. After systematic training in culturally-sensitive methods, researchers interviewed 11 rural caregivers of persons with dementia. Multiple coders used a theoretically-based tool to conduct a content analysis of participants' responses with an acceptable inter-rater reliability. Although similarities with other dementia caregivers were found, important differences suggesting unique issues among these rural dementia caregivers were uncovered. In contrast to non-rural dementia caregivers, these participants more often acted as primary care providers although they supplemented caring with traditional services. Their investments in their communities (i.e. workplace, church, neighbors, immediate family) offered unique supports and respite that differed from how respite services typically are provided in more urban areas. Resources and services were compared based on whether participants identified them as helpful or not helpful. Many participants found strength in their community, which often served as a safety net of support. Some participants expressed financial concerns, geographic barriers and lack of dementia-specific services when using formal services. The need for more specialized formal services in rural areas to supplement existing informal care networks is discussed. Policies and services based on rural caregivers' unique concerns and challenges and that build upon their existing care networks are recommended.

DETERMINING THE RETURN ON INVESTMENT: SUPPORTIVE POLICIES FOR EMPLOYEE CAREGIVERS

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Employee benefits have become a major topic of discussion in the field of human resources as job-seekers rank employment benefits, workplace programs, and work/life balance as increasingly important. Despite a recent upswing in employee programs and workplace flexibility, elder caregiver policies remain largely unimplemented. This situation is problematic. With 17% of the workforce providing care for an elderly person and almost half of them also caring for children under 18 at home, this "sandwiched" generation has become overburdened with caregiving responsibility. In 2013, an estimated 40 million adults spent 37 billion hours caring for adults, resulting in \$470 billion of unpaid contributions. Today's rapidly aging society will only exacerbate the problem; by 2030, there will be 54.5 million adults 65 and older and 8.5 million adults 85 and older in the U.S.

This study investigates the hitherto scarcely explored effects of elder caregiver workplace policies' costs and benefits. Using all available evidence from the past two decades on the costs and benefits of such practices, this report calculates the return on investment (ROI) for two case studies: flextime and telecommuting. These two workplace policies yield a potential ROI of up to \$4.34 and \$4.45, respectively, for every dollar invested. Furthermore, this report delineates the positive effects of these policies on the employee and business in terms of recruitment, retention, absenteeism, and productivity. Workplace policies for elder caregiver employees, though underutilized, ultimately make business sense and provide viable options for the employee and employer in an aging society.

EFFECTIVE COMMUNITY-BASED PROGRAM FOR MULTIGENERATIONAL CYCLICAL SUPPORT SYSTEM

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2015 National Census preliminary report indicates that the population of Japan decreased for the first time since Japan started the census in 1920. Japanese communities face a rapid increase in elderly population, and creating a system in which communities can support the elderly in a sustainable way is key. To achieve this goal, the concept of a Multigenerational Cyclical Support System(MCSS) was proposed in the study funded by a Research Institute of Science and Technology for Society (RISTEX) grant. In this study a semi-structured interview was conducted to examine what types of multigenerational programs are necessary to enhance intergenerational coherence and sustain the MCSS. The interview was conducted with 14 organizations that promote multigenerational involvement in community to identify how each program or project was developed; the techniques for managing the program; how the program collaborates with other organizations; the issues in running the program; and how the program can be incorporated in the proposed cyclical system. The result indicates how the program can be incorporated in the MCSS in five points: a) the importance of environment or place that enables collaboration, b) the staff who can coordinate the program and the community, c) voluntary management by the participants, d) sustainable funding, e) training staff with multigenerational point of view. The issues with running programs indicate that the programs often started with a person with strong passion and effort, thus adopting such programs in a different setting would require careful strategies without the same human resources available.

MEASURING THE COSTS OF INFORMAL CAREGIVING: A REVIEW OF RESEARCH ON ECONOMIC BURDEN

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In the United States (US), much has been written in the mainstream media about the costs of caregiving among informal caregivers for older adults, but there is conflicting empirical evidence about the extent of these costs and their impact on caregivers' financial security and perceptions of burden. We conducted a scoping review of the peer-reviewed literature to better understand how caregiving costs are measured and to assess the current state of knowledge about caregiving costs and perceptions of financial burden among caregivers for older adults in the US. A systematic examination of literature from 2000 to 2015 in four relevant academic databases resulted in an initial review of 394 articles and a comprehensive review of the 42 of these that offered unique contributions to knowledge about financial costs of caregiving for older adults. In this body of literature, two basic approaches to measuring financial effects were used: a) valuing of costs through measurement of expenses related to caregiving, calculation of opportunity costs, or calculation of

replacement costs; and b) measurement of perceived financial burden without an attempt to quantify that burden. Financial burden was associated with longer caregiving experiences and caregiving for people with dementia, but there was conflicting evidence about effects among financially vulnerable populations such as caregivers of color. Very few studies sought to quantify the costs of caregiving, and findings offered a wide range of actual costs. Gaps in the literature will be identified with discussion of implications and directions for future research.

MEMORIAL SOCIAL WORK FOR THE DEAD AND THEIR LIVING FAMILIES: MAPPING THE FIELD AND RESEARCH AGENDA

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Death is likely to be regarded as a taboo topic in social work with older people. When it occurs, client engagement does come to an end. There is also an insufficiency of intercultural understanding about posthumous reputations and ancestor remembrance in the social work context. Challenging such a prevailing 'passive' approach to death and the dead, this paper discusses how the practice of ancestor respect was perceived and experienced among Korean people living in different regional settings. Data were collected from interviews with 61 participants, mainly older people and social workers, from Korea, New Zealand and Australia, and then analysed using a thematic analysis approach in the bilingual context in which two languages, Korean and English, were used interchangeably.

The findings from this qualitative study show that ancestors and other late relatives are important parts of people's lives and relationships in Korean culture. Most participants perceived ancestor respect as a core aspect of filial piety requiring some action, not necessarily worship but more likely an expression of veneration and remembrance. This traditional filial practice has allowed family members to gather together to share memories, and maintain connections with relatives and ancestors. The thematic analysis of findings indicates that the memorial aspect of filial piety has significant implications for social work practice, training and research. A potential area of social work, namely 'memorial social work', is proposed to cover the issues concerning death and the hereafter, such as images of death and ancestors, loss and grief, after-life planning and legacy-helping practice.

FILIAL PIETY (XIAO): PERSPECTIVES ON INSTITUTIONAL ELDER CARE AMONG COLLEGE STUDENTS IN CHINA

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China has the largest net aging population in the world along with a rapid aging pace. Historically, the family has been the source of support and care for their elders, and filial piety has been a fundamental tenet in Chinese culture. However, increased geographic mobility and reduced family size have made more adult children unavailable for elder care. Very little empirical research has examined the perspectives among college students in China towards institutional elder care.

A mixed method approach was used with both quantitative and qualitative data collection. A convenience sample (N= 380) was collected through anonymous, self-administered survey questionnaires. In addition three one-hour long English focus groups were conducted. Survey data were inputted and analyzed using SPSS. Focus groups were transcribed and analyzed using content analysis methods.

Results from questionnaires found that 35.4% of the participants would choose institutional care for their parents, and 15% more (50.4%) of the participants would choose institutional care for themselves. Results from focus groups suggests filial piety, although considered very important and defined in traditional terms of obey, respect and duty, may have new interpretations of how it is practiced for the younger generation. In addition, how to care for elder parents reflects these new interpretations by including possibilities of hired and institutional care.

Findings from this study provide important and meaningful information for gerontological educators, service providers, and policy makers. With the one-child policy in place for a generation, China is facing an ever-growing need for trained professional service providers to address the needs of older adults, and institutional elder care is likely to become a more acceptable option for parent care.

POWER AND AMBIVALENCE IN INTERGENERATIONAL COMMUNICATION: DECIDING TO INSTITUTIONALIZE IN SHANGHAI

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Filial piety or China's tradition of taking care of one's aging parents continues to evolve as evidenced by a growth in nursing home residents in Shanghai. The reason for this increase in institutional care remains unclear and calls for an exploration on how these elders and their children decided to institutionalize. More specifically, understanding the communication dynamics between generations when they decide to institutionalize would provide insights into whether and how the decision is mutual. Using a phenomenological approach, this study draws on power relations to examine intergenerational communication dynamics during the decision-making process around institutionalization. Twelve matched dyads of elderly residents and their children participated in face-to-face, in-depth interviews in a government-sponsored nursing home in Shanghai (N = 24). Both generations reported how they proposed to institutionalize, initiated intergenerational communication, and finalized the decision, as well as how they reacted to the other generation's stance during the decision-making process. The findings reveal that more children made the decision for their elderly parents (decision-making power) than did their frail parents for themselves. Adult children's stronger power evoked their elderly parents' ambivalent feelings of filial piety. Older adults were simultaneously disappointed about and obliged to their children's decision to institutionalize. Furthermore, in the power trajectory, one difference may exist that the children's end matches up with tangible caregiving resources, whereas the elders' stay at the emotional end. The ongoing aging of Chinese baby boomers requires future research on longitudinal caregiving trajectories between generations. This study also illuminates the

needs for comparisons with caregiving expectations between generations to inform the development of long-term care infrastructure in urban China.

WORK MADE (IN)VISIBLE: MAPPING INTERSECTIONS OF INFORMATION WORK AND CARE WORK

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With government endorsement of aging in place, a growing reliance on family caregivers who provide unpaid care for aging family members prompts further investigation. Seeking, interpreting, creating, and sharing information (examples of information work) are one such facet of unpaid care. Information work saturates every facet of caregiving, providing tools for coping, problem solving, and dealing with uncertainty through knowledge, affirmation, and support.

Data from three separate institutional ethnographic studies trace the degree to which family caregivers' information work are made invisible or obscured in policy, scholarship, and by caregivers themselves. Findings from interviews with family caregivers of community-dwelling older adults living with dementia, analyses of aging in place policies, and a scoping review of caregiving literature collectively map out the social organization of informal caregivers' information work. In each study, an institutional ethnographic approach is implemented, examining usages of language and power, organizational interests, and indications of unstated assumptions to uncover how families' own discourses, policy documents, and academic thinking regulate understandings of caregivers' information work.

Findings from this study signify an innovative shift in the ways the complexities of searching for and using information on behalf of an aging family member are understood. Findings speak to the trend towards informatization of care, that is, how government and health care systems are using the provision of information to gradually marginalize care. Results of this study bring visibility to the concept of information work as a means to more responsively support the evolving information needs of family caregivers.

SESSION 4465 (POSTER)

DELIRIUM

EFFECTIVENESS OF NON-PHARMACOLOGICAL INTERVENTION IN PREVENTING ACUTE DELIRIUM IN OLDER INPATIENTS

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Delirium is a complex neuropsychiatric syndrome characterized by acute onset of disturbance of consciousness, fluctuation of cognition and attention, and perceptual disturbance, and it is common in older hospitalized patients. It has adverse impacts on patients and healthcare outcomes: longer hospital stays, cognitive and functional decline and increased institutionalization rate. Up to one third of delirium in older patients could be prevented.

Patients in geriatric wards in a regional HKSAR hospital who were at risk of developing acute delirium were recruited.

They were randomized either into the intervention or the control group. The intervention was led by an Advance Practice Nurse (APN), and it comprised of education to family caregivers about delirium, reality orientation, correction of sensory deprivation, and the control group would receive usual care. The primary outcome was occurrence of delirium. The secondary outcomes were length of stay, fall, use of physical restraint and 28-day unplanned readmission rate after hospital discharge.

Fifty four patients were studied, 27 in the intervention group and 27 in the control group. The average age was 80.9. No patient in the intervention group developed acute delirium, while 3 patients (11%) developed delirium in the control group, but the difference was not statistically significant ($p=0.236$). There was no difference in the length of stay in both groups, and there was no incident of fall or use of physical restraint in both groups. The unplanned readmission rate was 22.2% in the intervention group and 37.0% in the control group ($p=0.186$).

EVALUATION OF A BRIEF PROGRAM FOR DELIRIUM ASSESSMENT AND INTERVENTION

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Delirium is a serious health issue which is under recognized and misdiagnosed. It can lead to increased healthcare costs, morbidity, mortality, use of restraints and falls. The purpose of this study was to determine the feasibility of a brief educational intervention on nurses' delirium knowledge, assessment and intervention skills. We used a quasi-experimental, one-group pretest-posttest quasi-experimental design ($O_1 \times O_2$) design.

One hundred percent of the nurses reported a lack of delirium education in their core curriculum and lack of delirium knowledge. The educational intervention consisted of a delirium packet distributed prior to attending a one hour program. After the intervention, nurses participated in bedside teaching rounds and demonstrated delirium assessment and interventions on three patients.

Results-52 nurses screened 643 patients for delirium. During the initial screenings, 12% of patients were found positive for delirium. Patients diagnosed with delirium compared to non-diagnosed patients were statistically significantly older ($M_{\text{delirium}} = 79.41$, $SD_{\text{delirium}} = 11.02$ and $M_{\text{non-delirium}} = 64.16$, $SD_{\text{non-delirium}} = 16.28$). Logs were kept of evidence based non-pharmacological interventions. Interventions were grouped into categories; review of medications, diagnostic tests, orientation, sensory, nutrition, toileting, sleep, pain, mobility, social needs, safety, and consultation. Over 3,000 non-pharmacological interventions were implemented on patients found to be delirium positive and at risk.

The lack of delirium education in core nursing curriculum is an area that has not yet been addressed. Additionally, these results have implications for healthcare organizations to provide delirium education and practice guidelines to improve patient care.

A COST-EFFECTIVE SOLUTION IN MANAGING SEVERE BEHAVIOURAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA

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The Northern Beaches area of Sydney, Australia has a population of 268,000 and has one of the highest ageing demographics in the state of NSW. Dementia and Delirium are common. Although the majority of patients experiencing symptomatic cognitive impairment are treated in the medical and surgical wards of Mona Vale Hospital, this environment is not suitable for patients with severe BPSD. This project defined severe BPSD as Brodarty tier five and six. The Agency of Clinical Innovation (ACI), program called CHOPs (Care of the Confused Hospitalised Older Person) recommends seven key principles of care. Principle seven is a supportive care environment. The Mona Vale COB is based on this principle providing a safe, continued close observation therapeutic area.

A Close Observation Bay was set up in 2016. COB occupies a four bed area in an acute medical ward, staffed within current nursing numbers. The COB has capacity for future expansion, patient isolation and family overnight stays. Mona Vale Hospital set up costs were approximately \$16,000 (AUD) including paint, sensor lights, new doors, new floors, orientation equipment, signage and general fittings.

The ACI Patient Experience Tracker (PET) evaluated antipsychotic use and non-pharmacological interventions including family, carer, and staff satisfaction. In addition the number of falls and Aggression Response Team calls (ART) were measured.

Patients with severe BPSD are increasingly treated in medical and surgical wards. This COB could provide a template for a low cost solution for smaller hospitals with limited access to specialist Geriatric care.

PREDICTIVE MODEL OF DELIRIUM IN INSTITUTIONALIZED PATIENTS

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Introduction: Between 22 and 70% of residents in long term facilities experience Delirium.

Objectives: To establish a predictive model of delirium in an institutionalized elderly people.

Methods: A case-control study was designed with a 12 months follow-up period. The recruitment period was comprised between February and April 2015. The cases were subjects with at least one Delirium episode during the follow-up period, control were subjects without delirium in the same period. Dependent variable was delirium episodes detected with CAM scale. Independent and adjusting variables were sociodemographic, clinical and functional.

Results: 193 cases and 123 controls were identified. Delirium incidence was 60.5%. Presence of infections (excluding those affecting to urinary tract) was the variable most predictive (OR = 7.1, 95% CI 3.3 to 15.0; $p < 0.001$).

In addition were also Delirium predictors, previous dementia diagnosis (OR = 3.1, 95% CI 1.8 to 5.5; $p < 0.001$), anticholinergic activity prescription drug (OR = 3.0, 95% CI 1.3 to 6.6; $p = 0.007$), depression diagnosis (OR = 1.9, 95% CI 1.0 to 3.6; $p = 0.039$) and urinary incontinence (OR = 1.7, 95% CI 1.0 to 3.0; $p = 0.065$). The predictive model had a sensitivity of 61.5% and a specificity of 78.3% with a R^2 of Nagelkerke of 0.341. The area under the curve was 0.794 (95% CI: 0.745-0.844; $p < 0.001$).

Conclusion: Delirium can be predicted in elderly institutionalized patients. Identify institutionalized patients at high risk of developing delirium could allow implement measures to prevent delirium in nursing homes.

IMPROVING THE RECOGNITION OF DELIRIUM IN NURSING HOMES

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Delirium is often undetected by nursing staff and may go untreated. In Medicare- and Medicaid-certified nursing facilities the presence of delirium may be indicated by certain responses to the Minimum Data Set (MDS) component of the Resident Assessment Instrument called Care Area Triggers (CAT). CATs identify residents who have or are at risk for developing various clinical conditions that by law require further assessment or treatment in the care plan. Thus, if during the resident assessment the Care Area for delirium is triggered, this may be interpreted as recognized delirium. The revision to the MDS in October, 2010 included the Confusion Assessment Method (CAM) for detecting delirium. The CAM, while not a CAT, is considered a gold-standard instrument for delirium recognition. In our study we compare outcomes for residents with recognized delirium at admission (as indicated by the delirium Care Area being triggered) and patients with unrecognized and possibly unaddressed delirium (as indicated by the CAM algorithm, but no delirium CAT) to patients without delirium. In addition, we investigate whether the rate of recognized delirium is associated with facility quality. We find that residents with both recognized and unrecognized delirium had higher rates of 30-day hospital readmission and mortality, lower rates of discharge to home and lower rates of functional improvement. Lower quality nursing facilities were much less likely to recognize delirium than higher quality facilities. These findings suggest that including the CAM as a CAT in the MDS assessment may be essential for delirium care in nursing homes.

OUTCOME OF EARLY GERIATRIC INTERVENTION FOR SEVERELY AGITATED INPATIENT ELDERLY PATIENTS

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Aggressive and challenging behaviors in elderly patients are difficult to manage in the hospital. The benefit of early geriatric intervention in severely agitated patients in the hospital is not known.

The aim of this study was to determine the outcome of early geriatric intervention for severely agitated geriatric patients requiring code blacks (standard emergency code for violent patients/ behavioral situation) at a tertiary hospital.

A retrospective study of severely agitated geriatric patients was conducted using existing medical records and electronic database comparing a group who received early geriatric intervention with a group of patients who received standard of care.

Forty-six patients were analyzed, 24 patients received early geriatric intervention and 22 patients received standard care. There was reduced number (1.42 versus 2.54, $p = 0.002$) and types of antipsychotic medications used in the early geriatric intervention group compared with the control group. The use of behavior chart was higher in the early geriatric intervention group (100% versus 41%, $p < 0.01$). There were more patients who required 5 or more code blacks in the control group. There was no significant difference in length of hospital stay, total number of code blacks, institutionalization, mortality, use of restraints, and safety incidents.

Early geriatric intervention in severely agitated patients showed better outcome in reducing the use of antipsychotic medications and ensuring their appropriate use. Non-pharmacologic strategies were emphasized as the mainstay of treatment in managing patient's behavioral disturbance.

A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF A CHOLINESTERASE INHIBITOR IN DELIRIUM

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The aim of this study is to evaluate the efficacy of an anticholinesterase treatment (Rivastigmine transdermal patch) in patients aged 75 and over, hospitalized with delirium and to describe at one year the percentage of these patients who have a diagnosis of Alzheimer's disease and associated disorders. This study is multicenter, randomized, double-blind controlled study with two parallel arms: a transdermal patch rivastigmine group and a placebo group. The study includes a maximum treatment period of one month and a follow-up of 11 months. 23 patients were included (75 y and over) hospitalized with delirium not correlated to surgery, with CAM criteria and DRS R-98 > 10, not using cholinesterase inhibitor or memantine and having any contraindications to a cholinesterase inhibitor treatment. Evaluation of the delirium severity was conducted with DRS-R98 severity each day from day one to day 14. The lengths of hospital stay were not statistically different between the 2 groups: median stay duration of 10 days in the placebo group and 14.5 days in the Rivastigmine group (Log- Rank test: $p=0.2$). We did not show any difference between groups in the percentage of patients with delirium symptoms at day 14 or day 30 and the percentage of patients with a dementia diagnosis at one year. The main aim as secondary endpoints showed no statistically significant difference between the group treated with rivastigmine and placebo. The interpretation of this study is however difficult because of the number recruited well below the necessary theoretical calculated effective.

ASSOCIATION BETWEEN ED-INDUCED DELIRIUM AND COGNITIVE AND FUNCTIONAL DECLINE IN SENIORS

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Background: Delirium is a common medical complication among senior in the emergency department (ED). Delirium is associated with increased mortality & longer hospital stay. It is also associated with functional & cognitive decline in hospitalized seniors and institutionalization. No data is currently available for ED patients.

Aim: To evaluate the association between ED-induced delirium and functional & cognitive decline in seniors at 60 days.

Method: This study is part of the ongoing multicenter prospective cohort *MIDI-INDEED* study. Patients were recruited after 8 hours in the ED and followed up to 24h after admission. A follow-up phone assessment was conducted 60 days later. Delirium was measured by the validated CAM. Functional status was measured by the validated OARS. Cognitive status was measured using the validated TICS-M. Functional and cognitive decline were obtained by comparing the baseline and 60-days follow-up scores.

Results: 370 seniors were recruited. 280 had follow-up data available. ED-induced delirium was 8.4%. There was a difference in mean functional decline among seniors with and without: 2.95(1.23–4.67) vs 1.55(1.20–1.91), $p_{\text{wilcoxon}} = 0.05$. Proportion of seniors showing a decline ≥ 2 points on the OARS was significantly higher in those with delirium ($p=0.03$). Seniors with delirium also showed a significant decline in mean TICS scores: 3.31 (0.82–5.84) vs -0.01(-0.071–0.75), $p_{\text{wilcoxon}} = 0.009$. There was no significant difference in the proportions of seniors showing a decline ≥ 3 OARS points ($p=0.06$).

Conclusion: ED-induced delirium seems to be associated with poor functional and cognitive outcomes in older patients 60 days after discharge from the hospital.

SESSION 4470 (POSTER)

DEMENTIA

LASTING IMPROVEMENT OF ASSOCIATIVE MEMORY IN OLDER ADULTS THROUGH TRANSCRANIAL MAGNETIC STIMULATION

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Associative memory is one of the cognitive domains most vulnerable to cognitive aging. Repetitive transcranial magnetic stimulation (rTMS) is one of the commonly used brain

stimulation method to enhance cognition. Multiple-session rTMS has been used as neurological assistant treatment for MCI and AD patients. However, whether rTMS could ameliorate memory decline in healthy older adults remains unknown. The dorsolateral prefrontal cortex (DLPFC) is critically involved in associative memory, and is accessible by the rTMS. Hence we wondered whether application of rTMS to the DLPFC improve associative memory in older adults. In addition, we were also concerned about the lasting effects of memory improvement after the rTMS.

Here we applied ten sessions of rTMS (10 Hz) to the right DLPFC of normal older adults in a double blind design with well-matched experimental and sham groups. The cognitive performances including executive function, working memory, and associative memory were assessed before and after the rTMS or sham stimulation. In addition, the follow-up assessment of the cognitive performances was examined one month after the last session of stimulation. Results showed that rTMS selectively improved associative memory performance. Importantly, the memory enhancement persisted one month after the brain stimulation. Our findings offer a promising neuroenhancement technique to counteract cognitive aging in the healthy aging people.

IMPLEMENTING FALLS AND DEMENTIA CASE IDENTIFICATION PROTOCOLS IN PRIMARY CARE

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Dementia and falls are common, costly and under-recognized conditions afflicting older adults who are seen in primary care settings. Effective, high-quality management of these conditions hinges on systems-based approaches to case identification and diagnosis. We report on the development and implementation of a protocol to identify and diagnose older persons with dementia or at high-risk for falls as part of a novel geriatric registered nurse (RN) care co-management program.

The UCLA Geriatrics Workforce Enhancement Program (GWEP) Cognition and Mobility Care Management (CMCM) Program was embedded in a busy primary care clinic in Riverside County, CA to systematically identify patients 70 years or older with unrecognized dementia and/or high risk for falls. Beginning March 2016, the CMCM RN Care Manager trained clinic staff on the administration and interpretation of two validated screening instruments for dementia (Mini-Cog) and falls (STEADI). Patients who screened positive were provided comprehensive falls and/or dementia care co-management between the CMCM RN Care Manager and the primary care provider. To date, 90 patients have been screened and 73 patients (81%, 73/90) have been referred to the program for dementia and/or high falls risk. Of the patients identified through this case identification protocol, 35 have thus far enrolled in the program (50%, 35/73). Implementation of the program has revealed systems-based challenges including staff and time constraints and primary provider reluctance to make a diagnosis of dementia. As enrollment grows, we will track CMCM program outcomes, including changes in patient (falls rate, behavioral symptoms), and caregiver (stress scores, engagement and support provided) measures.

TECHNOLOGY AND PHENOMENOLOGY IN DEMENTIA-FRIENDLY COMMUNITIES IN IRELAND AND THE UK

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The lived experience of people with dementia is rarely included in design for public spaces, and when it is, considerations tend to focus on 'making up' for the cognitive deficits identified as a primary part of the condition. Beyond this, the sensitive and cooperative design of digital technologies has been implicated as a way to connect with cultural and emotional aspects of ageing in place. We argue that exploring what it means for people with dementia to experience a sense of place is integral for designing public spaces in a way that is emotionally and sensually meaningful for this population. Drawing from phenomenological work by Malpas (1999), Merleau-Ponty (1945), Bachelard (1958), and McCarthy & Wright (2004; 2010; 2015), we articulate a picture of belonging-in-place for people with dementia that is described through a series of design-focused case studies from the south of Ireland and the North East of England. These qualitative case studies use ethnographic and interview methods to document the experiences of people with dementia and their carers as they engaged in the co-creation of technological responses to larger challenges surrounding the founding and maintenance of dementia-friendly communities and places. Using thematic analysis, this study contributes a sensory account of living with dementia in a way which is future-focused, socially-responsible, and appraising of technological interventions which aim to engage with larger goals surrounding living in the community with dementia.

TRANSCENDING TRAGEDY: MAINTAINING ENGAGEMENT AND RETAINING SELFHOOD OF PEOPLE LIVING WITH DEMENTIA

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A central goal in supporting people living with dementia is maintaining selfhood, relationships, and well-being to preserve their innate human rights, which requires transcending the common focus on disease and disability. Prioritizing the person, rather than the disease, requires a shift away from the ubiquitous tragedy discourse. This presentation will describe research listening to people living with dementia and engaging them as partners. It will review perspectives on dementia gathered from among hundreds of people living with dementia in a series of listening sessions. Then, recognizing that people living with dementia are the true 'experts' and are capable of participating actively in supportive relationships, it will describe a research-based approach that uses *authentic partnerships* to include people living with dementia as equal partners in care and support. The presentation will conclude with eight catalyzing principles for transcending the tragedy discourse of Alzheimer's.

MAKING A COMMUNITY MORE DEMENTIA-FRIENDLY THROUGH PARTICIPATION IN AN INTERGENERATIONAL CHOIR

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A dementia friendly community is one that is informed about dementia, respectful of people with dementia and their families, provides support, and fosters quality of life.

IAAG 2017 World Congress

A societal challenge people with dementia and their families face is misunderstandings about dementia and the person's capabilities, resulting in both the person and family members experiencing stigma, which affects their quality of life. This qualitative study reports findings from an intergenerational choir of 3 cohorts of college students (N= 44) and 3 cohorts of people with dementia and their family members (N=33) formed to lessen dementia stigma in college students and thus help to develop a more dementia friendly community. Data were gathered for each cohort of students through semi-structured open-ended questions on attitudes about dementia and experiences in the choir, collected at three points over 9 weeks of rehearsals. Data about experiencing dementia stigma were collected from the people with dementia and their family members through 3 focus groups. Results across all three student cohorts showed: a decrease in negative attitudes about dementia, increased understanding about the remaining strengths of people with dementia, and a better awareness of the need to educate the community about dementia. People with dementia and their family members expressed less feelings of social isolation. This resulted in the development of a meaningful bond between the students and the people with dementia and their family members, which continued beyond the choir rehearsals.

SUPPORTING LATER LIFE LEGAL PLANNING OF PEOPLE WITH DEMENTIA

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The primary aim of the study is to scrutinize how people with dementia use legal planning and how their legal capacity is supported.

The data was gathered in a project of Society for Memory Disorders Expertise in Finland where 94 professionals were interviewed in 24 group interviews. The participants were from different social and health care units, legal aid offices, banks, local register offices and the third sector. The material was analyzed using deductive content analysis.

The participants reported that most of the people recently diagnosed with memory illness do not consider later life planning relevant at the moment and different options are unfamiliar. People have very rarely made advanced directives, powers of attorney or continuing powers of attorney. This usually leads to a situation where their legal capacity has already weakened to the point where planning is no longer possible. Afterwards, many wished their client had made the plans when they still could. Social and health care professionals' role in supporting the legal planning is crucial: giving basic guidance and encouragement.

In conclusion, successful planning requires that the person is informed about different options and gets enough support. People with memory illness are not well-informed of the available measures supporting their autonomy when they still have enough legal capacity to plan for their future. Legal means are reported complicated and the terminology complex. Incorrect beliefs towards continuing power of attorney are common.

ENGAGEMENT OF PERSONS WITH DEMENTIA ON DECISION MAKING BODIES

S. Opachan, M.J. Splaine, *Splaine Consulting, Columbia, Maryland*

The purpose of this study is to review the engagement of persons living with dementia in policy and decision making bodies. The first section is a review of the involvement of persons with dementia in the development of national and sub-national dementia plans. The second section is a review of qualitative information gathered from five experts working in the field of dementia concerning how professionals in the field are approaching what persons with dementia want in their lives, and how they hope and expect their lives will change with a disease modifying treatment. This study demonstrates that there are difficulties reaching out to and engaging the average person living with dementia. Qualitative information suggests that there is a lack of empirical studies on what persons with dementia want in their lives, and what they hope and expect from a disease modifying treatment. There also appears to be a grey area where professionals are trying to discern how to involve persons with dementia, but there are discrepancies in how people think this should be done. For instance, some may feel participation is enough, whereas others may stress the importance of involvement by way of decision-making opportunities. This is evident in the national and sub-national dementia plans as well, as it appears that some plans had persons living with dementia participate but not necessarily make decisions about the development of the plan. The engagement of persons living with dementia in decision making bodies represents a gap in the field that needs attention.

SUNDANCE—EVALUATION OF AN INNOVATIVE PROGRAM FOR INDIVIDUALS WITH LATE-STAGE DEMENTIA

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Behavioral expressions associated with dementia are among the main reasons why individuals with late-stage dementia are excluded from regular adult day-care programs, as both the setup and client-staff ratio of most programs do not allow for the person-centered interaction necessary to adequately support these individuals. Behaviors experienced as challenging by both professional and family caregivers, such as aggression, irritability, and agitation, are among the leading causes of institutionalization. The "Sundance" program, developed by the Volunteers of America Oregon, is an innovative, person-centered approach designed specifically for community-dwelling individuals with late-stage dementia. Through individualized music therapy, horticulture therapy, and other therapeutic elements focusing on multisensory integration, Sundance aims to mitigate participants' behavioral expressions and to reduce family caregivers' perceived stress. During the nine-month-long pilot phase, quantitative and qualitative data were collected from participants, staff, and family caregivers to evaluate the implementation and effectiveness of the program. Survey results indicated that, over time, Sundance positively influenced the severity of several behaviors observed among the participants. There was also a trend toward a reduction in the family

caregivers' perceived overall stress. Due to the small sample size, however, only one behavioral change (decreased apathy) reached statistical significance. In addition to the quantitative findings, focus group data revealed a variety of benefits of the program as perceived by staff and family caregivers. Respondents strongly emphasized the positive impact of Sundance on both the participants (e.g., social inclusion, stimulation, communication) and their families (e.g., respite, peace of mind, relief).

EFFECTS OF DEMENTIA SYMPTOMS ON MEDICARE EXPENDITURES AND HEALTHCARE UTILIZATION

E. Jutkowitz, R.L. Kane, B. Dowd, J.E. Gaugler, R.F. MacLehose, K.M. Kuntz, *University of Minnesota, Minneapolis, Minnesota*

We used cross-sectional data from the Aging, Demographics, and Memory Study linked to CMS Medicare data to examine the effect of three clinical features of dementia - cognition, function, and behavior - on Medicare expenditures and healthcare utilization (skilled nursing facility covered days, number of inpatient admission claims, and physician office visit claims). Cognition was evaluated using the Mini-Mental State Examination (0 - 30). Function was evaluated as the number of functional limitations (0 - 10). Behavior was evaluated as the number of behavioral symptoms (0 - 12). Medicare expenditures were estimated with a generalized linear model (log-link and gamma distribution). Measures of healthcare utilization were estimated with a negative binomial regression. All models controlled for age, gender, race, education, marital status, and number of comorbidities. Following estimation, we calculated average marginal effects of clinical features on the outcomes of interest. On average, a one-unit increase in the measure of function (i.e., worse function) was associated with \$160 (95% CI: \$11 - \$309) additional Medicare expenditures per month. Cognition and behavior were not significantly associated with expenditures or healthcare utilization. A one-unit increase in the measure of function was associated with 0.17 (95% CI: 0.03 - 0.31) more skilled nursing days per month. Function is an important predictor of expenditures/utilization and should be targeted by interventions.

COST AND UTILIZATION OF DEMENTIA CARE ECOSYSTEM AND GENERAL MEDICARE DEMENTIA PATIENTS

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The Dementia Care Ecosystem (DCE) is a CMS funded program in three states (CA, NE, and IA) to provide supportive dementia care and reduce Medicare costs. Medicare savings will depend on careful comparisons of the DCE sample and larger dementia population. We compare Medicare costs one year before participating in DCE with general Medicare dementia population.

We use 100% 2014 Medicare claims data in 3 states. Patients enrolled in DCE or control group in 2015 were

identified by Medicare number in 2014 claims. We compared cost among general Medicare dementia and DCE study dementia groups prior to 2015 enrollment using Chi-square, T-test and multivariable Poisson regression adjusted costs.

Of 3,266,867 Medicare beneficiaries, 7% had dementia. DCE enrollees were significantly younger ($p < 0.0001$), white ($p = 0.0004$), and had twice as many diagnosed with Alzheimer's (62.1% vs 32.4%). The dementia DCE patients 2014 costs were 1/3 less than general Medicare dementia patients (\$8,294 vs \$24,977; $p < 0.0001$). Except for outpatient, DCE participants consumed significantly fewer annual resources; inpatient (\$2,772 vs \$9,430; $p < 0.0001$), non-institutional providers (\$2,906 vs \$4,401; $p < 0.0001$), home health (\$888 vs \$2,116; $p < 0.0001$), hospice (\$209 vs \$2,767; $p < 0.0001$), skilled nursing (\$720 vs \$5,451; $p < 0.0001$), and durable medical equipment (\$147 vs \$263; $p = 0.0037$). General dementia patients in metropolitan areas had higher costs than rural areas (\$26,285; \$16,656; \$14,493; \$15,100) for metropolitan, large, small, isolated rural compared with the DCE dementia group (\$8,788; \$5,251; \$759; \$2,214) with California costs highest.

Medicare patients enrolled in DCE were already more cost-efficient than general Medicare dementia beneficiaries. These differences reflect early recruitment efforts at tertiary metropolitan medical centers and make it more difficult to demonstrate savings.

DOES SOCIAL SUPPORT PROTECT AGAINST COGNITIVE DECLINE AMONG THE OLD?: A 10-YEAR FOLLOW-UP STUDY

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Dementia-related wandering is a global issue. People missing in community often end up in tragedies like serious injury or death due to accidents. As such, preventing dementia is of common interest among societies. Studies demonstrated that larger social ties protect against cognitive decline. However, it is unclear whether quality or quantity of such ties is important. Purpose of this study is to assess such associations.

The data is from the AGES (Aichi Gerontological Evaluation Study) Project, covering 15313 persons aged 65 years and over (51.8% women). Respondents were followed for 10 years and dementia onset was ascertained under Long-term Care Insurance System in Japan. Cox proportional hazard models were employed to assess the association between baseline social support and dementia after adjusting for age, health status, education, and marital status. Quantity of support was measured by adding respondents' support network (family, friends, and neighbors) numbers, while quality is assessed by nature of support (emotional, instrumental, and appraisal). During the follow-up, 14.6% of men and 18.7% of women developed dementia. Common factors associated with dementia across gender were advanced age, fewer social ties, not being married, lower education, and poor health status. Availability of appraisal support (having someone who value or respect you) was associated with lower incidence of dementia among men with hazard ratio of 0.74 ($p < 0.10$), but not among women. Our results indicated that among men, quality of social ties is stronger protector

against dementia, while among women quantity (larger social ties) seems more important.

MORE THAN WORDS: AN ICF-BASED COMMUNICATION TRAINING PROGRAM FOR CAREGIVERS OF PEOPLE WITH DEMENTIA

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Living with a person suffering from dementia implies different challenges for family caregivers. One of the most stressful is the ongoing inability to communicate. Because of the decline in their cognitive functioning people with dementia are unable to understand their communication partner or express themselves adequately. The patients' decline of communicative skills cannot be stopped and is one major reason for the development of subjective caregiver burden. Therefore, it is important to train family caregivers of people with dementia to maintain communication as long as possible in order to reduce subjective caregiver burden.

An individualised training course has been developed comprising 16 ICF-oriented modules. Its effects are evaluated in a pilot study by using a control group design. Selected scales from the BICS-D (Berlin Inventory for Caregiver Stress – Dementia) have been used to measure caregiver burden at baseline, after the training and in a follow-up after three months. Additionally, each participant of the training group has participated in a telephone interview. A self-administered questionnaire has also been used to evaluate participants' satisfaction with the training.

The results of the qualitative content analysis show that communication can be enhanced at least in certain areas (for example: asking wh- questions or giving the partner with dementia more time to formulate answers). In the quantitative analysis modified social coping strategies mark positive changes in caregiver behaviour.

An individualised approach helps caregivers to modify their communicative behaviour and to gain a deeper understanding of the dementia-related difficulties experienced by their relatives suffering from the condition.

SUPPORTING COGNITIVE HEALTH IN RURAL COMMUNITIES: STIGMA AND IMPLICATIONS

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Literature suggests that there is significant stigma attached to poor cognitive health and memory loss in older adults. However, there is a paucity of research on influences and consequences of stigma in a rural context. This presentation will address two objectives: 1) to examine the influences of stigma surrounding poor cognitive health in rural communities; and 2) to identify the implications as well as opportunities for interventions to challenge stigma in a rural context.

Using a community-based research approach, data was collected through two waves of semi-structured interviews with 42 older adults in rural Saskatchewan, Canada. Guided by lay theory and cultural schema theory, data was compiled and coded using thematic analysis.

Influences on stigma surrounding poor cognitive health included: lack of awareness and information, ageism, conflicting messages in the media, limited information and training among health professionals and long term care workers, and inadequate access to health and support services. Key implications of stigma included: denial, spousal hiding, delayed or no dementia diagnosis, social exclusion, and limited opportunities for dialogue to discuss issues of cognitive health within the community. Through increased awareness, education, and research, on cognitive health, rural older adults, policy makers, and health practitioners can play important roles in reducing stigma in rural communities.

LIFE EXPECTANCY, TOTAL COST, AND NET COST OF DEMENTIA: RESULTS FROM A DEMENTIA MICROSIMULATION MODEL

E. Jutkowitz, R.L. Kane, J.E. Gaugler, R.F. MacLehose, B. Dowd, K.M. Kuntz, *University of Minnesota, Minneapolis, Minnesota*

We developed a comprehensive US dementia microsimulation model to estimate life expectancy, total cost, and the net cost of dementia. The model simulated an incident dementia patients' disease progression using cognition, function, and behavior (clinical features). The trajectories of the clinical features were derived from regression analyses using data from the National Alzheimer's Coordinating Center. The clinical features were used to predict transitions between place of residence (community or long-term care facility), insurance status (Medicare or Medicare-Medicaid), and resource utilization (informal caregiving, out-of-pocket expenditures, Medicaid long-term care facility expenditures, and Medicare expenditures). At any time, a person with dementia could die of dementia-related or other causes. Individual incident cases were simulated to estimate mean life expectancy and the total value of care. To determine the net cost of dementia, we compared expenditures for a simulated person with dementia against a simulated person who did not exhibit cognitive deficits, functional limitations, or behavioral symptoms. A sub-analysis evaluated outcomes by age of dementia onset (75 and 90). Costs were discounted by 3%. Mean life expectancy was 70 months (mean age of dementia onset was 83 years). Discounted total value of care was \$378,682. Individuals who experienced the clinical features of dementia incurred \$282,436 (\$48,420 annually) more care than those who did not. Total and net cost decreased with older age of dementia onset. A 90-year-old incident case had a life expectancy of 48 months and received \$248,968 worth of care (\$196,280 net). There is value in delaying the time to dementia onset.

DO WE NEED A GLOBAL DEMENTIA-FRIENDLY SYMBOL?

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Dementia Friendly initiatives are emerging around the world and many of them use a symbol or a brand to promote their activities. Some dementia advocates have highlighted the need for a Dementia Friendly symbol that has global recognition. The World Young Leader in Dementia (WYLD)

have completed a scoping review of Dementia Friendly symbols currently in use around the world and collected attitudes towards the concept of developing a global Dementia Friendly symbol.

Survey responses were received from 21 representatives of 16 countries, 15 of which have at least one Dementia Friendly initiative in place. A wide range of symbols are already in use. The concept of “not forgetting” can be found in symbols using the forget-me-know flower, the elephant and a knot. Three main colour groups are represented: orange (mostly in Asian nations), purple, (mostly in North America) and the blue/yellow combination (forget-me-not).

No survey responders rejected the idea of a global Dementia Friendly symbol. Fewer people favoured a global symbol (29%) than a global theme or element (67%), i.e. a colour, logo or design that can be incorporated into existing symbols or adapted for different regions. A second consultation in April 2016 gave an opposite view, with 65% of responders favouring a global symbol and 28% favouring a global element or theme. A key reason for this difference could be a separation of views between nations that already have a well-established symbol and those that do not. Further results from WYLD’s scoping review will be presented.

THE PRINCIPLES OF MEDICAL DECISION-MAKING FOR ELDERLY LACKING MENTAL CAPACITY: A DELPHI SURVEY

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BACKGROUND: In Taiwan, Hospice Palliative Care Act 2000 and Patient Self Determination Act 2016 have endorsed the advance directives (AD) and lasting power of attorney (LPA) in health care. For the elderly patients lacking of mental capacity but not having AD or LPA, especially for patients with dementia, the principles of medical decision-making is deficient in the clinical, ethical, legal and social context in Taiwan.

METHODS: We aim to develop a conceptual framework for evaluating mental capacity and promoting proper decision-making. A 2-round Delphi survey was conducted via the E-mail with 74 national experts in medicine, law and ethics. Experts reviewed a list of proposed statements, based on the domains of medical evaluation and management (EM), patients’ preferences and substitute judgement (PS), social and cultural context (SC), mechanism of dispute resolution (DR), and rated each proposition from 1 to 5 (disagree to agree) with modifying statements or adding propositions. Consensus was achieved when the rating was 4 points or more.

RESULTS: In first round, of the 72 originally-proposed practice principles, the experts modified 24, added 3, and achieved consensus on 37. In second round, a total of 39 propositions were presented, of which experts achieved consensus on 31 statements categorized across 3 domains: 13 in

EM, 8 in PS, 10 in SC. No consensus was achieved in domain of DR.

CONCLUSION: The interdisciplinary consensus on practice of decision-making for the incompetent elders was established. Our findings will provide a strong evidence of developing guidance to clinicians, lawyers, researchers and policymakers.

FACTORS ASSOCIATED WITH OLDER ADULTS’ USE OF ALZHEIMER’S DISEASE SCREENING

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Alzheimer’s Disease management becomes a public health priority. In the US, there are about 5.3 million people with AD and \$226 billion spent on caring them. Since there is no perfect cure for AD, early detection of AD is highly recommended for enabling further treatments to delay cognitive impairment and psychiatric symptoms.

Recognizing benefits from early AD detection, policy efforts have been made to promote use of AD screening, such as providing cost-free cognitive status test. For successful policy implementation, it is necessary to understand what socioeconomic factors might affect older adults’ use of AD screening. Yet, only little is known about what factors associated with likelihood of having AD screening.

Using Health and Retirement Study of 2012 dataset, current study explores individual level factors might affect older adults’ willingness of future use of AD screening. There are several key findings from multivariate logistic regression analyses. First, older adults who have health insurance showed higher likelihood of having AD screening. Second, higher level of self-perceived risk of AD was positively related with use of AD screening. Third, aging is negatively associated with likelihood of having AD screening that indicates the older people aged, the less people likely to get AD screening.

The findings indicate that older adults’ likelihood of AD screening service is associated with combination of aging itself, personal attitude toward AD, and enabling factor to access to health services. Policy efforts needed to consider those factors, especially within AD awareness campaigns, for successful implementation of AD management policy.

NATIONAL DEMENTIA PLANS: EARLY DETECTION AND DIAGNOSIS

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In 2012, Alzheimer’s Disease International (ADI) released the report, “National Alzheimer and Dementia Plans Planned Policies and Activities: Early Detection, Access to Diagnosis, and Stigma Reduction.” The purpose of this study was to compare and contrast policy directions and commitments concerning diagnosis, detection, and stigma reduction. Since this 2012 report, some of the countries have updated their national plans and several countries have created new plans. The purpose of this study is to compare and contrast and provide an analysis of the updated and new national plans about policy commitments with diagnosis and detection. Each country describes and commits to early detection and diagnosis in diverse ways. After reviewing national plans, the countries displayed a series of commitments and actions to

improve early detection and diagnosis in the following topic areas: awareness and education of society; awareness, education, and training of professionals; role of general practitioner's; primary healthcare; hospital and acute care settings; specialist assessments and services; chain of care/network; care homes, care at home, and adult day care services; support of multi-disciplinary teams; tools to support the diagnostic process; and research/data. Common themes and action areas are discussed in order to better understand how nations are addressing the issue of improving early detection and diagnosis.

HUA MEI DEMENTIA CARE SYSTEM: A HOME-BASED, PHYSICIAN-ENHANCED DEMENTIA CARE MANAGEMENT SERVICE

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Dementia care has traditionally been provided by specialist clinics and centre-based services. These services sometimes do not fully address the seniors' needs for emotional wellbeing, personal care, emergency support, home safety and caregiver support. To respond to this challenge, Hua Mei Dementia Care System, a home-based care management service was designed by a Singapore-based NGO, Tsao Foundation, to provide person-centred support for persons with dementia (PwD). The HMDCS team comprises a physician, a social care manager, a nurse clinician, an assistant social worker and two therapy assistants. **Methods and Results:** In the first two years of implementation, HMDCS enrolled a total of 84 clients. 75% of the clients were of FAST (Functional Assessment STaging of Alzheimer disease) Stage 4 and 5 upon enrolment. Majority of them were of acute need for care based on InterRAI MAPLe 5 Score. Out of a total of 84 patients, a preliminary evaluation was conducted on 30 patients who had participated in HMDCS for a minimum of three months and were assessed at least twice. 90% of these 30 patients showed an average improvement of 60.8% in challenging behaviours as measured by RMBPC (Revised Memory and Behavioural Problem Checklist). Meanwhile, 60.7% of 28 PwD had an average improvement of 38% in caregiver stress as measured by ZBI (Zarit Burden Interview). **Conclusion:** Insight gained from HMDCS suggests that dementia care requires an appropriately trained interdisciplinary team that addresses PwD's, as well as their caregivers', biopsychosocial needs in a coordinated approach.

DECISION-MAKING SUPPORT TO ELDERLY PEOPLE WITH DEMENTIA IN DAILY LIVES BY CERTIFIED NURSES

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Decision-making support to elderly with dementia in crucial moments is becoming systemized. However, we feel that such support in their daily lives is also important. This study focuses on daily lives of elderly with dementia at elderly care facilities, and defines their decision-making support.

We conducted a semi-structured interview survey with nine Certified Nurses working in elderly care facilities and analyzed it qualitatively. This study was conducted with permission of the research ethics committee of our university.

The decision-making process support to elderly with dementia in the daily lives were 6 categories and 19 subcategories. The nurses <created an environment that is easier for one to express an intention>for elderly who cannot express themselves. They also<collected information preparing for a decrease of cognitive function>, predicting future conditions of elderly with progressive disease or showing ageing phenomena. The nurses prioritized conversation with the elderly, and<supported them to form their intention by communicating in a suited way for each person>. When an elderly made an irrational decision, the nurses changed ways to communicate, or tried to understand the intention to <guide the elderly to a best interest>.

Decision-making support in the daily lives of elderly with dementia is crucial for avoiding uniform care in a facility where these elderly spend long period in groups, and to have them continue to live in dignity, even when symptoms worsen.

SESSION 4475 (POSTER)

EPIDEMIOLOGY II

IL-10 TO CRP RATIO IS ASSOCIATED WITH BETTER PHYSICAL FUNCTIONING DURING MIDLIFE

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The relative balance of pro- and anti-inflammatory markers has been postulated to be an important determinant of healthy aging, but few studies have investigated this relationship with respect to physical functioning, a hallmark of healthy aging. Using data from 197 middle-aged women from the Michigan site of the Study of Women's Health Across the Nation with 12 years of follow-up, we tested the longitudinal associations between performance-based physical functioning (grip strength, quadriceps strength, 40-foot walk, stair climb, chair rise, 2-pound lift, and forward reach) and the levels and rates of change in interleukin-10 (IL-10), an anti-inflammatory biomarker, C-reactive protein (CRP), a pro-inflammatory biomarker, and the IL-10 to CRP ratio (IL-10/CRP). The median baseline age was 51 years (inter-quartile range 48–53 years). After adjusting for age, sociodemographic factors, menopausal status, exogenous hormone use, body mass index and comorbidities, higher IL-10/CRP ratio at baseline was associated with significantly higher weight-normalized grip strength, weight-normalized quadriceps strength, faster timed walk, stair climb, chair rise, and 2-pound lift times, and greater forward reach distance ($P < 0.001$) throughout follow-up. A faster increase in the IL-10/CRP ratio was also significantly associated with higher quadriceps strength and faster 2-pound lift times. Neither baseline IL-10 nor its rate of change was associated with objective physical functioning measures when considered. These results support the importance of a balance between anti- and pro-inflammatory biomarkers for better physical functioning in midlife.

SCREENING FOR VULNERABLE ELDERLY: IS THE PROBABILITY OF REPEATED ADMISSION A USEFUL TOOL?

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The “Probability of repeated admission” (*Pra*) is a validated tool used worldwide to screen vulnerable elderly for adverse outcomes. Despite its extensive use, there is little evidence for its utility as a risk-prediction instrument. The aim of this study was to analyse the performance of *Pra* in predicting healthcare utilization and dependence in daily living. This was a longitudinal prospective study and the sample was composed by individuals 65 years old and older from Rio de Janeiro city, Brazil, who participated in the three waves of the Frailty in Brazilian Older People study. At the baseline, carried out in 2009/2010, 764 elderly were assessed. Three years later, data of healthcare utilization and functional capacity were collected. In order to evaluate the *Pra* predictive performance, ROC curves were plotted against the healthcare outcomes and dependence in daily living. The accuracies were 0.62 (95%IC 0.57–0.68), 0.53 (95%IC 0.53–0.64) and 0.66 (95%IC 0.59–0.74) for hospital admission, emergency room visit, and dependence in daily living, respectively; sensitivity and specificity were 8,8 and 94,5%, 8,3 and 94,8%, 19,2 and 95,5%, respectively. These results suggest that the *Pra* is not reliable for excluding vulnerability in those individuals stratified as low risk. Also, in order to improve tool performance, future research should test another item composition.

RISE IN THE INCIDENCE OF HIP FRACTURES IN LITHUANIA FROM 2006 TO 2010

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Objective. The present study aimed to assess the incidence and trend of hip fractures in Lithuania among individuals over 40 years for 2006 – 2010.

Material and Methods. This population-based study was based on the data from all orthopaedic-traumatology inpatient departments in Lithuania. Subjects over 40 years with primary hip fracture (ICD-10 codes S72.0, S72.1 and S72.2) were included. Exclusion criteria were re-admissions for the same fracture, non-residents of Lithuania, and individuals without identified place of residence. The incidence was calculated using the population data from Statistics Lithuania. Multivariate regression analysis was performed to evaluate the impact of gender, age, fracture circumstances and localization, type of treatment, urban and rural regions.

Results. It was found that the incidence per 100,000 persons was 118 in the year 2006 and 151.1 in the year 2010, and increased by 28%. Women suffered from hip fracture 2.4 times more often and at the elder stage of life than men. The incidence in urban and rural residents was respectively 112.9/100,000 and 129.2/100,000 in 2006, and the same in the year 2010 – 151/100,000. Over the period of 2006–2010 the higher incidence of hip fractures was in rural residents aged 50–74 years. After the age 75, the fracture incidence was higher in urban than in rural residents: 538.5

and 430.4 /100,000 in 2006 and 685 and 555 /100,000 in 2010; $p < 0.001$).

Conclusion: In Lithuania, hip fracture incidence increased by 28% between the years 2006 and 2010, among individuals aged over 40.

LOW GRIP STRENGTH PREDICTS INCIDENT DIABETES: THE MICHIGAN STUDY OF WOMEN'S HEALTH ACROSS THE NATION

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Low muscle strength is an important risk factor for early, cardiovascular, and all-cause mortality among older adults but little is known about the association of muscle strength and cardiometabolic disease during mid-life. In the Michigan Study of Women's Health Across the Nation, a longitudinal study of the menopause and its health consequences, grip strength was measured annually from 1996–2012 using a handheld dynamometer. Diabetes incidence was assessed near-annually as self-reported doctor's diagnosis of diabetes, use of anti-diabetic medications, or measured fasting glucose ≥ 126 mg/dL. The 16-year diabetes incidence was 37%. Among the 424 women grip strength assessment at baseline, a 10% increase in body weight-normalized grip strength was associated with 18% decreased risk of incident diabetes ($p = 0.006$) after adjustment for age, race, socioeconomic status, smoking, menopause status, hormone use, physical activity, and waist-hip ratio. In race/ethnic stratified models, a 10% increase in body weight-normalized grip strength was associated with 54% decreased risk of incident diabetes ($p < 0.0001$) among White women in fully adjusted models (described above). Among Black women, the association of weight-normalized grip strength was not statistically significant in fully adjusted models. In models without adjustment for waist-to-hip ratio, a 10% increase in body weight-normalized grip strength was associated with 16% decreased risk of incident diabetes among Black women ($p = 0.03$). The rate of change in grip strength was not associated with diabetes incidence. Improving muscle strength during mid-life women, particularly white women, may be an efficacious strategy to prevent future diabetes.

NONRANDOMIZED STUDIES: THE HAZARDOUS PRACTICE OF TESTING FOR BASELINE IMBALANCES

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Nonrandomized studies are increasingly used to evaluate interventions where randomization is not feasible or desired such as with policy reforms or practice change. A common practice is to statistically compare baseline characteristics between the control and intervention group to determine imbalances and confounders for model adjustment. This practice, however, has been shown to be inappropriate since

false positives and negatives are not controlled. Moreover, the use of this practice to select confounders for model adjustment can introduce rather than protect against bias. The goals of this assessment were 1) to assess current publishing guidelines regarding baseline testing and 2) to elaborate recommendations. The guidelines from 16 high-impact journals were assessed. The journals did not provide direct guidance and referred authors to one or more of the following guidelines: ICMJE (International Committee of Medical Journal Editors), STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) and the Equator Network, including TREND (Transparent Reporting of Evaluations with Nonrandomized Designs). ICMJE provided no specific guidance and referred to STROBE. While STROBE did correctly recommend choosing confounders at study design stage; no guidance on specific analytical methods were given. Finally, TREND actually promoted baseline testing. Experts recommend that adjustment variables should be chosen at the design stage based on clinical knowledge. Sensitivity analyses, such as the use of doubly-robust methods, are also recommended. In conclusion, reporting guidelines need to be updated to offer more appropriate methods. Journal editors have the power to promote good research by explicitly discouraging baseline testing in nonrandomized studies.

THE ROLE OF VES-13 AS A PREDICTOR OF ADVERSE OUTCOMES IN ELDERLY ASSISTED BY PRIMARY CARE, BRAZIL

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The aim of this study is to evaluate the role of Vulnerable Elders Survey (VES-13) as a predictor of functional capacity decline and death in elderly people of low socioeconomic status. This is a cohort study was developed between 2013–2015 and was included aged ≥ 60 years who lived in two assisted areas by Primary Health Care Services, Rio de Janeiro, Brazil. There were interviewed 958 elderlies and was followed for six months. The independent variable (vulnerability) was measurement by VES-13, validated in Brazil. The outcomes analyzed were death and functional capacity decline-evaluated by Lawton and Katz instruments. Logistic regression was performed considering the 5% significance level. In the baseline, 958 elderlies were evaluated and a complete follow-up was obtained for 635. Of these, the mean age of 70.3 years (± 8.27), 65.1% were women and 35.9% were classified as vulnerable. The functional capacity decline to perform ADL was observed in 5.7% of participants and 25.8% for IADL. Deaths were observed in 3%. In assessing the VES-13 as a predictor of these factors, logistic regression indicated that among vulnerable there was a greater chance of functional capacity decline in performing ADL (OR=7.36; CI95% 3.27–16.58) and IADL (OR=1.95; CI95% 1.49–2.54). For death, there was an increase risk with borderline interval (OR=2.44; CI95% 0.99–5.99). The results indicated that the VES-13 works as a tool that predicts outcomes of functional capacity decline and death of the elderly in Brazil,

being an important instrument in primary care for screening and monitoring of the elderly.

VITAMIN D METABOLITES AND SARCOPENIA IN OLDER MEN: THE CONCORD HEALTH AND AGEING IN MEN PROJECT

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The link between vitamin D metabolites and muscle mass or strength remains controversial. We therefore explored associations between serum 25-hydroxyvitamin D (25D) and 1,25-dihydroxyvitamin D (1,25D) levels and incidence of sarcopenia over time in older Australian community-dwelling older men.

Men aged ≥ 70 years (2005–07) from the Concord Health and Ageing in Men Project were assessed at baseline (n=1705), two (n=1367) and five years (n=958). The main outcome measurement was the incidence of sarcopenia defined by The Foundation for the National Institute of Health Sarcopenia Project as appendicular lean mass: body mass index ratio < 0.789 and grip strength < 26.0 kg. Covariates included serum 25D and 1,25D levels measured at baseline categorised into quartiles, age, income, season of blood collection, physical activity, vitamin D supplement and medication use, measures of health, parathyroid hormone, renal function, albumin and white blood cell count.

Sarcopenia was present in 9.2 % of men at the 2-year follow-up and in 14.3% at the 5-year follow-up. Excluding men with sarcopenia (n=140) at baseline, vitamin D levels in the lowest quartiles (25D < 40 nmol/l; 1,25D < 62 pmol/l) were independently associated with the incidence of sarcopenia over 5 years after adjustment (25D: OR 2.52 (95% CI 1.13, 5.62) $p=0.02$; 1,25D: OR 2.70 (95% CI 1.29, 5.67) $p=0.01$).

Low serum 1,25D and 25D concentrations at baseline are independently associated with the incidence of sarcopenia over the subsequent five years. It is conceivable that maintaining vitamin D sufficiency may reduce the incidence of sarcopenia in ageing men.

THE ASSOCIATION BETWEEN CHRONIC LOW BACK AND/OR KNEE PAIN AND OVERWEIGHT IN JAPANESE ELDERLY

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Chronic low back pain (CLBP) and knee pain (CKP) has been understood as aggravating factors for essential locomotive functions such as gait or stair climbing among old age population. Several studies in the western countries have indicated the association between CLBP and/or CKP and obesity, however these relationships have remained

unclear in Asian countries, where the prevalence of obesity has been relatively low. The aim of the present study was to investigate the associations of CLBP and/or CKP with overweight among Japanese elderly. We performed a cross-sectional study of 2,270 people in two Japanese communities, aged 40 to 74 years in 2015–2016. CLBP and CKP were defined as pain which had been at least weekly recognized in the previous 4 weeks, and had persisted beyond three months. Overweight was defined as 25 kg/m² or higher. Logistic regression analysis was used to calculate multivariable adjusted odds ratio (OR) for overweight status. The multivariable included age, sex, area, current smoker, current drinker, hyperglycemia, hypercholesterolemia, and depression. The prevalence of overweight among each pain pattern was as follow: Neither (n=1576), 26%; CLBP alone (n=332), 28%; CKP alone (n=209), 34% (P<0.01 vs. Neither-group); and Both (n=153), 32%. Compared to Neither-group, multivariable adjusted ORs (95% confident intervals) for overweight were as follows: CLBP alone, 1.06 (0.81–1.39); CKP alone, 1.51 (1.10–2.08); Both, 1.39 (0.97–2.01). The stratified analysis revealed the stronger positive association was observed among elderly (65–74 years), which suggested that weight control for elderly would be effective in reducing CKP at community level.

VISUAL IMPAIRMENT PREDICTS POOR PHYSICAL FUNCTIONING AMONG MIDDLE-AGED WOMEN

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Disability and poor physical functioning leads to a substantial burden on the individual and the health system. Emerging evidence suggests that poor functioning and disability rates are increasing among middle-aged individuals. Visual impairment is associated with poor functioning among older adults. But little is known about the impact of vision on functioning during mid-life despite increasing prevalence of both visual impairment and functional deficits during this life-stage. This study assessed the impact of visual impairment on future physical functioning among 483 middle-aged women enrolled in the Michigan site of the Study of Women's Health Across the Nation. At baseline, women were 42–56 years of age when distance and near vision were measured using a Titmus vision screener. Physical functioning was measured up to 10 years later, using performance-based measures including a 40-foot timed walk, timed stair climb and forward reach. The association of visual impairment and future physical functioning was analyzed using multivariable linear regression. Women with visual impairment for distance vision at baseline had 2.81 centimeters less forward reach distance (95% confidence interval (CI): -4.19, -1.42) and 4.26 seconds longer stair climb time (95% CI: 2.73, 5.79) at follow-up compared to women without distance visual impairment. Women with near visual impairment also had less forward reach distance (2.26 centimeters, 95% CI: -3.30, -1.21) versus those without near visual impairment. Among middle-aged women, visual impairment is predictive of poor physical functioning. Routine eye testing and vision

correction may help improve physical functioning among midlife individuals.

EFFECTS OF DUAL ANTIPLATELET THERAPY ON THE ELDERLY: RETROSPECTIVE COHORT STUDY.

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Introduction: Recently, patients with coronary disease have increased to take both aspirin and clopidogrel. This combination therapy is called Dual Antiplatelet Therapy (DAPT). DAPT has some benefits for prevention of stent thrombosis, especially that of drug-eluting stents. However, this combination therapy theoretically could induce bleedings. To assess the risks and the benefits of DAPT, we evaluated incidences of traumatic intracranial injury and cerebral infarction requiring admission of the patients aged 75 years or older.

Method: A retrospective cohort study was conducted with administrative database in Japanese Late Elderly Medical Service System in Fukuoka Prefecture. We compared the patients with DAPT with those with monotherapy of aspirin. We analyzed the incidences by multiple logistic regression model. Independent variables included sex, age and the comorbidities; atrial fibrillation, diabetes mellitus, hypertension, chronic kidney disease and dyslipidemia and other medications; cilostazole, ticlopidine. The subjects were followed for 3 years.

Results: We employed 35,343 patients in this study. There were 46.1% (N=16,293) males. The mean age was 82.9 years old. The incidence of traumatic intracranial injury was significantly increased in the patients with DAPT (Odds ratio (OR):1.53 [1.063–2.21], p=0.022). Those of cerebral infarction showed no significant difference (Odds ratio (OR):1.08 [0.91–1.28], p=0.367).

Conclusion: Our study suggests that DAPT could increase incidence of traumatic intracranial injury among elderly patients and this therapy might not have inhibitory effect on cerebral infarction. Intracranial injury has high mortality and could remain long-lasting disabilities. We had better introduce DAPT selectively and cautiously to elderly patients with high risk of fall.

THE IMPACT OF SES ON THE ASSOCIATION BETWEEN PHYSICAL ACTIVITY AND HRQOL OVER A 3-YEAR PERIOD

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More research is needed on whether socioeconomic status influences physical activity and health related quality of life (HRQOL). Such information may inform health policies on improving healthy ageing in all strata of the population. The aim of this study is to assess, in an older adult community living sample consulting in primary care, the effect of socioeconomic status, based on a validated index score, on the effect of physical activity and health related quality of life. The study population included a sample of 1,801 community living older adults recruited in primary care clinics, of which 1,040 were also interviewed at follow-up, 3 years later. Health related quality of life was measured with the EQ-5D-3L. Physical activity was assessed with the following question: "How many times a week do you exercise for more than 20 minutes (for example, walking at a rapid pace)".

Responses were then categorized into 4 categories as follows: 0 times (never); 1 to 3 times; 4 to 7 times; 8 times and more a week. Generalized linear models (GLM) with repeated measures was used to study the change in HRQOL as a function of physical activity, stratified by socioeconomic status, controlling for potential important confounders such as gender, smoking status, alcohol consumption at least twice a week every week in past 6 months (yes/no), self-perceived physical and mental health status and number of chronic disorders. The results showed that HRQOL decreases with time and this decrease may be mitigated with physical activity in those with lower socioeconomic status. Promoting physical activity may limit social inequalities in health among low socioeconomic status populations.

LONGITUDINAL ASSOCIATION BETWEEN SERUM ADIPONECTIN AND SARCOPENIA IN A COMMUNITY-LIVING POPULATION

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Although high circulation adiponectin levels have been reported to disturb physical performance, the association between adiponectin and sarcopenia has not been reported. The aim of this study is to clarify the effects of adiponectin on muscle mass and risk of sarcopenia in a community living population. Data were derived from the National Institute for Longevity Sciences - Longitudinal Study of Aging. Subjects comprised 2023 men and women aged 40 to 88 who participated in the 5th wave (2006–2008) examination without sarcopenia and also participated in the 6th (2008–2010) and/or 7th wave examination (2010–2012). Muscle mass was accessed by dual-energy x-ray absorptiometry and skeletal mass index (SMI) was calculated by total muscle mass of arms and legs / square of height (kg/m²). Sarcopenia was determined by the algorithm of the Asian Working Group of Sarcopenia. Serum adiponectin was significantly higher in sarcopenia comparing with normal subjects (9.72 ± 0.57 vs $6.21 \pm 0.09 \mu\text{g/dL}$). Age and sex- adjusted odds ratio of developing sarcopenia by 1SD increase in adiponectin was 1.273 (95%CI: 1.047–1.550) by generalized estimation equation. However, the odds ratio was not significant after controlling for SMI at the baseline. Adiponectin level was significantly different by CDH13 rs3865188 genotype (TT: 7.36 ± 0.15 , TA: 5.90 ± 0.16 , AA: $4.18 \pm 0.34 \mu\text{g/dL}$ in the subjects), but prevalence of sarcopenia did not differ by the genotype. From these results, it is suspected that decrease in muscle mass causes increase in adiponectin, and adiponectin does not reduce muscle mass.

DEPRESSION, COGNITIVE SYMPTOMS, AND THEIR FUNCTIONAL IMPACT: NOT JUST A GERIATRIC PROBLEM

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This study compared the prevalence of cognitive symptoms and their functional impact across age groups and depression status. We used the Behavioral Risk Factor Surveillance System 2011 cognitive impairment module which was part of a population-based cross-sectional random-digit-dialed telephone survey administered to non-institutionalized adults in 21 US States ($n = 129,510$). Participants were stratified by depression status and the logistic regression analysis assessed the relationship between age and cognitive symptoms controlling for demographic characteristics and a number of other health conditions. The functional impact of cognitive symptoms by age group and depression status was also assessed. The adjusted depression model showed comparable levels of cognitive symptoms across age groups with the exception of a peak in the 45–54 age group which had a 60% greater odds of reporting cognitive symptoms compared to the reference (oldest age group). In contrast, the adjusted model for adults without depression demonstrated that with the exception of the 45–54 year old age group, the younger age groups had a lower odds of cognitive symptoms than the oldest age group. In those with depression and cognitive symptoms, over half of working age adults reported that the symptoms interfered with life activity compared to just over a third of those 65 years and older. Depression is associated with cognitive symptoms in all age groups, not just older adults. Given that younger adults report greater functional impact of cognitive symptoms than older adults, it is important to inquire about and address cognitive complaints in younger adults with depression, particularly middle-aged adults. Adults with cognitive complaints should be assessed for depression.

NUTRITIONAL STATUS AND ACTIVE LIFE EXPECTANCY IN A GENERAL POPULATION OF OLDER JAPANESE

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We reported previously that low nutritional status was an independent risk for all-cause and cardiovascular mortality in a general population of older Japanese. This study further examined its association with active life expectancy. A total of 1,620 older persons participated in the annual health assessments in Kusatsu, Gunma prefecture, Japan from 2002 through 2012. They were followed until June 2013 for death, moving out from the town, and new certification under the public Long-Term Care Insurance (LTCI). Baseline nutritional status of participants was evaluated by BMI, serum albumin and total cholesterol, and blood hemoglobin. The outcome events included new certification under the LTCI and death without prior certification. Cox proportional analysis was used for multivariate adjustment. Out of 1,546 participants who had not been certified under the LTCI at baseline, 284 events (new certification 202, death without prior certification 82) occurred during the follow-up period. After adjustment for age, baseline year and history of medical condition (hypertension, diabetes mellitus, stroke, heart disease, or cancer), those in the lowest quartile of BMI, albumin, total cholesterol or hemoglobin compared with those

in the respective highest quartile showed the hazard ratio of 1.94 (95%CI; 1.14–3.33), 3.41 (1.77–6.59), 1.80 (1.03–3.14), or 2.03 (1.14–3.61) for males, and 0.74 (0.48–1.16), 2.38 (1.29–4.39), 1.03 (0.66–1.60), or 1.63 (1.05–2.51) for females, respectively. In summary, the effect of nutrition on active life expectancy differed slightly depending on sex and biomarkers, but low nutritional status had significantly negative effect on active life expectancy in a general population of older Japanese.

CAROTENOID AND ITS INTERACTION WITH SMOKING EFFECTS ON MUSCLE MASS DECLINE WITH AGING IN ELDERLY MEN

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Although smoking is a well-known risk factor of sarcopenia, the mechanism remains unclear. If inflammation or hyper-oxidants influences the etiology, anti-oxidants such as carotenoids might have preventive effects on sarcopenia. The aim of this study is to clarify the effects of carotenoids on muscle mass decline with aging, and whether there are some interactive effects between carotenoids and smoking.

The subjects were 490 males aged 65 and over who have participated in the 5th wave examination (baseline) of the NILS-LSA (National Institute for Longevity Sciences – Longitudinal Study of Aging). Serum carotenoids were measured after overnight fast. Carotenoids intakes were assessed by 3-day dietary records. Skeletal muscle mass index (SMI) was defined as appendicular muscle mass (kg) divided by square of height (m). Mixed effects models adjusted for covariates were used to estimate whether carotenoids or the interaction of carotenoids and smoking state at baseline effected on SMI at the sequential examinations (the 5th–7th), taking the 2nd tertile of carotenoids as the reference.

The 1st tertiles of serum alpha-carotene, beta-carotene and beta-cryptoxanthin showed significantly lower SMI than the references, respectively (-0.12, -0.26, -0.27kg/m², p<0.05). There were interactive effects of beta-cryptoxanthin intake and smoking on SMI, i.e. smokers in the 1st tertile of beta-cryptoxanthin showed lower SMI than non-smokers in the reference (-0.58kg/m², p<0.05).

The effects of carotenoids on SMI were mainly ‘main effects’ on muscle mass decline with aging. This work was supported by JSPS KAKENHI Grant Number JP15K00857.

DISTRIBUTION OF THE SEMIHEALTH CONDITION AMONG COMMUNITY-DWELLING ELDERLY IN JAPAN

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Purpose: Chronic diseases have become a global epidemic among many developed countries. Japan has some chronic

diseases as serious causes of death. They are called life-style related diseases and will be also risk factors of broken health. Furthermore, they have been steadily increasing. The purpose of the present study was to examine the semihealth condition which evaluated a level of dynamic state in a susceptibility phase based on the natural history of disease, and to reveal a distribution of them among the community-dwelling elderly in Japan. The authors have reported on findings about the semihealth index elsewhere. In this study, we discussed on a multidimensional structure of the semihealth condition and its distribution among them.

Methods: The self-reported questionnaire, which consisted of 54 items, was administered to 1,531 the community-dwelling elderly in Japan between 2013 and 2014. A principal components analysis was applied to the valid data in order to extract indices which evaluated structural characteristics on the semihealth condition.

Results: By this analysis, four principal components were extracted. Especially, the first principal component was extracted as an index which indicated a quantitative aspect of the semihealth condition. Every eigenvector of its component had a mark of plus. Therefore, this component was used as the semihealth index. Furthermore, a distribution of the community-dwelling elderly with the semihealth condition was determined by using this index.

Conclusions: It is likely that the first principal component shows a good level of discriminating the semihealth from good health conditions.

SESSION 4480 (POSTER)

FRAILTY III

SCREENING FOR FRAILTY IN COMMUNITY-DWELLING ELDERLY SUBJECTS: VALIDATION OF THE SEGAM INSTRUMENT

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Introduction: We aimed to validate the modified version of the Short Emergency Geriatric Assessment (SEGAm) frailty instrument among elderly community-dwelling subjects.

Method: A longitudinal, prospective study was conducted in four French departments (Ardennes, Marne, Meurthe-et-Moselle, Meuse) and subjects aged 65 years or more and living at home were included.

We assessed demographic characteristics, comprehensive geriatric assessment, and the SEGAm instrument. During follow-up visits at home at 6 and 12 months, vital status, level of autonomy and occurrence of hospitalisation were recorded. For psychometric validation, feasibility and acceptability, internal structure validity, reliability, discriminant validity and predictive validity of the SEGAm instrument were studied.

Results: Overall, 167 patients were included. Average age was 77 ± 7 years, the majority were women (70.7%). Feasibility and acceptability of the SEGAm instrument were excellent: no refusal to participate, no drop-out

during administration, no missing items, no ceiling or floor effects were noted. Administration time was short (5.0 ± 3.5 min). By factor analysis, the instrument proved to be unidimensional. It showed good internal consistency (Cronbach's alpha coefficient: 0.68) and good test-retest (intra-class correlation: 0.88) at 7 days interval. Discriminant validity showed a significant difference, mainly for nutritional status, fall risk, dependency, mood and depression risk, and comorbidities. And frailty status at baseline was significantly associated with loss of autonomy during the 12 months of follow-up (OR=4.52, 95% CI=1.40–14.68; $p=0.01$).

Conclusion: The SEGAm appears to be an easy-to-use instrument that is particularly suitable for use in the community to identify frail elderly people who could benefit from early targeted interventions.

A COMMON CONDITION IN AN UNCOMMON CASE: SPONTANEOUS HIP FRACTURE ON A BEDRIDDEN ELDERLY WOMAN

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Hip fracture is one of the major causes of morbidity and mortality, 95 % are related to falls and 5 % are spontaneous. Spontaneous hip fractures are more common on the frail bedridden elderly individuals who reside in long term care facilities.

We present a case of a 91 year-old female patient that who resides with her daughter. She had cerebral vascular accident that occurred three years ago which resulted on left sided hemiparesis with subsequent body contraction, deconditioning, and bed confinement. Patient developed an acute episode of pain on her left lower extremity for which she was transferred to the emergency department. An X-ray of the left femur revealed a closed left subtrochanteric femoral shaft fracture. The decision to repair the fracture was taken to ease the pain. Patient underwent procedure for open reduction, cephalomedullary nailing, left subtrochanteric femoral shaft fracture repair. Further studies reported evidence of osteopenia. Patient went home with no rehabilitation therapy.

Spontaneous hip fractures in immobile patients are very rare, and when reported, more than 85% are intracapsular or trochanteric. Subtrochanteric femoral fracture in immobile elders accounts for less than 10% of the cases.

In patients with a combination of lower limb contractures and osteoporotic bones, a simple twisting force or mild contusion is sufficient to cause fracture. Although we believe that our patient did not experienced physical abuse, unexplained fracture should also prompt physicians to investigate possible abuse. Identifying high-risk patients and providing meticulous nursing care, like methods for lifting and transferring patients, are paramount.

FRAILTY AS A PREDICTOR OF ADVERSE OUTCOMES IN ELDERLY USERS OF PRIMARY HEALTH CARE IN BRAZIL

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This study aims to evaluate the role of frailty as a predictor of adverse health outcomes in elderly users of Primary Health Care services in Rio de Janeiro, Brazil. Between 2013 and 2015, a study was conducted with 958 individuals aged ≥ 60 years users of the Family Health Strategy in the city of Rio de Janeiro, to assess the predictive validity of the Brazilian version of the Tilburg Frailty Indicator (TFI) to fall, fracture, hospitalization, functional dependence and death, in a follow-up period of six months. The characteristics of the study population were described and the incidences of the outcomes were estimated. The risk of each adverse outcome was calculated according frailty status. The follow-up was performed for 635 individuals (66.3% of total sample). The study population was predominantly female (65.1%), mean age=70.5 (SD=8.1). At the end of the follow-up, 35 (5.7%) lost functional capacity in basic activities of daily living (ADL) and 157 (25.9%) in instrumental activities of daily living (IADL), 67 (10.9%) experienced hospitalization, 60 (9.8%) suffered fall and 9 (1.5%) fracture, and 18 (2.9%) died. There was a higher risk of functional dependence in ADL (OR= 3.01 CI95% 1.45–6.27) and in IADL (OR= 1.50 CI95% 1.04–2.16), fall (OR= 2.08 CI95% 1.21–3.58) and death (OR= 3.35 CI95% 1.18–9.53) for frail when compared to non-frail elderly. Frailty assessed by the TFI is a good predictor of adverse health outcomes among elderly users of primary care services in Brazil, and would be an alternative tool for monitoring the health conditions.

PRESSURE ULCERS ARE ASSOCIATED WITH SIX-MONTH MORTALITY IN HIP FRACTURE IN ORTHOGERIATRIC CARE

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Pressure ulcers (PU) in hip fracture are associated with poor outcomes. Orthogeriatric management reduces PU incidence in hip fracture in the elderly. However, remaining factors and prognostic associated with PU in hip fracture patients managed in orthogeriatric care pathway are unknown. The objectives were to determine the prognostic of PU in the hip fracture in UPOG, and their associated factor.

From June 2009 to April 2015, all consecutive patients, > 70 years old, with hip fracture admitted to an (UPOG) were screened. Patients were included if they were hospitalized for hip fracture and were excluded in presence of pathological fracture or if they were already hospitalized at the time of the fracture. In our unit, orthogeriatric principles are implemented, including a multicomponent intervention to improve PU prevention and management. Patients were followed until 6 months after discharge.

567 patients were included, with an overall 14.4 % 6-month mortality (95% CI: 11.6–17.8%). Of these, 67 patients (12 %) experienced at least one PU. Despite orthogeriatric management, PUs were significantly associated with a low albumin level (RR 0.90, 95% CI:0.84–0.96; $p=0.003$) and history of atrial fibrillation (RR 1.91, 95% CI:1.05–3.46, $p=0.033$), coronary artery disease (RR 2.16, 95% CI:1.17–3.99; $p=0.014$) and diabetes (RR 2.33, 95% CI:1.14–4.75; $p=0.02$). PU was associated with 6 month mortality (RR 2.38, 95% CI: 1.31–4.32, $p=0.044$).

In elderly patients with hip fracture managed in an orthogeriatric care pathway, PU remained associated with poorly modifiable risk factors and long term mortality.

BALANCE CHANGES ASSOCIATED WITH SIX-MONTH FRAILTY STATUS CHANGES

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Background: Frailty is the cumulative decline of physiologic systems contributing to adverse health outcomes. Our objective was to examine motor performance associations with changes in frailty status in the community Arizona Frailty Cohort (AZFC).

Methods: Fried frailty index was assessed and body-worn sensor balance measured six months apart. Associations between % change in balance and categorical change in frailty were examined using multiple linear regression, controlling for sex and BMI. Balance parameters included hip sway, ankle sway, and mean, medial-lateral and anterior-posterior center of gravity (COG) in eyes-open and eyes-closed conditions. Frailty status (frail, pre-frail and non-frail) was categorized as those with non-changing frailty status (NFS), progressing frailty status (PFS) and regressing frailty status (RFS).

Results: There were 58 NFS, 10 PFS and 21 RFS with balance measures. We found a 266% ($p<.001$) increase in eyes-open hip sway, a 50% increase ($p<.05$) in eyes-closed hip sway, and 159% increase ($p<.001$) in eyes-open ankle sway ($n=81$) among PFS compared to NFS. Among RFS, we found 70% decrease ($p<.01$) in eyes-open mean COG sway, and 59% decrease ($p<.05$) in eyes-closed mean COG sway when compared to NFS.

Conclusion: We previously reported hip sway as the best discriminator between pre-frail and frail in the AZFC. Here, we found eyes-open and eyes-closed hip sway, and eyes-open ankle sway were most sensitive in identifying PFS, whereas mean eyes-open and eyes-closed COG sway was more sensitive than hip or ankle sway in identifying RFS.

FUNCTIONAL CONDITIONS OF FEEDING AND FRAILTY IN ELDERLY OF DIFFERENT SOCIODEMOGRAPHIC BACKGROUNDS

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The findings from this study will allow participants to acknowledge the relationship between oral health and frailty. Besides that participants will be able to identify if functional conditions of feeding are associated with frailty in independently-living older Brazilians.

In Brazil, the FIBRA Study (Frailty in Brazilian Elderly Individuals), is a multicenter, multidisciplinary research dedicated to studying frailty and its association with sociodemographic variables, health status, cognition, oral health and psychosocial function. For this cross-sectional study, it was used data from a convenience sample of six municipalities with different sociodemographic characteristics and from 2343 randomly selected subjects aged 65 or more without cognitive impairment. The outcome was frailty. The functional conditions of feeding was assessed by self-report and was created by the sum of ten questions regarding problems with mastication and swallowing. The cut-off point was the identification of three or more difficulties regarding these conditions. Almost ten percent of older subjects (9.1%) were classified as frail and 51.8% as pre-frail. The multilevel analysis showed that older people who were frail were more likely to have three or more problems with functional conditions of feeding (OR=2.06), to be older (OR = 2.88), not to work (OR = 2.31), to be depressed (OR = 2.31) and to self-report poor overall health compared to peers (OR = 3.91). The results suggest that functional conditions of feeding are associated with frailty considering the individual level. The contextual level did not show any variation due to the lower number of municipalities included.

URINARY INCONTINENCE IS ASSOCIATED WITH FRAILTY AND GAIT AMONG COMMUNITY-DWELLING ELDERS IN CHINA

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Objective: To examine the association between urinary incontinence and frailty in community-dwelling elders.

Methods: A cross-sectional study was conducted in the city of Hangzhou, which leads the growing speed of aging population in China. Severity and symptoms of urinary incontinence (UI) were measured using ICIQ-SF. Participants with positive answer of the question “Did you have problems of urinary incontinence in recent 4 weeks” were categorized as UI positive. Status of frailty was defined by Clinical Frailty Scale (CFS). Participants also completed comprehensive geriatric assessment. Multiple linear regression models were used to determine the associations between UI and frailty.

Results: Of the 171 participants (74.8±6.0 years with 45.6% females), 57 individuals (33.3%, with 64.9% females) were UI positive. Elders with UI were more likely to have comorbidity (64.9% vs 45.6%, $p=0.023$) and polypharmacy (47.4% vs 27.2%, $p=0.01$), higher risk of malnutrition (MNA-SF: 12.47±1.58 vs 12.98±1.30, $p=0.036$), poorer hand grip (27.35±8.93 vs 33.49±8.95, $p<0.01$) and higher CFS (3.47±1.05 vs 3.03±0.60, $p<0.01$). Among UI positive participants, females and males got similar ICIQ-SF score ($p=0.282$). As self-reported possible reasons of UI, females leak more often when cough or sneeze (67.6% vs 10.0%, $p<0.001$), less often after urinating (2.7% vs 45.0%, $p<0.001$) than males. Multivariate analysis showed that frailty (OR, 2.051; 95%CI, 1.120–2.981; $p<0.001$) was associated with UI in elderly male. Meanwhile, grip (OR, -0.238; 95%CI, -0.400–-0.076; $p=0.005$) was associated with UI in elderly female.

Conclusion: Frailty and low gait are of great importance for older adults, and may be associated with urinary incontinence.

TACKLING FRAILTY AT PRIMARY CARE SETTINGS: COMPARISON OF IDENTIFICATION TOOLS: BASELINE RESULTS

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The aim of the project is to provide insight information about the capacity of different tools to detect the presence of frailty in primary care settings. This abstract focuses on the description of the baseline assessment of included individuals.

This is a multicentric (two regions of Spain: Basque Country and Andalucia) prospective cohort study of community dwelling autonomous individuals aged 70 or more. A two year follow up period is proposed. At baseline, the following variables were collected via face to face interviews: sociodemographic, frailty (TFI, GS and TUG), lifestyle habits and health status. The study has been supported by the Spanish Institute of Health Carlos III (grant PI14/01905 and PI14/01003) and authorized by the corresponding Ethics Committees.

By now, 275 included patients have a mean age of 78,3 (SD 5,1) and were almost equally distributed considering sex. The prevalence of frailty was 28,1%, being higher among women (35,4%, $p<0,001$) and in Andalusian participants (37,7%, $p=0,001$). They presented a mean Gait Speed of 0,99 m/s. (DE 0,8) and a mean of 12,4 s. (SDE 4,0) on the Timed up and go test, with worst performance among women (13,3 DS 4,5; $p<0,001$) and Andalusian participants (13,1 DS 4,3; $p=0,005$).

Frailty is highly prevalent in the studied sample. Significant differences are found considering gender and habitat. Sociocultural differences could determine these differences. The current findings made evident the need to introduce, in a systematic way in primary care settings, assessment tools able to capture frailty.

THE ASSOCIATION OF BLOOD PRESSURE WITH FRAILTY AMONG COMMUNITY-DWELLING OLDER PEOPLE

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Background: The benefit of strict blood pressure (BP) control is controversial considering the adverse outcome

particularly in poor-functioning older people such as being frail. The purpose of this study is to investigate the association of BP level with frailty status among older people.

Method: Participants in age 70, 80, 90 (± 1) years ($n=1000$, 973, 272 respectively) were randomly recruited from general population participated in the survey called Septuagenarians, Octogenarians and Nonagenarians Investigation with Centenarians (SONIC) study. We interviewed medical histories and medications. BP, grip strength and 8-foot gait speed was examined on site. The frailty was assessed based on the CHS criteria.

Results: Among the participants with antihypertensive treatment, there was the significant difference of the proportion of frailty between the level of diastolic BP (DBP) (-70, 70-79, 80-89, 90-mmHg: 72.7, 66.5, 56.9, 49.2%, respectively). No significant difference was observed in participants without antihypertensive treatment. In the logistic regression analyses considering age, DBP, history of cardiovascular diseases and antihypertensive treatment, advanced age and lower DBP was independently associated with frailty status. When stratified by treatment with or without antihypertensive drugs, only the antihypertensive treatment group showed the significant association between low DBP and frailty in addition to the advanced age. There was no association of the systolic BP with frailty.

Conclusions: In the older population with hypertensive treatment, there was the significant independent association of the lower DBP with frailty. The causal relationship should be clarified whether the frailty is caused by excessive reduction of BP in the further longitudinal study.

THE IMPACT OF FRAILTY IN OUTCOMES OF HIP FRACTURE SURGERY IN ELDERLY PATIENTS

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Elderly individuals always have a high rate of falls, which is one of the major causes of hip fracture. Early surgical intervention is the mainstay of hip fracture management. Surgeries to repair fractures despite being relatively simple, post-operative complications can be dangerous. Frailty, impaired functional status, co-morbidities and various geriatric syndromes are also a part of ageing. The objective of this study was to access the impact of frailty on various outcomes of hip fracture surgery. 100 patients more than 75 years of age, undergoing operative intervention were included in this study. Patients were classified as frail, pre-frail and robust based on FRAIL scale. The patients were followed up for 1 month duration. The outcomes were observed and then analyzed. 54 patients were frail, 26 pre-frail and 20 were robust. Among the frail, pre-frail and robust patients, 45(83.3%), 14(53.8%) and 5(25.0%) were bed-bound for a period of 1 month respectively. Similarly, among the groups, 40(74.1%), 14(53.8%) and 5(25%) developed health care associated pneumonia respectively ($P=0.001$). Similarly, 40(74.1%), 10(38.46%) and 2(10.0%) developed bed-sore of grade 3 or more respectively. Similarly, 33(61.1%), 12(46.1%) and 2(10.0%) patients died in frail, pre-frail and robust groups respectively by the end of 4 weeks. Kaplan Mayer analysis revealed that frail status had significant association with mortality at 1 month (Log rank test, $P=0.004$). Thus, elderly hip fracture patients are vulnerable to many

postoperative complications. Frailty is seen to significantly contribute to augmentation of this burden which can have many medical as well as economic implications.

HEAD-TO-HEAD COMPARISON OF FRAILTY PREVALENCE BY INSTRUMENT IN THE 5 DO-HEALTH COUNTRIES

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Introduction: Early screening for physical frailty among the growing segment of senior adults may help prevent disability and loss of autonomy. However, to date, an internationally accepted operational definition of physical frailty is lacking. **Methods:** We assessed the prevalence of frailty in all 2158 community-dwelling DO-HEALTH participants age 70 and older (mean age 75 years, 62% women) from 5 European countries and based on 5 instruments: Fried phenotype, SOF-index, FRAIL-scale, SHARE-frailty criteria and SHARE-frailty index. The DO-HEALTH countries are Switzerland (n=1008), Germany (n=350), France (n=300), Austria (n=200), and Portugal (n=300). **Results:** Frailty prevalence varied across countries and definitions with the highest prevalence of frailty detected among Portuguese DO-HEALTH participants (range 3.1 to 30.3%), and the lowest prevalence detected among Austrian DO-HEALTH participants (range 0 to 2.5%). **For Austria**, frailty prevalence by instrument was: 0% (Fried, SOF), 1% (FRAIL-Scale) 1.5% (SHARE) and 2.5% (SHARE-FI). **For Switzerland**, frailty prevalence by instrument was: 0.8% (SOF), 1.2% (Fried), 2% (FRAIL-Scale), 3.8% (SHARE) and 4.2% (SHARE-FI). **For France**, frailty prevalence by instrument was: 1.1% (Fried), 1.5% (FRAIL-Scale), 1.9% (SOF), 4.5% (SHARE) and 5.2% (SHARE-FI). **For Germany**, frailty prevalence by instrument was: 0% (SOF), 0.6% (Fried), 1.2% (FRAIL-Scale), 3.7% (SHARE) and 7.4% (SHARE-FI). **For Portugal**, frailty prevalence by instrument was: 3.1% (SOF), 13.1% (Fried), 15% (FRAIL-Scale), 22.8% (SHARE) and 30.3% (SHARE-FI). **Conclusion:** Our analysis provides a first insight on the prevalence of physical frailty in the DO-HEALTH cohort. Notably, within countries prevalence of frailty may differ by a factor of 10 depending on the instrument.

ORTHOSTATIC HYPOTENSION AND ITS RELATIONSHIP WITH FRAILTY

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Orthostatic hypotension (OH) is the most common disorder of blood pressure regulation after essential hypertension, with prevalences increasing with age. Biologically, it is plausible that OH, reflecting disordered haemodynamic equilibrium, could be a manifestation of a wider process of multisystem dysregulation of frailty. Despite suggestions in the literature that OH may be a sign of frailty, few studies have been able to validate this hypothesis. In this cross-sectional observational study, we recruited 150 subjects from

three different settings (apparently healthy, outpatient and inpatient). OH was defined as a drop of ≥ 20 mmHg in systolic blood pressure or a drop of ≥ 10 mmHg diastolic pressure and frailty was assessed using both the phenotypic (FP) and frailty index (FI) models. The frequency and correlates of OH in the three different settings were identified. OH was significantly related to the both FP and FI models. This study suggests that OH may be a marker of the system dysregulation seen in frailty and further assessment of frailty in patients of OH can be a potential opportunity for early intervention to delay functional decline.

FRAILTY SYNDROME IN OLDER ADULTS WITH AND WITHOUT FEAR OF FALLING

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The aim of this study was to determine the presence of frailty syndrome between elders with and without a fear of falling (FoF). A cross-sectional study was conducted with 203 older adults, divided into two groups: with FoF (n=91) and without FoF (n=112). The FoF was assessed using the yes/no question, "Are you afraid of falling?". Frailty syndrome was evaluated by the *Edmonton Frail Scale (EFE)*, which has a maximum score of 17 points, representing the highest degree of frailty. The scores for the frailty analysis are: no frailty (0–4), visibly vulnerable (5–6), mild frailty (7–8), moderate frailty (9–10), and severe frailty (11 or over). The groups did not differ in age, gender or general health conditions. The Mann-Whitney test showed a significant difference in EFE scores ($p < .001$) between the groups without FoF (mean: 3.5; SD: 1.94; 95% CI: 3.16–3.95; minimum-maximum: 0–8 points) and with FoF (mean: 4.88; SD: 2.36; 95% CI: 4.32–5.43; minimum-maximum: 0–12 points). The chi-square test showed that most of the elderly group without FoF was considered not frail (n=72; 64.3%, $p < .001$), 30 were visibly vulnerable (26.8%, $p < .001$) and only 10 were classified as mildly frail (8.9%, $p < .001$). Of the group with FoF, 46.2% (n = 42, $p < .001$) were considered not frail, 19 were visibly vulnerable (20.9%, $p < .001$), and 30 were frail (32.9%, $p < .001$). Of the older adults considered frail, 17 were mildly frail, seven were moderately frail, and six were severely frail. Thus, we conclude that older people with FoF have increased frequency and intensity of frailty syndrome than the elderly without FoF.

DEVELOPMENT OF A COMMUNITY SUPPORT SYSTEM BY ACTION RESEARCH TO SUPPORT THE ELDERLY IN FRAILTY

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The population aging rate of A Marine City (5.8 ha/20,000 people), born 30 years ago in Japan, is 17.2%; 50.4% of which are 75 or older. (July, 2016) Yet, there is no support system for the people of the community that allow early intervention to prevent frailty. The purpose of this research is to prevent frailty of the elderly who live in A Marine City and to develop an early intervention system. This will be done through action research with nursing manager and certified nurse specialists in gerontological

nursing as core members of the team. Clarification of the issues that the elderly of the area face, planning of educational campaigns of frailty, and post-implementation evaluation were repeated. We gradually called the clinic nurses and the local residents for participation. The activities in the first year included information exchange meetings among nurses, creating nursing information booklets, lecture meetings and questionnaire surveys. The investigation showed that the elderly in frail are unlikely able to take part in the community. The activities in the second year involved interviews to clinic nurses about the elderly in frail, cooperative projects between local residents and corporate members, and planning of events and creating leaflets to raise awareness of frail. In conclusion, it is necessary for this project to promote local awareness to create supportive communities for the elderly.

DISENTANGLING FRAILTY FROM DISABILITY AND DISEASE: AN EMPIRICAL ANALYSIS OF FRAILTY INSTRUMENTS

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Frailty is conceptualized as an increased vulnerability of older adults to develop adverse health outcomes when encountering a stressor. However, operationalization has proven challenging, with numerous frailty instruments that include a wide range of age-related domains, such as physical capacity, disease, and disability. Inclusion of diseases and disability in frailty instruments obfuscates the frailty construct. Fried (2004) has argued that frailty, disability and comorbidity are interrelated but distinct entities. This distinction is critical for understanding the etiology and consequences of frailty, and for devising prevention and treatment strategies. Here we conduct a literature review to identify articles that examined: a) risk factors (such as inflammatory diseases) for frailty; and b) frailty as a risk factor for disability. We then categorize frailty instruments (n=67) used in the identified articles into 4 categories by their measures: 1) Physical Capacity plus other domains, sans disability or disease (n=26); 2) Disease plus other domains, sans disability (n=7); 3) Disability plus other domains, sans disease (n=17); and 4) Disease and Disability plus other domains (n=17). This review will provide empirical data on the use of different categories of frailty instruments in studies of upstream risk factors and of subsequent disability. Preliminary results show that 33% (10/30) of studies on risk factors for frailty used a frailty instrument containing measures of diseases and/or disability. We suggest that studies seeking to examine etiologic factors of frailty or consequences of frailty, such as disability, should not use operational definitions of frailty that include these overlapping but distinct domains.

INITIAL EVIDENCE ON FRAILTY ASSESSMENT IMPROVING RISK PREDICTION AMONG PACE PARTICIPANTS

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The Program for All-inclusive Care for the Elderly (PACE) is a community-based model serving high-risk older adults who meet their state's nursing home eligibility criteria but prefer living in the community. Despite some population-level evidence of benefits of the PACE in reducing health-care utilization and expenditure, nursing home transition, and mortality compared to the usual fee-for-service care models, the question of who would benefit the most remains unclear. We hypothesize that frailty as a measure of late-life vulnerability is a better risk predictor of certain types of health care utilization than disease burden alone. To test this, a pilot study was conducted to assess the associations of frailty (vs. the Hierarchical Condition Categories (HCC)) for predicting number of ED visits and days of hospitalization among PACE participants. Of the 27 subjects selected from the Hopkins PACE program, 82% were female, 70% were African Americans, and 4% (n=1), 52% (n=14), 44% (n=12), were identified using Fried's physical frailty phenotype as non-frail, pre-frail and frail, respectively. Using Poisson regression, we found that the incidence rates of ED visits and hospitalization in the frail were respectively 4.3 (p=0.026) and 4.2 (p=0.027) times the corresponding incidence rates in the pre-frail after adjusting for age. The associations remained significant after additionally adjusting for HCC. In contrast, HCC alone was not significantly associated with the same outcomes. These findings suggest that incorporating frailty assessment in the PACE program may improve risk prediction, thereby offering new opportunities for improving patient-specific outcomes and controlling health care expenditures.

PRE-FRAILTY IN COMMUNITY-DWELLERS: AN UNATTENDED CONDITION THAT WE HAVE MISSED

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Background. Attention given to frailty or pre-frailty in community-dwelling older adults is limited. Pre-frail is the condition in which individuals either have low handgrip strength (HGS) or low physical activity. This study aims to investigate the prevalence of pre-frailty in a community-dwelling aged population in Hong Kong and identify factors associated with pre-frailty. **Methods.** This was the analysis of the baseline data of an interventional study in physical activity. Low handgrip strength was defined as ≤ 14.35 kg for female or ≤ 22.00 kg for male. Energy consumption per week was measured by accelerometers. Energy consumed less than 270 Kcal/week for female or 383 Kcal/week for male was considered as pre-frail. Correlations and logistic regression models were used. **Results.** A total of 199 subjects were included. Mean (SD) of age was 73.4 (7.5). The prevalence of pre-frailty of this sample was 27.1%. Gender (OR=1.1, p<.001), high blood pressure (OR=1.747, p<.01),

and number of chronic illnesses (OR = 1.458, $p < .05$) were associated with pre-frailty. **Discussion.** One-third of community-dwellers suffered from pre-frailty but they have never been informed. Pre-frail condition has seldom been given attention in Chinese society, assuming that physical weakness is the norm to aged population. Assessment of frailty should be carried out in the community and strategies to prevent frailty are worthy to be developed.

EFFECT OF THE DIVISION OF ATTENTION ON MOBILITY PERFORMANCE OF FRAIL ELDERLY

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Objective: To evaluate the effect of the division of attention on mobility performance of frail elderly. **Methods:** It is a cross-sectional study. We assessed 30 elderlies, 15 diagnosed with Frail syndrome according to the Fried criteria, mean age of 82.6 (5.6) years, and 15 robust elderlies, mean age of 70.4 (5.2) years. Patients were included if they did not present any neurological or orthopedic disease that impossibilities the capacity to maintain the independent orthostatic position and signed the consent term. Mobility performance was assessed in single and dual task conditions using the Timed Up and Go Test (TUG). Sociodemographic data were collected (gender, marital status, height, weight, number of medications and number of diseases). Statistical analysis was performed using the mixed ANOVA with repeated measures. **Results:** The performance of frail elderly was worse compared to the robust elderly in single and dual task conditions [simple tasks: frail 20.07 (2.39), robust 6.82 (2.39); dual task: frail 26.91 (2.85) robust 9.49 (2.85)]. **Conclusion:** Frail elderly presents worse mobility performance in single and dual task conditions when compared with robust elderly.

FRAILTY TRANSITIONS IN COMMUNITY DWELLING OLDER PEOPLE

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Background: Frailty is a dynamic process with transitions over time.

Objectives: To examine frailty transitions and their relationship to health service utilization.

Methods: Frailty status using the Vulnerable Elders Survey (VES-13) was determined for 608 community dwelling older people interviewed in a 2008 national survey and for 281 re-interviewed in 2014. The effect of frailty on death at 6 years was assessed using Cox proportional hazards analysis. Participants were divided into four groups based on their frailty transition. Demographic, functional and health characteristics were compared between the four groups using the Kruskal-Wallis and paired t-test. The independent association between the four frailty groups and health service utilization was assessed using logistic regression.

Results: Between 2008 and 2014, 24% of 608 participants were lost to follow up, 9% were non frail, 37% were frail and 30% died. The Cox ratio showed that 86% of the

non-frail in 2008 were alive six years later vs. 52% of the frail (HR 3.5 (CI 2.2–5.4)). Frailty transitions in the 281 participants interviewed at both time points revealed that 19% stayed non frail, 22% became frail, 22% stayed frail and 37% become more frail. Becoming frail, staying frail or becoming more frail compared to staying non frail was independently associated with a greater risk for requiring help on a regular basis, having a formal caregiver, and requiring home care.

ADHERENCE TO THE MEDITERRANEAN DIET AND RISK OF SARCOPENIA IN CHINESE COMMUNITY OLDER PEOPLE

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Recent studies have showed an increasing adherence to the Mediterranean diet (MD) was related with decreasing risk of frailty. However, this relationship was not confirmed by Chinese cohort studies. Our study examined the association between the MD and risk of sarcopenia in 946 Chinese community-dwelling older people (482 women, mean age 68.8 ± 6.5 , range 60–92 years). Baseline dietary data were collected using daily food intake records of 8 food groups. Adherence to MD was measured by the Mediterranean Diet Score (MDS). Incident sarcopenia was defined using SARC-F scale. Binary Logistic regression models were employed to assess the effect of adherence to Mediterranean diet on sarcopenia. The prevalence of sarcopenia between lower and higher MDS was statistically significant in both gender (Male: $X^2=6.45$ $P<0.05$; female: $X^2=8.50$ $P<0.05$). Compared to subjects with a lower MDS, subjects with a higher MDS were inversely associated with sarcopenia (OR: 0.325, 95%CI 0.186–0.567, $P<0.05$). After adjusted age, sex, smoking status, BMI, exercise, GDS-15 score, self-rated health and chronic diseases, this association was attenuated but still significant (OR: 0.510, 95%CI 0.269–0.967, $P<0.05$). Our study showed that a higher adherence to Mediterranean Diet was associated with lower risk of sarcopenia among Chinese community-dwelling older people.

FRAILTY IN COMMUNITY-DWELLING SOUTHWEST OLD CHINESE: PREVALENCE AND RISK FACTOR ANALYSIS

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Objective: As frailty is a predictor of variety poor outcomes in old populations, we conducted a survey from January through June 2014 to estimate the prevalence and risk factor of frailty in community-dwelling Chinese aged 65 and over.

Methods: In this cross-sectional study, 20 communities were selected from total 60 communities which covered by Pinyi Community Health Service Center by cluster sampling method and residents aged 65 years and over participated

this survey. Frailty was measured by "FRAIL", demographic characteristics, medical history and drug using and ADL, IADL, MMSE, mood disorder, MNA, polypharmacy, pain scale, were also assessed.

Results: Up to 1117 residents participated in this survey. Average age were 73.25 ± 6.51 (range 65 to 103), and 436 (39%) were male. The prevalence of frailty, pre-frailty and robust were 5.7% (64), 36.8% (411), 57.5% (642), respectively. Aging (OR 1.037 for every 1 year old), with pain (OR 2.089), vision decreasing (OR 2.567), MNA < 12 (OR 1.657) and ≥ 4 medicine (OR 2.694) were associated with pre-frailty, While with pain (OR 1.946), MMSE < 18 (OR 2.262), vision decreasing (OR 2.438) and MNA < 12 (OR 6.164) were associated with frailty.

Conclusion: Using "FRAIL" scale, the prevalence of frailty and pre-frailty in southwest China was lower than Australia, but was similar with the United States. Pain, cognitive impairment, vision decreasing and malnutrition were risk factors for the both pre-frailty and frailty.

THE ASSOCIATION BETWEEN FRAILTY AND SLEEP QUALITY IN OLDER ADULTS LIVING IN SELF-PAID CARE HOMES

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To determine the correlation between frailty and quality of sleep in institutionalized elderly people living in self-paying care homes. This was a cross-sectional study of 158 institutionalized elderly tenants in a self-paying care home in northern Taiwan. The research tools include Chinese version of Edmonton Frail Scale, and Pittsburgh Sleep Quality Index. Results showed 48.7% of Frailty syndrome, and 40% of poor sleep qualities. We found highly significant correlation ($p < 0.001$) between the scores of ADL, IADL, IPAQ, MMSE, GDS-15 and the scores of EFS, and highly significant correlation ($p < 0.001$) between the scores of ADL, IPAQ, GDS-15 and the scores of PSQI. The degree of frailty and sleep quality were shown to be highly correlated ($r = 0.282$, $p < 0.001$). The significant predictors of sleep quality were identified as depression, activities of daily living, self-perceived visual function status, and source of income.

REGIONAL DIFFERENCES IN FUNCTIONAL CAPACITY OF FRAIL OLDER PERSONS IN ISLAND, URBAN, AGRICULTURAL

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This study aimed to clarify the regional differences in the functional capacity of frail older persons living in an island area, urban area, and agricultural area. In total, 742 frail older persons (average age: 83.3 ± 6.24 years; 180 males and 562 females; island: 241 people, agricultural: 251 people, urban: 250 people) were selected at community comprehensive care centers in 12 areas. An interview survey was conducted using a questionnaire on the functional capacity of the senior citizens (Tokyo Metropolitan Institute Gerontology Index of Competence: score area 0–13 points). ANOVA was conducted using the total functional capacity score as the dependent variable and the type of area (island area, urban area, and agricultural area) as an independent variable. Frail older persons from the urban area exhibited

the highest mean score on the functional capacity (mean = 9.2, SD = 2.8), followed by those from the island area (7.6, 3.1) and agricultural area (8.7, 2.9), respectively. and the functional capacity scored the average low points of functional capacity of the senior citizen who will live in island part later by which the difference was judged ($p < 0.01$) more significantly than the score of the urban area ($p < 0.01$) and the agricultural area ($p < 0.01$) by an area. The functional capacity of frail older persons living in an island area was lower as compared to those living in an urban or agricultural area. Thus, it is important to develop programs for the maintenance and improvement of the functional capacity of frail older persons based on their regional characteristics.

PERCEPTION OF RISK OF ADVERSE OUTCOMES OF OLD PEOPLE IN NURSING HOMES, DAY CENTERS AND HOME CARE

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Purpose: In Portugal, the three main kinds of services available for older people are nursing homes, day centers and home care services. The admission of old people to these services is mostly based on socioeconomic criteria. However, it is not clear if admission in one of these three types of services corresponds to a higher/lower risk of adverse outcomes (institutionalization, hospitalization and death). The objectives of this work were: i) to characterize customers of each type of service; ii) to estimate the proportion of individuals at perceived risk of each adverse outcome according to each type of service; iii) to assess the ability of RISC to differentiate the types of services for each adverse outcome. **Methodology:** The sample comprised old people with 65 or plus years, that receiving care at home, in day centers or in a nursing home. The identification of individuals at risk within a year was realized using a short, reliable and valid pre-screen instrument, the RISC (Risk Instrument for Screening in the Community). **Findings:** The findings of this research suggest that the three types of services differ according to percentage of mental health problems, but do not differ according to functionality and medical problems of customers. **Value:** The RISC can be used to discriminate people in different settings of care and help selecting the groups at risk that will benefit more from available services

THE POTENTIAL OF FAT DIETARY AND CARDIOVASCULAR DISEASES IN THE SARCOPENIA OF AGING

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Objective: This study investigated the relationship between sarcopenia and the chronic disease, dietary intake in aging as well as the potential factors.

Material And Methods

This was a cross-sectional study evaluated one hundred and thirty eight from nursing home elderly. Data were collected during a face to face interview using a standardized

questionnaire. Self reported respondents in the study involved the completion of all measurements after signing the informed consent form. This study was approved by the Research Ethics Committee of the Faculty of Medicine, Atma Jaya Catholic University.

Chi squared were used according to the analyzed variables. Multivariate logistic regression model were created to analyze the association between the independent variables and sarcopenia.

Results

The majority of the subjects were female (45%), 72 ± 7.9 years, had undertaken formal education for <6 years (56.2%). The prevalence of Sarcopenia in this study was 45% and the prevalence of chronic diseases (diabetes mellitus, hypertension and cardiovascular disease) were 51.4%, 51% and 8.7%. There were a significant relationship between several factors (gender, level of education, cardiovascular disease, depression, protein and fat intake ($p < 0.05$) and OR 1.1–6.6, CI 95% (1.00–42.9). The potential factor of sarcopenia were fat dietary and cardiovascular disease, those with less fat intake and cardiovascular disease were at risk of 6.3–6.6 times to experience sarcopenia.

Conclusion

Cardiovascular disease among elderly was potentially adding a complementary condition that compounds the risk of poor health outcomes, especially sarcopenia. The sufficient fat intake will reduce morbidity of sarcopenia.

SESSION 4485 (POSTER)

GERIATRIC WORKFORCE II

HORIZONTAL CAREER MANAGEMENT IN ELDERCARE ORGANISATIONS

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In the course of demographic developments especially in the eldercare service sector it becomes more important to promote the employability of older employees and to increase attractiveness of this occupational field for junior staff. Against this background the paper provides findings from a research project that aimed at the analysis of the nursing work system from a competence-related perspective as well as at the exemplary implementation of a competence-based and horizontal, cross-lifespan career planning.

The identification of application fields for horizontal careers and the development of competence-based career paths is based on an analysis of framework conditions regarding labour organisation and skill requirements in eldercare organisations (literature review, workshops and expert interviews), a quantitative study of age- and occupation-specific competences and workloads (questionnaire, self-report and evaluation by third parties) and a qualitative survey of non-occupational competences (face-to-face interviews).

Implementation of 19 individual competence-based career paths took place in selected eldercare organisations (home care and nursing homes alike). The quantitative competence-analysis showed that a longer job-tenure provides a better basis to seize a horizontal career and bring in experience knowledge. Furthermore, the process evaluation showed

that older employees could reduce physical workloads and/or compensate for physical impairments.

It is concluded that despite several risks and obstacles that are involved in implementing horizontal career paths in the eldercare sector, the advantages such as reductions in physical strains and mental stress prevail. Overall, horizontal careers for nursing personnel contribute to a better work motivation, commitment and flexibility.

EMPLOYMENT HOPE AS AN EMPOWERMENT PATHWAY TO ECONOMIC SELF-SUFFICIENCY AMONG LOW-INCOME BABY BOOMERS

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This study empirically investigates the relationship among psychological strength traits (i.e., self-esteem, self-efficacy, resilience, and grit), employment hope, and economic self-sufficiency among low-income babyboomers. This study uses 288 low-income babyboomer cases, collected from 26 South Korean social service agencies providing self-sufficiency programs in 2016.

The Rosenberg Self-Esteem Scale (Blaskovich & Tomaka, 1991), the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001), the Short Grit Scale (Grit-S) (Duckworth & Quinn, 2009), and the Connor-Davidson resilience scale (CD-RISC) (Connor & Davidson, 2003) were used to measure personal psychological strength traits, respectively. The Employment Hope Scale by Hong et al. (2013) was used to measure the psychological dimension of self-sufficiency. We measured the economic self-sufficiency using the WEN Economic Self-Sufficiency Scale (ESS; Gowdy & Pearlmuter, 1993).

Structural equation model (SEM) was constructed to identify the impact of psychological traits on economic self-sufficiency, with the mediating effect of employment hope. Maximum likelihood (ML) was employed to estimate models, and missing data was treated with Full information maximum likelihood (FIML) method. The current study employed Bootstrapping method to test the mediating effect of employment hope.

SEM analysis showed that the effects of self-esteem, self-efficacy, and grit on employment hope are statistically significant, as hypothesized. Subsequently, employment hope is positively associated with economic self-sufficiency.

The results of this study imply that psychological traits such as self-esteem, self-efficacy, and grit are important factor of self-sufficiency among low-income babyboomers and motivation and hope for employment mediates the pathway from psychological strength toward economic self-sufficiency.

ARE BAD JOBS INEVITABLE? A COMPARATIVE STUDY OF AGED-CARE OCCUPATIONS AND TRAINING

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As the population ages globally, the care of older adults with chronic disease and physical and cognitive impairment will require a significantly larger and more skilled direct

care workforce than currently exists. Many countries have migration policies to encourage workers to leave home and perform this important work. Others relegate the majority of the labor to vulnerable populations including women of color and immigrants. Do these jobs have to be “bad jobs” with poor compensation, few benefits and heavy workloads? This study comparatively examines the demographic composition and extrinsic characteristics of entry-level aged care jobs in select countries: U.S., Canada, United Kingdom, Australia, Denmark, Norway and China, paying particular attention to the social welfare, immigration and training policies for workers in home and community based settings. Data for this study come from country-specific interviews with the aging and employment context experts and publicly available data. Findings indicate there are similarities across these countries in the increasing demand for workers in both institutional and residential settings, particularly in localities with older and more rural populations. There is wide variability across countries in training pathways for aged care workers, in the structure of these programs (i.e. from on the job to 36 month long training requirements) as well as in specific competency areas (e.g. basic healthcare skills, observations and recordings, emergency training, communication and dementia-specific care). Social welfare policies have significant impact on the extrinsic rewards of these jobs across country setting. Implications for recruitment, retention, and social policy will be discussed.

ARTICULATING AGE: DIFFERENT PERSPECTIVES FROM EMPLOYERS AND UNIONS

M. Flynn, *Business School, Newcastle University, Newcastle upon Tyne, United Kingdom*

This paper will address the role of advocacy groups (specifically trade unions and employers (a.k.a social partners) articulate age as a workforce issue. As pension ages rise and older workers are being compelled to work longer, age inclusive HRM is increasingly becoming a topic of collective bargaining. Employers and unions have historically concluded to create early retirement pathways in order to push older workers out of work in order to make way for younger ones. Now, ‘social partners’ across Europe are developing joint programmes to support older workers in maintaining employability through lifelong learning, flexible retirement and healthy work environment. But have social partners shifted from a paradigm which ‘confirms the economic uselessness of older people’ does collective bargaining represent a new approach to workplace ageing? Using discourse analysis to examine 45 submissions to a review of retirement ages in the UK health services from unions and employers, this paper examines how social partners conceptualise age both in supporting and resisting extended working lives. The paper shows that although both sides recognise the need to create extended work pathways, they maintain both individually and a collective way arguments both favouring early retirement and expressing scepticism over the maintained viability of older people’s employability.

THE INFLUENCE OF THE GREAT RECESSION ON EMPLOYMENT OUTCOMES IN EUROPEAN OLDER WORKERS

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IAGG 2017 World Congress

The Great Recession in 2008–2009 affected the US and Europeans’ labor markets. This study examined whether the Great Recession was associated with employment status and indicators of job quality among older workers.

The data came from 4,917 respondents (16,090 observations) in 13 countries participating in the Survey of Health, Ageing and Retirement in Europe (SHARE). Annual data on Gross Domestic Product (GDP) per capita, life expectancy and quarterly unemployment rates were assigned to health and employment assessments from 2004–2013. Using fixed effect models, we assessed the recession’s implications on individual employment outcomes while isolating cyclical variation within countries and individual changes over time.

Results indicated that among older workers, decreases in GDP were associated with an increase in the likelihood of being unemployed and a decrease in the likelihood of being retired. Increasing country-level unemployment rate had no effect on the employment status but had a significant effect on aspects of job quality among those employed: an increase in hours worked per week, lower prospects for job advancement, lower job security and less satisfaction with salary or income.

We conclude that economic recessions affect employment outcomes of older workers. Socio-demographic factors can be affected by policy measures, to limit the negative employment and job quality consequences of a recession.

AGE SMART EMPLOYER AWARDS: DEMONSTRATION OF EFFECTIVE EMPLOYER ENGAGEMENT

R. Finkelstein, C. Adams, Robert N. Butler *Columbia Aging Center, New York, New York*

On December 9, 2015, a standing-room-only crowd of more than 250 employees, policymakers, researchers and advocates, gathered for breakfast as 11 employers were honored with Age Smart Employer Awards. The Awards began in 2012 as a strategy to identify employers who use evidence-based practices that promote working longer, honor employers who effectively engage and retain older workers, and provide resources and support to encourage others to follow. These 11 finalists were chosen from among 52 applicants through an extensive review process overseen by a selection committee of experts in workforce development, human resources, executive education, small business services, diversity, aging, and communications. Age Smart practices include: flexible hours and telecommuting; phased retirement; encouraging mentor/mentee relationships; wellness programs; recruiting older workers; cross-training workers; internal advancement opportunities; enlisting older workers to strategically retain and transfer the business’s networks and knowledge across generations; and engagement, training and development opportunities for workers of all ages. An example can be seen at 2015 finalist Brooks Brothers – LIC Factory, where their employees are given 1400 minutes off to use however they choose in addition to regular vacation time and sick days. Following the ceremony, finalists, who also included The NYU Langone Medical Center and NYC Small Businesses like Amy’s Bread and Metro Optics, received significant coverage in the business press, including the *Wall Street Journal*, *Forbes*, *Business Week*, *TIME Magazine*, and *Fortune*. The popularity of the Awards has

grown significantly since their inception and strategies for the future will be discussed.

ELDERCARE: CHALLENGES FOR HEALTH PROFESSIONALS AND FAMILIES

D.J. Monahan, V.L. Greene, *Social Work, Syracuse University, Syracuse, New York*

Eldercare is challenging when you are providing care to a relative and simultaneously providing care as a health care professional. This poster session examines factors associated with care burden in the home and in the workplace as a health care professional. Understanding the impact of eldercare is becoming increasingly important as adults are living longer and care responsibilities are increasing for family caregivers. Nurses employed in a skilled nursing faculty (N=72) were surveyed and the data were entered anonymously for SPSS analysis. Respondents mean age was 38.7 years (SD=.19), 95% were female (SD=.61), 48% were married (SD=.83), and 17% had children (SD=.38). Using "hours you are employed per week," as the dependent variable in the linear regression analysis, respondent's age, number of children, income, and years in current position were significant predictors. Factors in the workplace that were statistically significant predictors were as follows: years in your current position, income, and whether they missed work due to eldercare. However, work stress and hours providing eldercare were not statistically significant predictors. The adjusted R Square was .242 and was statistically significant (.006). Understanding which factors are predictive of workplace burden that are associated with longer hours employed will help employers/supervisors adjust work load to compensate for eldercare responsibilities. Workplace practice and employment policy decisions have implications for the well-being of eldercare family members and employees. This study raised important issues for human resource administration and the challenges associated with intergenerational care obligations for the family, the workplace, and society.

VIEWS ON TRADITIONAL RETIREMENT AMONG PEOPLE IN ENCORE CAREERS

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Although the topic of encore careers – work, past midlife, for the social good – has been featured extensively in published books, white papers, and the media, academic efforts to understand and quantify this type of work are in their nascent stages. Further, the association between encore careers and views of retirement – meaningful information that adds context to discussions about longer working lives – is unknown. Using data from the 2014 Encore Career Survey, a nationally-representative survey of 1,000 Americans between the ages of 50 and 70, this study asks a fundamental question about retirement: How do those in and not in encore careers view the traditional model of retirement – namely, a time to enjoy a well-deserved rest and pursue leisurely activities? Conducting four logistic regression models that incorporate propensity score weighting and one without, this study takes age, gender, ethnicity, education, perceived health, total household income and assets, employment status, and geographic location into consideration. Findings show that near-convergence was accomplished, with four out of five models indicating that those in encore careers were about half as likely to agree with

a more traditional view of retirement as those not in encore careers. By using propensity score weighting to control for the selection of observed factors that lead to being in an encore career, this study suggests that the act of being in an encore career may cause one's view of retirement to shift. Limitations to this approach, as well as implications of these findings and possibilities for future research, are discussed.

SESSION 4490 (POSTER)

GERONTOLOGY AND GERIATRICS EDUCATION

DEVELOPING ACADEMIC-COMMUNITY PARTNERSHIPS IN GERONTOLOGY: FROM CONCEPT TO PRACTICE

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Social research, policy and practice related to academic and community partnerships for gerontology in higher education are reviewed, and practical ideas are offered to help educators move toward partnership. It is a concept of partnership that enables San Francisco State University's Gerontology Program to implement an innovative partnership with Eldercare Advocacy Bay Area and other community-based organizations. This session describes how gerontology students benefit from partnerships established by SF State's Gerontology Program with reliable and reputable community partners. Gerontology students often benefit from internship placement experiences that may enhance their ability to fully develop and engage in the learning necessary to be successful. By establishing partnerships with community-based organizations, we have provided our students with a variety of internship placements and learning environments to meet the changing needs of emerging gerontologists. We also collaborate with State approved vendors to provide students with the required internships and training necessary to enter the field of Long Term Care Administration as Assisted Living Administrators and Nursing Home Administrators. For 20+ years, we have measured student success with a variety of indicators including academic success, student satisfaction, and job placement. Data collected from internship students, preceptors and vendors has shown that the academic-community partnerships have improved in their ability to become learning opportunities committed to education, community service and quality assurance. By discussing the relationship between education and practice, our model has been shown to promote the development of mutually beneficial interactions for our students and the community partners with whom they learn.

BUILDING A THEORETICAL FOUNDATION FOR COMMUNICATIVELY-DRIVEN CULTURE CHANGE IN LONG-TERM CARE

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The culture change movement is an international effort to transform inhumane health care institutions into person- and relationship-centered homes and communities. Recent decades have seen a proliferation of approaches, ranging from implementation of expert-developed models

to grassroots community organizing. However, theories to guide specific approaches remain underdeveloped. This session addresses this theoretical gap by elucidating key differences between communicatively-driven and expert-driven approaches, offering clear and compelling support for the former. Schlegel Villages, a long-term care organization with 12 communities in Ontario, Canada, embarked on organization-wide culture change guided by critical participatory action research (CPAR) based on Habermas' theory of communicative action and Foucault's power/knowledge theme. The research component of this initiative spanned 4 ½ years. Among other CPAR activities designed to engage all Village members, the research concluded with a series of critical reflections including active interviews with 29 members of the CPAR team. Using the requirements of communicative action as a framework for analysis of these interviews, findings demonstrate the relevance of these requirements for culture change, including: 1) generality: inclusion of all affected parties in discussion and action; 2) autonomy: assurance of equal possibility to present and critique ideas; 3) ideal role-taking: willingness and ability to empathize with another's perspective; 4) power neutrality: protection against power differences in decision making; and 5) transparency: full disclosure of intentions and suspension of individual agendas. This session provides a theoretical foundation and highlights how a group of people, committed to collaborative reflection and action, can co-create effective and sustainable culture change.

HOUSEHOLD ARRANGEMENTS AND PSYCHOLOGICAL HEALTH AND SATISFACTION WITH FAMILY OF BRAZILIAN ELDERLY

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The aim of the present study was to analyze the relationship between family configuration, the physical and psychological health conditions of the elderly and their satisfaction with family relationships. A study was undertaken of 134 older people from Bahia-Brazil, measuring Family Configuration (living arrangements, head of household, financial contribution of the elderly); Physical (diseases and self-reported symptoms and signs, performance of basic and instrumental activities of daily living, social involvement) and Psychological health conditions (depression and anxiety); Family APGAR. Cluster analysis was performed by the partition method (three groups). The majority of the elderly persons were heads of household (72.4%), who contributed to the financial upkeep of their family (total: 49.2%; partially: 44%), lived in multigenerational arrangements (64.9%), had good physical functionality, did not suffer from depression (82.9%) or anxiety (76.9%) and judged their family to have good functionality (85.8%). The variables that most contributed to the formation of clusters were basic activities of daily living ($R^2 = 0.725$) and family functionality ($R^2 = 0.757$). Clusters were: 1) elderly persons who needed help to perform instrumental activities of daily living, who suffered from anxiety and were dissatisfied with family relationships; 2) elderly individuals who were dependent

for the performance of activities of daily living, who suffered from anxiety and were satisfied with family relationships; 3) independent elderly persons who were satisfied with family relationships. There were reciprocal relationships between the satisfaction of the elderly individuals with their family relationships and their levels of physical functionality and mental health.

THE IMPACT OF FAMILY DIFFICULTIES ON HEALTH TRAJECTORY AMONG MIDDLE-AGED AND ELDERLY IN TAIWAN

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Studies have shown that difficult life events in family have adverse impact on family members. However, most studies focused on a particular health outcome at certain point of time, usually the endpoint of a follow-up period. This study aims to understand: 1) the trajectories of self-rated health change from 2005 to 2014 in a sample of middle-aged and elderly subjects in Taiwan, 2) the impact of family difficulties on the trajectories of self-rated health change, and whether there are age and gender-specific pattern of health change trajectories.

The study analyzes the data of Panel Study of Family Dynamics from 2005 to 2014. Multilevel growth models were conducted. Subjects aged above 40, have at least one family member in 2005, and at least three time points of data were included. A total of 1955 subjects were included.

Results indicated that, for all subjects, self-rated health deteriorated as time went by. However, only for subjects who were aged 65 or above in 2005, self-rated health problems became worse as time went by from 2005 to 2014. Low quality of family relationship, widowhood and parental loss are the factors that predicted the poor health trajectory. For men, widowhood and parental loss are crucial predictors, yet poor quality of family relationship can predict poor health trajectory for women.

The results suggest that poor health trajectory is associated with family difficulties, and there are age and gender differences. We should be aware of the differences when implementing interventions, to fulfill different needs of different individuals.

REINFORCING THE GERIATRIC RESOURCE NURSE MODEL: ASSESSING THE IMPACT OF INNOVATIVE TRAINING

P. Rosenfeld, M. Lopez, *Nursing, NYU Langone Medical Center, New York, New York*

The growing proportion of older adults in this academic medical center, up to 83% on some services, underscores the need for unit-based providers trained in geriatrics. Since 1997, this institution has sustained a Geriatric Resource Nurse (GRN) program to ensure patient-centered care and serve as interdisciplinary team resources. Currently, 88 GRNs are distributed across 14 patient care units, including ER and ICU. Quality measures, such as falls and pressure injuries, indicate strong associations between the presence of GRNs and positive outcomes.

Our structured GRN training program blends elements of the national Nurses Improving the Care of HealthSystem Elders (NICHE) program -- which offers on-line self-paced modules -- with unique supplemental resources and activities. Two innovative educational modalities reinforce geriatric knowledge and competence: (i) SHARING tool (acronym for 7 geriatric conditions) provides guidance on patient assessments tools and (ii) Geriatric Jeopardy, inspired by the TV show, advances knowledge from novice to expert and also used for inter-professional training. Analysis of NICHE national data on on-line training performance found statistically significant differences ($p < .001$) in completion and time to completion rates among RNs using our blended model (100% in 90 days) and RNs using NICHE on-line training (54% completion in 252 days). These findings suggest that combining innovative learning resources and structured training strengthens RN geriatric knowledge and competencies beyond on-line training.

This presentation will demonstrate the SHARING tool and Geriatric Jeopardy in addition to a full discussion of the elements of the GRN program and associated outcome data.

MAINTAINING VOICE, MINIMIZING BIAS: USING QUALITATIVE METHODS TO PRODUCE ME AND MY WISHES VIDEOS

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Technology use in long-term care settings can facilitate person-centered care. *Me & My Wishes* are facilitated, person-centered video-recorded conversations to communicate everyday living and end-of-life (EOL) care preferences. Four 5-minute video modules (about me, preferences for today, preferences for end of life, and afterthoughts) provide long-term care residents an opportunity to talk about their wishes in a way that facilitates conversations with staff and family. *Me & My Wishes* videos are a way to present resident preferences in an objective way that facilitates conversation about preferences and maximizes adherence, but family members and staff may not view a lengthy video. In addition, bias and misrepresentation of resident wishes can be introduced through the editing process. To minimize potential bias we consulted our advisory panel about the interview questions and editing process. On average, raw footage videos were 55 minutes and edited to 17 minutes. We utilized qualitative methods (e.g. viewing videos in entirety, directed coding, member checks) to develop a systematic, 3-step video editing process to maintain the resident's voice. In Step 1 we viewed each video in its entirety. Step 2: We evaluated each video for redundancy, relevancy, and context using our novel flowchart of comparison and consensus codes. Step 3 consisted of having the resident view the edited video and provide feedback. Our procedure demonstrates a systematic process which illustrates how employing qualitative methods facilitated the production of a video that maintained the resident's voice and is time-sensitive to those who view it in long-term care settings.

EXPLORING GRANDPARENTING IN THE CONTEXT OF CHILDHOOD DISABILITY: INTERGENERATIONAL RESEARCH METHODS

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In Europe and elsewhere the majority of men and women aged over 50 are grandparents and play a vital role in providing grandchild care. Age, gender, health status, living arrangements, employment and welfare state policies are known to influence grandparental involvement. Available evidence indicates that grandparents can play a crucial role in the care of disabled grandchildren, their adult children and the entire family unit. The lived experience of grandparenting in this context has received scant attention in research, policy or practice, yet advances in neonatal and paediatric care have resulted in more children surviving with disabling conditions. This study aims to explore the relationships between grandparents, their adult children and their disabled grandchildren from an intergenerational perspective. Initial recruitment of grandparents will take account of age, gender, social class, employment status, retirement age and reasons, health status, adult child's partnership status, grandchild's disability and 'intensity' of grandparental care. Grandparents will be recruited through 'gatekeeper' organisations. Narrative interviews with 30 grandparents generating data about intergenerational family dynamics and the meaning and value participants give to the caring relationships are the first stage, then adult children and grandchildren where possible. Involving multiple generations in the context of disability is challenging, but will give voice to hitherto under-researched groups. We will explore life course influences, as well as life trajectories and explore what happens as grandparents, adults children and grandchildren age. The study will inform key debates, such as how extending working life policies, can impact on families with disabled children.

ASSESSING EFFECTIVENESS AND PREFERRED FEATURES OF ONLINE EDUCATION FOR GRANDFAMILIES PROFESSIONALS

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Online education is increasingly becoming the vehicle of choice for continuing education opportunities in the field of aging. In response to this trend, the University of Maine Center on Aging recently facilitated an online certificate program designed for frontline providers and administrators who support grandparents raising their grandchildren. Certificate curriculum, administered using an online open source platform, included both program administration and clinical topics related to serving this population. The program was administered over a twelve-week period and consisted of nine content delivery modules. A final evaluation survey was administered to participants to assess the program, identify topic areas readily translated into practice by participants and to identify curriculum gaps. Respondents ($N = 22$) represent 11 states and job titles generally reflect program management/leadership positions and direct service provision roles within the nonprofit sector. Participants noted self-reported improvements in their knowledge ($M = 4.41$), skills ($M = 4.36$), and comfort level ($M = 4.50$) serving grandfamilies based on a five-point likert scale. Program features rated highly on a four-point likert scale include: quality of training content ($M = 3.95$), module quizzes ($M = 3.95$), pace and duration ($M = 3.82$) and the ease of learning platform

use ($M = 3.68$). Features receiving lower ratings include discussion forums ($M = 3.27$), and use of a cohort model ($M = 3.57$). Needed curriculum enhancements included localized resource content-specific clinical guidelines related to children and families, and legal and medical resources.

AUTISM SPECTRUM DISORDER IN MID AND LATER LIFE

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Even though many people perceive autism spectrum disorder (ASD) as a childhood disorder, ASD is in fact a lifelong condition. There is the need to create greater awareness of the convergence of trends in relation to ASD and aging, especially in relation to the demographic, social, economic, and health care systems. The scholarship and research activity, as well as the *understanding*, of autism issues in adulthood and aging can be considered the discovery of new territory slowly being mapped and catalogued. Yet there is a demonstrated gap representing what we *do not know* regarding the array of gerontological issues with ASD. This presentation represents a step to address that gap with a review of where we stand and an examination of several dimensions (using a bioecological model) that are relevant to “bridge-building,” which is the metaphor for increasing and expanding services and resources for autism issues and the aging experience. This presentation is based on the completed scholarship that has brought together an international range of personal, research, and clinical perspectives of ASD in mid and later life. The presentation will take a multidisciplinary approach and cover the historical and contemporary perspectives of aging with ASD, including diagnosis, developmental outcomes, and life course issues. In addition, the presentation will examine not only the challenges of growing older with ASD, but also describe the positive ways in which the future for older individual with ASD may be improved.

THE MENTORING SWITCH: TWO-WAY MENTORSHIP PROGRAM 2ND ROUND

L. Jiang¹, C. Brown², M.R. Gugliucci³, 1. *University of Denver, Denver, Colorado*, 2. *Duke University, Durham, North Carolina*, 3. *University of New England, Biddeford, Maine*

Mentorship is important in the field of aging. Traditional mentorship is a one-way consultation process, in which the emerging scholars learn from senior scholars. However, mentoring partnerships work best as a two-way exchange. In this session, referred to as the Mentoring Switch: Two Way Mentorship Program, seasoned scholars will be the recipients of mentorship from emerging professionals. This session was first held at the 2015 GSA Annual Scientific Meeting and based on survey results were quite successful. The key aim is to have international emerging professionals share personal and professional insights and experiences with international senior scholars on specifically chosen topics. The rationale of this program is to continue the cycle of learning by providing current mentors (often senior scholars) a chance to learn from emerging professionals (often recipients of mentorship). Twelve (12) invited senior scholars will be matched with 12 emerging scholars. The topics include: (1) international aging,

(2) minority culture, (3) technology/social media, (4) interdisciplinary research, (5) teaching methods, and (6) student needs. This session will challenge the prevailing paradigms of mentorship including mentee and mentor roles, expand the depth and breadth of mentorship, and foster intergenerational and international communication. The Mentoring Switch was designed to be sustainable through establishing a work plan to foster future mentee/mentor “Two Way” collaborative efforts within GSA among students, emerging scholars, and senior scholars. Event participation is by invitation only. The grant from The Mentoring Effect is pending.

AERONAUTS 2000 PILOT INTERGENERATIONAL PROJECT: SENSITIVITY TRAINING

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This pilot program engages a diverse group of high school and college students in a creative learning process to become more sensitive to the challenges of aging and improve intergenerational communication. Sensitivity training occurred through classroom work, online work, and engaged experiences with older adults. Engaged experiences included 1) student-lead focus groups with 34 older adults, ages 55–95, from diverse, racial and socioeconomic status, with fair to excellent health; 2) sensory and cognitive ability challenge exercises; and 3) collaboration on 30-second YouTube videos on effective communication with older adults for social media. Student learning activities also included “walking in the shoes exercises,” communication strategies, empathy skills, and reflective exercises. Program outcome measures demonstrate applied reasoning, problem solving and team work, as well as changes in student attitudes about seniors through empathy scales, aging myth scales, and development of gerontechnology tools for aging in place. Measurements were evaluated through pre and post-tests, and reviewed by external evaluators. Interns completed an online workbook with customized content that provides formative assessment. Fourteen participating student interns are ages 17–30, of average and above average aptitude, interdisciplinary study interests, and diverse racial and gender status: 65% male (9), 35% female (5); 29% African American (4), 29% Asian (4), and 43% Caucasian (6). The goal is to validate learning methodologies for skill-based learning and outcomes to scale the project for half-day workshops targeting underserved public middle and high school students to promote civic engagement.

UNIVERSAL CARE: IS THERE A COMMON GLOBAL TRAINING CURRICULUM FOR ELDER CARE STAFF?

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As many countries are facing similar demographic changes and aging populations, the question of meeting these needs is a global one. As an increasingly global village, there is much to learn from each other in terms of education and training of those who support our older people. Although the idea of a common knowledge base has been questioned and debated (e.g., Payne), the issue of whether this is feasible and

desirable remains. With examples from educational efforts within a municipality in Sweden, as well as an examination of certificate programs available to elder care staff in the United States, various ways of supporting professional staff working with older people is described and discussed. We explore the idea of finding a core of knowledge for staff and how this can be elaborated for professionals.

DEMENTIA CONNECTIONS: A COLLABORATIVE APPROACH TO LEARNING TO BE PRESENT

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The World Health Organization (WHO, 2015) estimates that the number of persons living with Dementia is expected to increase worldwide to 75.6 million by 2030. Gerontologists play a key role in addressing many of the challenges facing persons with dementia, including feelings of isolation and loneliness common in this population. As a way to address and better understand these issues the University of La Verne and Hillcrest Retirement Community have been piloting a new program entitled "Dementia Connections" (DC). This program incorporates the concept of "being present" as a meaningful approach to working with feelings of isolation and loneliness. The DC program connects masters level gerontology students with residents living in a memory care environment. Students learn to "be" with their partners (rather than doing something *to* or *for* them). In the process, students explore person-centered memory care, their own attitudes about dementia, and learn about providing important social, psychological, and emotional connections to this population. This poster will provide information about Dementia Connections including the program format as well as details and preliminary findings from a variety of perspectives. We will discuss this challenging yet rewarding program and how to overcome barriers, and embrace opportunities.

THE TEACHING OF GERIATRIC DENTISTRY IN SOUTH AMERICA COUNTRIES

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The Geriatric Dentistry (GD) is the area of dentistry that deals with the knowledge and skills required to provide oral health care for the elderly. This study aimed to characterize the teaching of GD in dental schools in countries of South America. It is an exploratory research, descriptive with qualitative approach. Was held in public universities of five countries of South America: Brazil, Peru, Argentina, Colombia and Chile, 9 intentionally selected by the type, nature and hours of GD discipline. The participants were 20 teachers affiliated to GD disciplines and 30 students of the last year. Data were collected through open interviews, conducted by one researcher, recorded in digital form and analyzed by the Content Analysis technique. It was identified six categories of analysis: GD teaching features in undergraduate dental schools; Teacher training for GD teaching; Teacher motivation in relation to the phenomenon of aging of the population and its consequences; Teacher of GD in undergraduate dental schools; The student in the GD teaching-learning process; and Difficulties in the GD teaching-learning process. It was

observed the relevance of the presence of GD discipline in the curriculum. Inserting content on gerontology and geriatrics in the dental curriculum will enable students to be better prepared to assist this population. The study also underscores the need for graduate students to have the opportunity of developing skills related to the management of oral health of the elderly population, from practical classes and in diverse scenario.

SESSION 4495 (POSTER)

HOME CARE

PERSONAL HEALTH INFORMATION MANAGEMENT OF OLDER ADULTS IN THE HOME HEALTH CARE SETTING

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Demand for home health care services for older adults is rapidly increasing. Older adults have the greatest number of chronic diseases and consequently are the largest consumers of home health care services in the US. Patient-centered technologies that support personal health information management for patients, such as patient portals, are being developed; however, little is known about how older adults and their caregivers use patient portals and whether health information is exchanged between patients and home health care providers. Home health care nurses represent the largest group of home health care providers. The purpose of our qualitative study is to gain insight into the health information exchange between older adults and home health care nurses. We are conducting semi-structured interviews with approximately 15–20 home health care nurses employed by two home health care agencies located in Philadelphia and in Seattle. We have completed nine interviews and intend to continue enrolling participants until we reach saturation. We will discuss the results of our qualitative interviews including the role of home health care nurses in personal health information management of older adults, specifically with regard to patient portal use. We will analyze barriers and facilitators to health information exchange between older adults and home health care nurses. These findings will contribute to the development of design criteria for a tool to support the health information management needs of older adults, their caregivers, and their providers.

EXPLORING SUITABLE HOME CARE MODEL FOR COMMUNITY-DWELLING DISABLED OLDER ADULTS IN BEIJING

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Background: China is experiencing a rapid growth of elder people which demands suitable health care models for the disabled community seniors to meet the government's "aging at home" policy.

Objective: To establish the geriatric care model for "home based" health care for the disabled or frail seniors in urban communities.

Methods: 1207 urban community seniors were screened and the volunteered disabled or frail seniors were enrolled. The geriatric team and community health care works were organized to provide geriatric health care services for the intervention group.

Results: 103 seniors who were frail or disabled were selected for intervention, with 105 similar seniors as control. The mean age of the intervention group was 78.8 ± 8.3 , as well as 79.4 ± 8.2 of the control group. After 1 year intervention, the improvement of ADL score has no difference between two groups, but the health status of the intervention group were more stable or improved than control (73.7% vs 57.1%, $p=0.023$). We also found that, in the intervention group, it is likely that the seniors with poor family or social support may have more ER visits and hospitalizations, which may also affect the medical intervention.

Conclusion: For the disabled seniors in urban community of Beijing, the in-door health care services might be more doable. Only health care services without the supports of assist living may reduce the effectiveness of home medical services. It is important for the government to combine assist living with medical services for the seniors.

FACTORS RELATED TO QOL AND WELL-BEING OF THE ELDERLY WHO NEED HOME CARE AND THEIR CAREGIVERS

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Aim: For the elderly with reduced life function, it is desired to maintain the quality of life (QOL) and well-being as possible as they can. In this study, we aimed to elucidate QOL and well-being status of the elderly who needed home visits by physicians and their caregivers, and to examine the factors related to them. **Methods:** We registered the elderly patients living in the community who needed home visits by physicians in Kashiwa-city, Chiba, Japan. We conducted a questionnaire survey of them and their caregivers. The survey items were ESAS-r-J, EQ-5D-5L-J, WHO-5-J, SDM-Q-9-J for the elderly patients, EQ-5D-5L-J, WHO-5-J, SDM-Q-9-J and J-ZBI_8 for the caregivers. **Results:** We got answers from sixty elderly patients and fifty-three their family caregivers. For the questionnaire "Are you living worthwhile lives?", only 15.8% elderlies answered "Yes". We examined the correlation between each survey item. WHO-5-J score of the elderly was positively correlated with their health status ($r=.4550$, $p=.00070$), EQ-5D-5L-J score was negatively correlated with the level of certification of care needs ($r=-.4321$, $p=.00071$). For the caregivers, WHO-5-J score was positively correlated with EQ-5D-5L-J score ($r=.4189$, $p=.00222$), health status ($r=.5706$, $p=.00002$), and was negatively correlated with J-ZBI_8 score ($r=-.5796$, $p=.00001$). **Conclusions:** The health status felt by the elderly themselves was supposed to have the relationship with the mental health. To sustain the caregivers' own health status and to reduce care burden

were important for maintaining well-being and QOL of the caregivers.

SESSION 4500 (POSTER)

INVOLVEMENT IN THE COMMUNITY THROUGH VOLUNTEERING AND CIVIC ENGAGEMENT I

THAI VILLAGE HEALTH VOLUNTEERS: CAPACITIES FOR PROVIDING COMMUNITY-BASED AGED CARE

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Village health volunteers have a long history in Thailand. Their major roles are to provide self-care and to communicate health information to people, including the elderly, in a community. This study aimed to assess their capacities in providing community-based aged care using empowerment assessment rating scales. The instrument qualitatively assessed nine community empowerment domains: participation, leadership, organizational structure, program management, problem assessment, asking-why (critical assessment of a problem), resource mobilization, links with others and roles of outside agents. Each domain comprised five phrases representing levels of capacities. Two groups of village health volunteers participated and were separately assessed for the capacities using a workshop approach, in which the participants actively engaged in the assessment. The phrases in each domain that closely reflected the capacities were chosen and could be altered to describe actual situations. Both groups demonstrated their most developed strengths in program management and resource mobilization. For example, they received sufficient support for their community projects, such as social visits to the elderly. The least developed capacities included participation, problem assessment and asking-why. For example, community members did not have an active role in defining community health problems of the elderly. This study suggests that involving community members in problem assessment and promoting effective information sharing among village health volunteers are key strategies to improve capacities of village health volunteers, especially in the least developed domains, in providing aged care in a community.

REACHING ALL CORNERS OF A RURAL STATE TO INFUSE GERIATRICS INTO PRIMARY CARE PRACTICE

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Critical shortages in Geriatricians, especially in rural areas, require innovative training models. Building upon its strong partnerships across the state with various agencies, the University of North Carolina at Chapel Hill (UNC-CH) reaches rural communities through numerous methods. These include targeted webinars; statewide symposia on behavioral health and falls prevention; regional trainings; and quarterly coalition meetings that can be attended in person or via teleconferencing. Using these mixed methods to deliver education on geriatric topics provides the opportunity to reach

rural audiences where they are and at convenient times for them.

Evaluation metrics include participant evaluations; attendance at training events; satisfaction with educational products; and outside funding. Coalition longevity and attendance are also indicators of value.

As a result of our combined efforts, statewide policy and funding in addressing geriatric issues have both been enhanced. Evaluation results of trainings indicate that attendees gained new ideas and strategies to address geriatric topics in their organizations and increased their understanding of evidence-based programs. The success of the coalitions has attracted additional grant funds to rural North Carolina such as the Administration on Community Living falls prevention grant to deliver evidence-based falls prevention programs. Additionally, funders such as the Kate B. Reynolds Charitable Trust have sponsored numerous behavioral health coalition and statewide program initiatives.

Reaching rural areas that have limited resources requires a variety of distribution channels and strong partnerships. Educational trainings and products create concrete value that can then be leveraged into statewide action, which impacts policy and funding.

WHY HAS OLD-AGE POVERTY BECOME WORSE IN SOUTH KOREA? RESULTS FROM DECOMPOSITION ANALYSIS

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Unlike most western welfare states, lately industrialized countries in East Asian region have faced a serious problem of elderly poverty. Particularly, the recent South Korean experience is very suggestive in that it evidently shows what would happen to the elderly in the world without mature old-age income security programs. As a case study of Korea, this study aims to show which factors worsen old-age poverty in the era of population aging and assess their contributions quantitatively. By applying the Oaxaca-Blinder decomposition method, we examine contributions of changes in both characteristics of the elderly and their income structure to the worsening elderly poverty. Furthermore, we develop a budget incidence simulation model to decompose effects of income structure changes into changes in income components such as market income, private transfer, and public transfer. Data come from the Household Income and Expenditure Survey administered by Korea Statistical Office. Results show that the worsened elderly poverty since the mid-1990s was largely explained by two factors: the rapidly increasing number of elderly households living apart from their adult-child and the growth of the old elderly. The gradually rising public transfer income, although it more than offset the decline in both private transfer and market income, was found to be insufficient to prevent the rising poverty trend due to the drastic demographic changes.

PROTECTIVE FACTORS FOR SUICIDE THAT ARE COMMON ACROSS AREAS WITH LOW SUICIDE INCIDENCE

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The purpose of this research was to identify the protective factors for suicide in the areas with low suicide

incidence (ALSI). This research was conducted in ALSI and the areas with high suicide incidence (AHSI) within Kyoto Prefecture Japan, based on interviews, followed by questionnaire surveys of a stratified random sample of residents per area (930 surveys distributed with a 91.7% response rate).

Compared to AHSI, ALSI showed a weak sense of exclusion and class-consciousness, with an evaluation system of others based on personality and ability, plus little reluctance to seek help, showing an overall low tendency toward vulnerability against suicide risk factors (feeling of giving up easily or having an inclination toward suicide). The phenomenon appeared more strongly in the elderly. These points also coincided with the protective factors for suicide identified in our previous research.

The increase of suicide rate of ALSI after the collapse of bubble economy was the smallest in the neighborhood.

DIFFERENCES OF HEALTH LITERACY WITH COUNTRY OF ORIGIN AMONG ELDERLY PEOPLE LIVING IN JAPAN

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In Japan, the ageing rate is high among the ethnic minority groups. However, health literacy within the scope of ageing and ethnocultural diversity is limited. This study aimed to assess and explore the associated factors of health literacy with respect to multiplicity of languages among the elderly people living in Japan. Face-to-face interviews were conducted to 40 non-Japanese native speakers (Vietnamese, Korean, and Chinese). Health literacy was measured with the 14-item health literacy scale which assesses three dimensions of health literacy (functional, communicable, and critical). Health literacy scores were the highest among Chinese speakers, followed by Korean and then Vietnamese speakers. A Kruskal-Wallis test showed that the critical health literacy scores differed significantly with the country of origin (p -value = 0.004). A linear regression model showed that higher education, younger age, good Japanese language skills, and multiple sources of health information were associated with adequate health literacy. The open-ended questions explored that 85% of the participants did not face any difficulty in communication with health workers, as they had either an interpreter or translation support within their family. Chinese speakers reported that they tried to get health information from Japanese, as they could assume the meaning from Chinese characters (*Kanji*). Korean participants said they were too old to learn and seek health information. The Vietnamese participants said that they relied on doctors or that "God gave health". This study suggests that healthcare workers should realize the complexity of providing services and information to these minority sections of the population.

LOCAL NETWORKS CAN MANAGE DEMOGRAPHIC CHANGE AND KEEP UP THE QUALITY OF LIFE FOR SENIOR CITIZENS

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In Germany demographic change is already visible: especially in rural areas population is decreasing and at the same the remaining population is getting older which is connected

to new requirements regarding their quality of life. Local policies thus have to bundle resources and initiate tri-sectoral cooperation as well as cooperation with other communities in order to be able to maintain adequate and socially just living standards. In this respect the problems of building and maintaining the relevant networks will be the topic of this paper referring to network theory as well as practical experience in community projects. One focus will be on a project that the author has been managing since January 2016 for the German Federal Ministry for Family, Senior Citizens, Women and Youth as part of a part-time delegation from university. The so-called “Demography Repairshop for Communities” is designed to fix problems resulting from demographic change by monitoring and providing consulting advice to eight selected communities of various sizes and (geographical, economic, social, demographic) backgrounds. As part of the project the entire range of potential problems as a community might have as part of demographic change are dealt with: mobility, care, welfare services, leisure time activities, shopping facilities etc. The communities try to find innovative solutions to demographic challenges by forging alliances and networks, between social actors as well as between local entities.

RELATIONSHIP BETWEEN PARTICIPATION IN SALON ACTIVITIES AND HEALTH FOR ELDERLY PEOPLE

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In Japan, some elderly people do voluntary group activities (for example, tea party or physical exercises) in order to prevent isolation from their local community. The places that provide such activities are typically called “salon”, and social welfare councils support them by providing subsidies or conducting public relations campaigns. The purpose of our study is to examine how participation in salons relates to the health of mind and body for elderly people who have less commitment to region activities. We conducted a questionnaire survey for 230 general public participants aged 65 and above belonging to salons in Itabashi Ward, Tokyo (211 women, 19 men, mean age 77.8 years $\pm$ 6.5). The subjects usually take part in both neighborhood community associations and volunteer activities less than twice in six months, but attend salons once a month or more. As a result of factor analysis, we found that the participants felt two kinds of changes through belonging to salons: (a) personal changes such as increasing frequency to go out and (b) changes in connection with local community such as growing attached to regions. Moreover, as a result of correlation analysis, we found that both (a) and (b) had positive correlation with the following variables: the degree of desire to participate in salons continuously, satisfaction for the salon activities, and subjective assessment of physical and mental health. We have

concluded that salon activities may have positive effects for the health of elderly people who have less commitment to other region activities.

OLDER ADULTS' PERCEPTION OF SUCCESSFUL AGING IN SOUTHERNMOST PROVINCES OF THAILAND

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Thailand is experiencing an increase in its proportion of older adults. For more than a decade, the southernmost provinces of Thailand, namely Yala, Pattani and Narathiwat, have experienced social and political unrest, which has impacted the older adults residing in these regions. Using a phenomenological approach, this study examines older adult's perceptions of successful aging in the area. This research aims to 1) understand how older adults living in these areas perceive successful aging in relation to Rowe and Kahn's successful ageing model, and 2) describe the experiences of older adults living in areas of violent social and political unrest. Data were collected using in-depth interviews with eight local older adults and analyzed data using content analysis technique.. The local older adults did not view the situation as a threat to their life for they viewed that they are not the targets of the unrest situation. Additionally, participants identified their religious beliefs and a strong sense of community belonging as coping strategies. Thus, according to them, the violence did not affect their perception of successful aging. While the results were generally consistent with aspects identified in the successful aging model proposed by Rowe and Kahn, a theme of “financial stability” emerged. The results can be divided into four interrelated themes, which are; 1) engaging with others; 2) religiosity; 3) financial stability; and 4) health. Understanding the older persons' view of successful aging in vulnerable situations should add more depth and enhance the conceptualization of the successful aging concept.

THE INTERRELATION OF INSTITUTIONAL CARE AND SUCCESSFUL AGING

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This qualitative research investigates the relationship between institutional care and successful aging among the institutionalized Thai older adults at a non-profit facility in Bangkok, Thailand. Specifically, it examines: a) How do institutionalized older adults define successful aging?, b) What factors do they believe contribute to successful aging?, and c) Do their beliefs vary by gender? Data was collected using open-ended questions with focus groups and in-depth interviews, conducted on 10 institutionalized older adults (5 men and 5 women) ages 60 or over. Interview transcripts were coded and analyzed using grounded theory methodology. The participants varied in terms of gender, education, occupation, and life background. The results revealed that Thai institutionalized older adults viewed successful aging as a result of multiple interrelated factors: maintaining physical health, good mental and cognitive abilities. Remarkably, the participants identified as successful aging include independence for self-care and financial support, adhering to moral

principles and religious practice, seeing the success of their loved ones, and making social contributions to their community. In addition, three primary themes were identified as a coping strategy to age successfully: self-acceptance by being sufficient and satisfied with all aspects of life, preparedness and adaptation for every stage of life, and self-esteem by maintaining their self. These beliefs are shared across gender and age differences. However, participants highlighted the importance of the interrelationship among these attributes similar to the need for a secure environment, the thoughtfulness and social support of institutional care in order to maintain positive attitude and well-being.

PEER COACHING FOR DAILY PHYSICAL ACTIVITY IN OLDER PEOPLE

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Daily physical activity has proven effective for the prevention and treatment of many age-related diseases and can improve balance, mobility and quality of life. Unfortunately, most older people do not meet recommended daily levels of physical activity. Interventions by professionals are successful in improving daily physical activity during the intervention but are too labor and budget intensive to be employed on a population scale.

In peer-coaching, peers coach each other towards a common goal, as applied successfully in the Weight Watchers and Alcoholics Anonymous. We questioned if peer-coaching could be used for delivering daily physical activity to older people. We studied the Freewheel Club, in the Netherlands where a large group of older adults have been gathering daily for a one hour training with a peer coach for almost 6 years.

We analyzed the format of the Freewheel club using participatory observation and focus groups. We also set out a detailed questionnaire to study the motivations of the participants and the social and health effects they experienced. Finally, we collected 6 minute walking distance tests to substantiate the health effects.

We identified both individual and group level determinants of success and motivation. Participants reported both social and health benefits. In the six minute walking test, participants of the Freewheel club improved with an average of 13 meter per year while in the general population people decrease with 5 meter every year.

This study provides a proof of concept of how peer coaching could be a successful format to deliver substantial physical and social benefits to large numbers of older people.

THE EFFECT OF DISABILITY ON SUBJECTIVE WELL-BEING ACROSS ADULTHOOD: THE MODERATING ROLE OF AGE

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Lifespan developmental psychology postulates that development reflects a combination of processes guided by age, pathology, mortality, and non-normative events. Pathology-related processes refer to changes causally linked to chronic

illness and disability. Given the increased likelihood of disease and disability in adulthood and old age, these changes can drive development during this stage of the lifespan. Most studies show that disability can lead to significant declines in subjective well-being (SWB), but few have simultaneously examined multiple indicators of SWB. Furthermore, it is less clear whether age of disability onset and the type of disability have a differential effect on SWB. We applied multilevel models to data from the HILDA study to examine the impact of disability onset across the adult lifespan on three components of SWB (life satisfaction, negative affect, and positive affect) and the moderating role of age and disability type. We found that life satisfaction and positive affect show substantial and sustained declines following disability, and negative affect shows substantial and sustained increases following disability. Individuals who were in young adulthood and old age were more likely to show the strongest changes. Disabilities characterized by health conditions were associated with the strongest declines across all indicators. Our findings show that the effects of disability onset occur across multiple facets of SWB, with age and type of disability moderating such effects. Our discussion focuses on research designs to examine mechanisms leading to these changes following disability.

REWORKING NORMS IN GERIATRIC CARE: EXPLORING AN LGBTQ-SENSITIVE AND INTERSECTIONAL APPROACH

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Several international studies show that many elder non-heterosexual and transgender persons have experienced or are anxious of experiencing mistreatment, harassment or heteronormativity if they are open with their deviant sexuality or gender identity (Fredriksen-Goldsen et al 2011, Heap et al 2003). The result is that many chose to not be open, or postpone getting the help that they need. In Sweden LGBT-people are protected by strong anti-discrimination laws, but according to a recent study there are very few communes workings with integrating a knowledge-based lgbt-perspective in geriatric care (Socialstyrelsen 2013).

But what is the knowledge that is needed and how? This presentation is based on an action-research project of creating awareness of gender- and sexual norms for a group of social workers in the elder care services in a Swedish commune. Using a queerpedagogical and intersectional approach to professional health communication, we worked to combine different strategies of change, focusing on two main subjects. Firstly, an awareness of how heteronormativity is produced in the specific context of care, and secondly, knowledge and reflections on the specific history and ageing conditions of lgbt-people as a diverse group. The approach we used was a combination of content-based lectures, workshops and roleplay, aiming at both creating a knowledge-ground as well as analyzing existing values and practices in order to problematize normative effects. Finally, we focused on re-working communicational practices to be more inclusive and anti-discriminatory. What characterized the learning process following this approach and what were the outcomes for the professional practice and work environment?

SESSION 4505 (POSTER)

LONG-TERM CARE: INSTITUTIONS AND IN-HOME SERVICES II

BIG OR SMALL STORIES? TWO WAYS TO APPROACH NARRATIVE CARE IN CANADIAN LONG-TERM CARE SETTINGS

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Presenting subjective experiences through stories is of great importance to the identities of human beings. Therefore, persons can be considered to be 'narrative beings'. However, residents living in nursing homes often experience barriers expressing their stories – partly due to cognitive or physical impairments, partly due to a lack of persons stimulating their stories or listening to them. This threatens residents' narrative identities. Care providers can use approaches, such as life story work or narrative care to support residents in remembering and continuing to compose their stories. These approaches honor residents' life stories and foster identities.

We were interested in how nursing homes in Canada have taken up the practice of narrative care. In a qualitative study we engaged in conversations with ten experts in narrative care and five long-term care providers. We analyzed the data using content analysis and identified two key approaches to foster residents' narrative identity development in practice. One approach, which we refer to as the 'big story' approach, focused on gaining whole life stories and producing life story books and DVDs about residents' lives. Other approaches reflected 'small stories'; here narrative care is seen as the co-composition of identities that grows through the interactions of care providers and residents, fostering the ongoing and ordinary communications necessary for identity development.

We will highlight characteristics, possibilities and challenges of big and small story approaches, particularly in relation to the implementation and sustainability of narrative care in nursing home settings.

CONSUMER QUALITY INDEX—NURSING HOME VERSION: MEASURING CONSUMER-FOCUSED QUALITY OF CARE

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While measurement of the quality of nursing homes has developed significantly, the incorporation of consumer opinions into evaluations remains limited. To begin to address this gap, this study aimed to generate a preference-weighted scoring algorithm for the newly developed Consumer Quality Index – Nursing Home version (CQI-NH). The instrument has the intended application to measure the benefits of new and innovative models of nursing home care for incorporation into economic evaluation frameworks. We utilised discrete choice experiment methodology to elicit preferences for characteristics of nursing home care from people living in nursing homes or their family members (n=545). Data was analysed using mixed and conditional logit regression models.

The findings indicate that all six attributes of nursing home quality investigated were statistically significant determinants of preferences for nursing home care for participants ($p < 0.05$). Feeling at home in their own room was the most important characteristic to residents and family members (coefficient = 0.885, $p < 0.001$). Care staff taking enough time to meet individual needs with residents, residents feeling at home in shared spaces, and staff being very flexible in care routines, were also identified as highly preferred by participants. Preferences of resident and family member respondents were combined and rescaled to develop a weighted-scoring algorithm for the CQI-NH instrument for measuring quality of nursing home care.

This study provides important information about characteristics of nursing home care that are most valued by consumers. The weighted scoring algorithm generated can be usefully applied in the evaluation and design of future long-term care services.

AGING IN PLACE UNDER ASSISTANCE OF FOREIGN DOMESTIC HELPER: A TRIAD STUDY

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This study investigates why aging-in-place with the assistance of a foreign domestic helper (FDH) is a popular choice for long term care among Hong Kong Chinese families and the role of FDH.

A total of 20 matched triads of elders, primary caregivers (PCs), and FDHs from the same families were interviewed. A grounded theory approach was adopted. Findings from the interviews indicate that aging-in-place with the assistance of a foreign domestic helper is a preferred alternative to institutional care, due to a few contextual factors: a) societal (insufficient nursing home beds); b) cultural (Confucian filial piety expects family members especially adult children to take care of their elderly); c) psycho-social (sharing a small place with others [i.e. FDH] is not a main concern); d) economic (hiring a FDH is affordable to most families; while FDHs earn a much higher salary than they could in their countries); and, e) lifestyle (PCs normally have long working hours). Finally, this option seems to accommodate the needs of all parties involved. However, most FDHs did not receive specific training, so they could not provide adequate care for elders with severe physical or cognitive impairment. Furthermore, communication problems between elders and FDHs were reported.

Besides more objective variables (e.g. environmental, economic), culture, personal distance, boundaries in relationships and understanding of privacy greatly influence the demand and implementation of this long term care option. Results from this study provide reference to societies with similar socio-cultural characteristics (e.g., busy life style, Confucian values).

IMPROVING RESIDENTIAL DEMENTIA CARE THROUGH STAFF

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Common sense suggests and research indicates relationships between staff factors in residential dementia care and the quality of life for residents, with poor care increasing resident suffering. However, we do not have a coherent picture of which interventions with staff have a sustained impact on quality of care and consequent resident quality of life. From a comprehensive search of published peer-reviewed literature from the last 20 years, only 44 studies met the inclusion criteria. Conclusions from these limited data are further compromised because a quarter of the studies failed to measure effects on residents and only half overall assessed effects after the project team withdrew. Of those that did, excellent studies produced change over the medium or longer term, including reduction in challenging behaviour and restraint use but this applied only to a significant minority. A number of studies failed to measure effects on quality of care, limiting conclusions about the mechanisms underlying change. Generally, level of intervention required depended on the target. For outcomes like restraint use, structured education sessions with some support appear adequate. For complicated issues like challenging behaviours, detailed, long-term, supportive, on-site interventions are required. The most promising findings were improvements in restraint and staff/resident interactions.

INTEGRATING OLDER ADULTS BACK INTO THE COMMUNITY: THE IMPACT OF COMPREHENSIVE CASE MANAGEMENT

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A primary contributor to the quality of life for any individual is their ability to remain independent and in their homes for as long as possible. Home-based, case management is increasingly used to reintegrate older adults in to the community and assists in maximizing their health outcomes and efficiency. In-home case management services have also shown positive health outcomes such as reduced isolation and depression, lower frequency of hospitalizations, delay in institutionalization, and an increase in program satisfaction. This presentation will highlight an evidence-based model of care coordination that was designed to assist in the reintegration of 175 older adults discharged from long-term care facilities to community-based housing. Participants were independently housed in a new residential facility and a wide array of case management services, health interventions and home-based services were offered on-site. A quasi-experimental, longitudinal study evaluated the impact of these services and programs on the health and quality of life of the participants. Residents who enrolled in the case management program (n=35) and those who refused services (n=14) were interviewed upon entry into the independent residence and again after 8 months. Those receiving case management services reported statistically significant reductions in hospital visits ($p<0.01$), increased social support ($p<0.001$), enhanced life satisfaction ($p<0.001$) and a decrease in social isolation ($p<0.001$). Focus group sessions with residents receiving case management services revealed greater confidence in living

independently and handling one's personal matters, as well as an increase in self-esteem and hope.

OCCUPATIONAL STRESS AND HEALTH AMONG HOME HEALTH CARE WORKERS

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Responding to an urgent need for cost-effective long-term care solutions as the baby boomers face their final years, home health care workers serve the elderly by providing a wide variety of domestic, personal care, and medical services. Home health care is physically and emotionally exhausting. In addition, home health care workers frequently experience precarious work arrangements for low wages in conditions that are difficult to regulate. Little is known about how sources of job strain in the social context of home care work might be reduced in order to better protect worker's health. Furthermore, extant research rarely takes into account agency-level characteristics that can be shaped by policy changes. In this research, multinomial logistic regression models estimate the health impacts of occupational stressors among home health care workers using data from the CDC's National Home Health Aide Survey (n=3,235). Drawing on existing public health theories on occupational stressors and sociological stress theory, this study specifically explores how socio-demographic factors, workers' experiences, and agency characteristics are related to home health care worker's occupational health and self-rated health. Findings from all analyses strongly support the established theoretical frames, but also demonstrate that health outcomes are significantly linked to other salient policy-relevant factors. Results from the fully-specified models indicate that self-rated health is related significantly to ethnicity, age, marital status, income and perceived agency support. Ethnicity, job tenure, training, agency type, and exposure to discrimination impact workers' occupational health. Strategies for elevating the well-being of the home health care workforce are discussed.

UNDERSTANDING AND MEASURING MECHANISMS OF ADULT DAY SERVICES: A MIXED METHODS STUDY

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Many evaluations of long-term services and supports (LTSS) have approached these programs as a "black box," and it remains unclear how LTSS operate to benefit older clients. Utilizing an exploratory sequential design (qual-QUAN), this mixed methods study developed new measures to better capture the mechanisms of adult day service (ADS) use. The first phase was an ethnographic study of the process of ADS use. Items were extracted from the qualitative data generated to develop items. In the quantitative phase, the psychometric qualities of this newly developed measure were tested in a national sample of family members of ADS clients (N = 250) utilizing descriptive, bivariate, and exploratory and confirmatory factor analyses. The qualitative component yielded four domains of ADS use (the policy/environmental context of ADS; reasons why ADS was used; how ADS is used; and pathways to positive or negative outcomes for families and clients). Content validity was established with expert review, and face validity was enhanced following pilot

testing with 27 family members. Goodness of fit indices and factor loadings generated from principal components and confirmatory factor analyses suggested the empirical integrity of the empirical measure. The study of complex phenomena in gerontology continues in methodological silos. Rigorously designed evaluations of LTSS or other interventions cannot best inform practice if it is not understood *how* and *why* such approaches do or do not benefit older adults or their families. Mixed methods are well-positioned to address this critical scientific and practice gap.

ADMINISTRATIVE FUNCTIONS OF NURSING HOMES: COMPARATIVE ANALYSIS ON MODEL CASE IN THE U.S. AND JAPAN

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This paper is considered commonalities and differences on the administrative functions of nursing facilities for frail elderly in the U.S and Japan managed by nonprofit organizations to provide good care services. In order to make it clear, this research had a comparative approach of nursing homes in both countries. Research objects are the model facilities which have good reputations to improve quality of care services and to have a person-centered-care with trial and errors, toward care culture change. As a result of the content analysis, commonality of an administrative functions in both countries were firstly to overcome the wall of sectionalism, in other words, to induce a team approach among different professional staffs inside of the organizations. So both of administrators put efforts into training of their staffs. Secondly this function was to supply some resources and to make some engagement with neighbors or other organizations in local communities with some kinds of events which were opened outside of the nursing homes. On the other hand the differences were the methods and the kinds to supply resources. In the U.S. the administrators firstly had a vision what kinds of care they should provide and after that they prepared the financial resources, but in Japan the administrators would try to achieve good care financially within nursing care compensation, no fundraising. But some Japanese care workers made efforts themselves by Extended-professionalism and utilized Group-power among the residents on the care spot under middle management to compensate shortage of financial resource.

NURSING STUDENTS' PREFERENCES FOR CLINICAL PLACEMENTS IN RESIDENTIAL AGED CARE FACILITIES

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The residential aged care sector worldwide is facing difficulties with attracting and retaining nursing staff, in a climate of an ageing population with complex care needs. Nursing student experiences of clinical placements in aged care facilities shape attitudes towards working in this sector. However, there is little research about why students choose particular placement areas throughout their studies. This study examines nursing students' preferences for clinical placements in

residential aged care facilities. Data were 6,610 student comments provided as part of Bachelor of Nursing student entries in an Australian university's Student Placement Management System (2007–2014 enrolments). Aged care was mentioned in 612 (9.3%) comments, with thematic analysis used to examine underlying reasons. Most (71%) comments related to a preference for their next placement to be located outside residential aged care, primarily due to a desire to broaden previous experience obtained in this setting. Some students referred to a placement outside aged care better suiting their career aspirations and to the aged care setting offering limited learning opportunities. A minority (15%) of comments only referred to aged care to specify facilities where they had a conflict of interest. A similar proportion (14%) related to a desire to be placed in residential aged care for the upcoming placement, often either as part of a range of specialties of interest to the student, or because aged care was perceived to offer relevant learning opportunities. The findings suggest ways to better meet the needs and desires of the future nursing workforce.

WELL-BEING OF NURSING HOME PROFESSIONAL CAREGIVERS: TESTING A POSITIVE PSYCHOLOGICAL INTERVENTION

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With major job demands such as workload, professional caregivers in nursing homes are at increased risk for stress related problems like burnout. As such job demands will most likely not decrease in the near future, attention should be shifted towards resilience of all professional caregivers by focusing on increasing personal resources. The purpose of this study was to test a generic online positive psychology intervention in increasing both general wellbeing and work related wellbeing for professional caregivers of somatic units of four nursing homes.

This study had a group-randomized controlled design (intervention group $n = 74$, control group $n = 47$). The intervention consisted of reading information and doing exercises of 8 themes of positive psychology (e.g. strengths, positive relations) in 12 weeks. Questionnaires on work related wellbeing (Utrecht Work Engagement Scale), general wellbeing (Mental Health Continuum) and burnout (Utrecht BurnOut Scale) were filled out online at baseline and 3 months later (T1).

Mixed ANOVAs showed no significant increase in work related wellbeing ($p = .61$) or general wellbeing ($p = .37$) of the intervention group compared to the control group. Burnout and engagement at baseline were not significant moderators (p 's $> .40$).

Providing professional caregivers of nursing homes with an online generic positive psychological intervention did not increase work related wellbeing or general wellbeing, even for caregivers most at risk for stress related problems. Possible alternative explanations such as ceiling effects, lack of intrinsic motivation and high workload as well as practical implications are discussed.

EXPLORING SOCIAL CONNECTEDNESS AND VIDEOCONFERENCING FOR OLDER ADULTS' IN A LONG-TERM CARE FACILITY

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Guided by a transactional ecological perspective, this pilot study explored how older adults residing in a nursing facility (NF) conceptualized their social connectedness and technology use. Ten cognitively intact (MMSE > 24) older adults (female, $n = 6$; male, $n = 4$) ranging in age from 69 to 90 ($M = 80.3$) reported on their relationships with family members and friends and their technology usage and intention to use technology in the future. Using a semi-structured interview protocol, older adults in this study reported that they seek out and benefit from social interactions with family and friends. However, participants reported an overall decrease in social connectedness (less frequent family/friend in person visits and telephone calls) with those important to them since they were admitted to the long-term care facility. Family and friend death, distance from family and friends, and change in medical service providers contributed to this reduction. Two common technology themes emerged: technology use (computer and mobile phone) was common and videoconferencing technology was underutilized. A majority of the older adults voiced interest in videoconferencing capabilities and identified specific individuals (friends and family) they would contact using the technology if they had the opportunity and access to the technology. Findings have the potential to inform gerotechnology theories related to reducing barriers that can impede the ability of older adults to remain socially connected with their family, friends, and communities. Future research should explore the perspectives of NF staff and administrators regarding older adult technology use and technology programming.

SESSION 4510 (POSTER)

MENTAL HEALTH OF OLDER ADULTS

ADVERSE CHILDHOOD EXPERIENCES AND LIFETIME MENTAL AND SUBSTANCE USE DISORDERS AMONG OLDER ADULTS

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Despite the increasing rates of mental and substance use disorders (MSUDs) among older adults, little research has been done to investigate the influence of adverse childhood experiences (ACEs) on older adults' MSUDs. Using the life course perspective, we examined the relationship between ten types of ACEs and six lifetime MSUDs among those age 50+ and gender differences in the relationship. Data came from the 2012–2013 United States National Epidemiologic Survey on Alcohol and Related Conditions (NESARC-III) ($N=14,738$ for the 50+ age group). We employed multi-variable logistic regression analyses to test main effects of ACEs and gender-ACEs interaction effects on lifetime major depressive disorder (MDD) and anxiety, post-traumatic stress, alcohol use, drug use, and nicotine use disorders. Of the sample, 53.2% of women and 50.0% of men reported at least one ACE. For both genders, parental/other adults'

substance use problems were the most prevalent (22.6%), followed by physical abuse and emotional neglect. Child abuse and neglect and parental/other adults' substance use problems had small but consistently significant effects on all three mental disorders and all three substance use disorders (e.g., $OR=1.28$, 95% $CI=1.12-1.46$ for parental/other adults' substance misuse on MDD). While the total number of ACEs had gender-neutral, cumulative effects on MSUDs, the effects of physical abuse, sexual abuse, and emotional neglect, as well as parental separation/divorce, were stronger among men. This study underscores the long-lasting negative impacts of ACEs and the need to further investigate why ACEs seem to have greater effects on older men than women.

OUTDOOR ACTIVITIES, COMMUNITY COHESION, AND MENTAL HEALTH OF OLDER ADULTS DISPLACED BY DISASTER

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The first aim of this investigation was to examine the effects of outdoor activities and community cohesion on depressive symptoms in older adults displaced by Typhoon Morakot in Taiwan. The second aim was to explicate whether community cohesion mediates or moderates the relationship between outdoor activities and depressive symptoms. This study included 292 adults aged 65 years or older who were relocated to permanent houses after Typhoon Morakot damaged their homes on 8th August 2009. Face-to-face interviews were conducted four years after relocation. Multiple regression analysis was applied to test the hypothesized relationships among study variables. The analytical results found:

1. The sample of displaced older adults displayed higher prevalence of depressive symptoms than the average for community dwelling older people in Taiwan.

2. Controlling for demographic characteristics,

(1) Outdoor activity involvement and community cohesion were both associated with fewer depressive symptoms.

(2) Community cohesion fully mediated the relationship between outdoor activities and depressive symptoms.

(3) Community cohesion also moderated the relationship between outdoor activities and depressive symptoms.

Community cohesion occupies a key role on the link between outdoor activities and depressive symptoms. Participation in outdoor activities was associated positively with community cohesion, while high community cohesion was related negatively to depressive symptoms. Moreover, the benefit of outdoor activities to fewer depressive symptoms only manifested in older adults with high community cohesion. Programs and services should be designed to enhance community cohesion in order to maximize the benefit of outdoor activities to the mental health of displaced older adults after natural disasters.

STORYTELLING INNOVATIONS: IMPROVED MOOD, FAMILY AND COMMUNITY CONNECTEDNESS IN LATINO AND VIETNAMESE ELDER

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Reminiscence Therapy has documented success in alleviating depression and improving life satisfaction among elders, yet less is known about its ethnic specific efficacy. We report on the County of Santa Clara Behavioral Health Services Department's Innovation Project of combining storytelling (simple reminiscence) with three innovative elements: including family members in the process; conducting community events to showcase artwork and life-story books to family and community attendees; and utilizing ethnically and linguistically matched community workers.

73 Hispanic and 92 Vietnamese clients completed the 12-week intervention with pre and post-test assessments. Clients were mostly female (62%), foreign-born, mean age 75 years, 27% lived alone, and the majority had limited English proficiency.

Paired t-test analyses indicated clinically significant change scores in depression (5+ points on PHQ-9) for 32% of clients and smaller improvement in depression scores (1 – 4 points) for 54%. A few clients experienced no change or worse PHQ-9 scores at post-test. Statistically significant improvements were observed in scales measuring loneliness (Hughes, 2004), and life satisfaction (Pavot/Diener, 1993).

43% had a family member participate in the intervention. Yet, 62% reported improved relationships with family/friends through improved communication and shared understanding of the client's life story. 50% of clients participated in a community event and reported improved connection with their community through listening to others' life experiences and sharing their own. Client perceptions of culturally matched workers were uniformly positive but many indicated they could work with someone from a different cultural background. Successes and challenges to implementation will be discussed.

ARE AGE AND DEPRESSIVE SYMPTOMS RELATED? CROSS-SECTIONAL DATA FROM THE 2010 HRS ON THE 8-ITEM CES-D

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The relationship between aging and depressive symptomatology remains of interest to professionals who work with older adults; however empirical research results continue to be inconsistent. This research adds to the ongoing discussion, using nationally representative data from the 2010 Health and Retirement Study. The sample includes 19,616 community-dwelling adults who self-identify as Hispanic, non-Hispanic white and African American. Factor Analysis confirmed the 3 expected factors (subscales) in the 8-item Center for Epidemiologic Studies - Depression Scale (CES-D): Depressed mood (depressed, lonely, sad), psychomotor retardation (everything an effort, restless sleep, couldn't get going), and lack of wellbeing (reverse-coded happy, enjoyed life). Alpha reliability scores were .78 for the total CES-D scale, and .77, .59 and .73 respectively for the subscales. Controlling for gender, race/ethnicity, marital status, education level and self-related health (SRH), multivariate regression models were used to assess the association between age-cohort groups (40–54, 55–69, 70+) and depressive symptoms. Results for the total

CES-D score showed depressive symptoms decreasing with age. As for the control variables, women, ethnic/racial minorities, non-married and individuals with less education and poorer SRH were more likely to report depressive symptoms than men, non-Hispanic whites, married and individuals with more education and better SRH. Results for the subscales showed the same trends. Depressive symptomatology does not inevitably accompany aging. Although this finding is inconsistent with some recent literature, the size and selection criteria of the 2010 HRS database lend credibility to the results.

MEASURING DEPRESSIVE SYMPTOMS WITH 8-ITEM AND 9-ITEM CES-D: DOES RACE/ETHNICITY MATTER?

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Several shortened versions of the Center for Epidemiologic Studies Depression Scale (CESD) have been developed to screen depressive symptoms. Studies relating to the different versions of CESD measures usually focus on the reliability of the overall scale without considering possible racial differences in these versions. This study examines the psychometric qualities of 8-item CESD (CESD-8) and 9-item CESD (CESD-9), and explores possible racial/ethnic differences in overall depressive symptoms. Using data from the 2010 Health and Retirement Study, 19,592 community-dwelling adults (40+) who self-identify as White, African-American, and Hispanic are included. Confirmative Factor Analysis results indicated 3 expected factors (subscales) in both CESD-8 and CESD-9 versions: depressed mood (depressed, lonely, sad), lack of well-being (reverse-coded happy, enjoyed life), and psychomotor retardation (everything an effort, restless sleep, couldn't get going, and the 9th item, reverse-coded full of energy). ANOVA results demonstrated that both versions differed among racial/ethnic groups: the average scores of CESD-8 and CESD-9 were lowest among Whites and highest among Hispanics. Two Ordinary Least Squares regression models were used to explore whether racial differences existed in both CESD-8 and CESD-9. When socio-demographic characteristics (age, gender, marital status, education and self-related health) were controlled, African-Americans and Hispanics had higher CESD-8 scores than their White counterparts; however, racial difference disappeared when the CESD-9 version was used. Findings suggest that different versions of the CESD may better capture depressive symptoms among different racial/ethnic groups, and further exploration of the psychometric properties within racial and ethnic groups is encouraged.

NURSING DIAGNOSTICS RELATED TO RATES OF DEPRESSION AND COGNITIVE DEFICIT IN OLD PEOPLE IN BRAZIL

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The object of this study is identify the nursing diagnoses (ND) more importants in geriatrics patients in a geriatric clinic of Distrito federal, Brazil, according to NANDA taxonomy two, list the ND found according to the depression

scales and cognition. A descriptive and observational study done with 40 (forty) old people above 65 (sixty five) years old. The data collect occurred in march of 2010, during 60 (sixty) days. Were used the geriatric depression scales and the little exam of mind state. The P (Pearson) value was used in association with level of significance $p < 0.05$. That study was accept by ethic department commission in health of the Distrito Federal. The Nursing diagnostics more prevalents were: sensory perception disturbed, heart debit decreased, dentition impaired, impaired memory, fall risk and insomnia. The rates of depression symptoms were about 35% and the cognition changes by the little exam of mind state of 60%. We can see significative association to the social isolation ND, loneliness risk, chronic sadness, desperation associated to depression rates shown by the scale. The ND associated to cognition changes by the little exam of mind state were: deficient knowledge and impaired memory. The old people have tendency to show cognition deficits and depression symptoms, eventually to the older people and dependence to the daily activities. The most prevalent factor with the ND impaired memory, were around environmental changes excessive, about the deficient knowledge was the limited cognition.

CORRELATES OF DEPRESSION AMONG LOWER-INCOME MINORITY OLDER ADULTS LIVING IN URBAN SUBSIDIZED HOUSING

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Research examining the distribution of major depressive disorders, depressive symptoms and other mental health disorders in community samples suggest that lower-income, minority adults age 50 and older, particularly those with chronic diseases and disabilities, face a greater risk for depression. Furthermore, research seems to support loneliness as a risk factor for mental health problems in older adults. Despite the fact that within the U.S. older adults living in urban subsidized housing are likely to be minority residents with reduced incomes, relatively little is known about their mental health status. This study addressed this gap through a study of the rates and correlates of depressive symptoms among primarily Black and Latino adults age 55 and older residing in a large urban subsidized housing development in Northeastern USA. Further, as loneliness has been defined as a major public health problem, a particular interest was exploring the prevalence and association of loneliness to depression in this population. In-person interviews were conducted in English and Spanish in 216 residents' homes. Results revealed a significant percentage of residents age 55 and older experienced loneliness (28%) and depression (22%). Hierarchical regression analysis was used to explore correlates of depression, including demographic characteristics, environmental factors, health status, and loneliness. The analysis found that perceived loneliness was a significant factor in understanding depression even when other factors were statistically controlled for. The findings underscore both the importance of mental health screening and community-based interventions to strengthen social

connection and engagement of older residents in subsidized housing developments.

SESSION 4515 (POSTER)

NEUROLOGICAL MANIFESTATIONS OF AGING

THE ROLE OF SHBG IN EXECUTIVE FUNCTION IN OLDER PERSONS: THE PIVUS STUDY

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Introduction- Changes in executive function are an early marker of dementia. The metabolic determinants of executive function have however not been fully elucidated. Sex-Hormone Binding-Globulin (SHBG) is not merely a transporter but also acts as a metabolic mediator. Thus, our aim was to investigate the association between SHBG levels and Trail-Making Test (TMT), a measure of executive function, in older individuals.

Methods- This cross-sectional analysis involved 534 seventy-year-old community-dwellers (284 males) from the Prospective Vasculature in Uppsala Seniors (PIVUS) Study. Univariate and multivariate regression models were built to assess the association between SHBG and TMT performance. Sex, comorbidities, smoking habits, BMI, total cholesterol, fasting insulin, total testosterone, estradiol, Mini-Mental State Examination (MMSE) and Endothelium-Independent Vasodilation (EIDV) were considered as potential confounders.

Results- Median SHBG levels were 47.3 nmol/L (IQR 35.4–60.5), while TMT-A and TMT-B scores were 53 (IQR 43–67) and 130 (IQR 101–188), respectively. TMT-A score was positively associated with EIDV, fasting insulin, diabetes and smoking and negatively with MMSE, but was not significantly associated with SHBG ($\beta \pm SE$ 0.04 $\pm$ 0.04, unadjusted $p=0.31$). Conversely, TMT-B was positively associated with fasting insulin, stroke and diabetes, and negatively associated with MMSE, EIDV and SHBG ($\beta \pm SE$ -0.59 $\pm$ 0.22, unadjusted $p=0.007$). The association between TMT-B and SHBG was confirmed in a multivariate model considering sex and MMSE (-0.51 $\pm$ 0.21, $p=0.02$), but not in a fully-adjusted model including EIDV (-0.35 $\pm$ 0.20, $p=0.08$).

Key conclusions- SHBG levels are positively and independently associated with executive functions, measured through TMT-B, in older individuals. This association is however not independent of EIDV.

APPLICATIONS OF GENETIC STOCHASTIC PROCESS MODEL IN STUDIES OF DEVELOPMENT OF ALZHEIMER'S DISEASE

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Among age-specific diseases, Alzheimer's disease (AD) is the most common type of disorder in the elderly populations. Recognizing genes involved in developing of AD using latest achievements of modern GWAS, statistical modeling and

data management systems is among of the top priorities in modern human genetic studies.

Stochastic Process Model offers a plethora of applications in analysis of longitudinal data. In general, such data contain various physiological variables, time to event outcomes and other relevant variables. Often longitudinal data contain genetic information available for all or a part of participants. Analyzing jointly both genetic and non-genetic data can provide insights into processes of aging-related changes and disease developing in the organism.

We applied a multi-dimensional Genetic Stochastic Process Model (GenSPM) using a newly developed software tool, an R-package stpm, to study development of AD. We performed an analysis based on a set of candidate genes, which potentially involved in developing of AD and longevity. The analysis was performed on the following datasets: (i) Late Onset Alzheimer's Disease Family Study (LOADFS); (ii) Framingham Heart Study (FRAM); (iii) Health and Retirement Study (HRS) and (iv) Cardiovascular Health Study (CHS). In addition, we conducted a statistical analysis of survival traits and compared results to findings above. We found that carriers of different alleles have different dynamics of physiological indices, which propagates to the observed different risks of the traits. We will also discuss possible biological mechanisms of the observed findings.

PATHOPHYSIOLOGICAL AND BEHAVIORAL EFFECTS OF SYSTEMIC INFLAMMATION IN RODENT MODELS FOR DELIRIUM

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Aging and neurodegeneration are the major predisposing factors for delirium and systemic inflammation is a frequent trigger. The aim of this review is to analyze and discuss potential animal models for delirium of inflammatory origin. We systematically reviewed animal studies using systemic inflammation superimposed on animal models of aging, accelerated aging, or neurodegenerative disease. Causative agents of systemic inflammation employed by these studies include lipopolysaccharide (LPS), live infection or surgery. Our search was conducted in PubMed and EMBASE and identified 79 studies, including 65 studies using aged animals and 14 studies using diseased animals. In 46 studies animals were challenged with LPS, 7 studies challenged animals with a live infection, and in 26 studies animals underwent a surgical intervention. Outcomes of behavioral assays from animal studies were compared to features and symptoms that can be demonstrated in delirious patients. We found that some surgery models and the ME7 model of prion disease mimic several features of delirium including acute, fluctuating, and transient cognitive dysfunction and disturbance of psychomotor behavior. However, the key neuropsychological feature inattention has not been demonstrated in these models yet. Therefore, further refinement of these model systems is an important priority for future research.

ROLE OF THE INNATE IMMUNE RESPONSE IN THE PROGRESSION OF ALZHEIMER'S DISEASE

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Alzheimer disease (AD) is a progressive irreversible neurological brain disorder. Inflammation and immune alterations have been linked to AD, suggesting that the peripheral immune system plays a role during the asymptomatic period of AD. NK cells and neutrophils (PMN) participate in innate immune surveillance against intracellular pathogens and malignancy but their role in AD remains controversial. We have investigated changes in peripheral NK cell and PMN phenotypes and functions in amnesic mild cognitive impairment (aMCI, $n = 10$), patients with mild AD (mAD, $n = 11$), and healthy elderly controls ($n = 10$). Patients selected according to NINCDS-ADRDA criteria were classified using neuropsychological assessment tests. Phenotype analysis revealed differences in expression of CD16 (increased in mAD), NKG2A (decreased in aMCI), and TLR2 and TLR9 (both decreased in mAD) for NK and CD14 (increased in MCI). Functional assays revealed that NK cell killing activity and degranulation (CD107 expression) were unchanged in the three groups. In contrast, expression of the CD95 receptor was increased in aMCI and mAD. Granzyme B expression and cytokine production (TNF α , IFN γ) were increased in aMCI but not in mAD. Similarly, PMN phagocytosis and free radical production were differentially modulated in MCI and mAD patients. Our data suggest that the number of alterations observed in peripheral NK cells in aMCI represent an activation state compared to mAD patients and that may reflect an active immune response against a still to be defined aggression.

BETAHYDROXYBUTYRATE SUPPRESSES EPILEPTIFORM SPIKES AND IMPROVES COGNITION IN ALZHEIMER'S MOUSE MODEL

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Disruption of normal network activity and associated epileptiform spikes from dysfunctional inhibitory interneurons are important for the pathogenesis of cognitive decline in Alzheimer's disease mouse models. Treatments that reduce epileptiform spikes improve cognition in these models and represent a promising new therapeutic approach for Alzheimer's disease. Ketogenic diet and fasting have been used for centuries to treat certain forms of epilepsy, including those mechanistically related to disrupted network activity in Alzheimer's models like Dravet syndrome. We found that ketogenic diet, but not fasting, consistently reduced epileptiform spikes in the APPJ20 Alzheimer's mouse model. This reduction in spikes was independent or downstream of

inhibitory interneuron function. The effect on spike reduction was sustained through several months of treatment. Long-term treatment resulted in cognitive improvement in the water maze and in habituation to the open field, and in the more severely affected male APPJ20 mice also improved survival. Finally, treatment with a novel compound that is metabolized to the ketone body beta-hydroxybutyrate immediately reduced epileptiform spikes in both APPJ20 and a model of Dravet syndrome to a similar degree as ketogenic diet. We suggest that therapies utilizing such ketomimetic agents, including agents that increase blood levels of beta-hydroxybutyrate or act on downstream targets of beta-hydroxybutyrate, may have therapeutic potential in Alzheimer's disease through improving network function and ameliorating epileptiform activity.

IMPROVED MOBILITY AND BRAIN NETWORKS AFTER 5 MONTHS OF AEROBIC EXERCISE IN OBESE OLDER ADULTS

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It is well established that aging-related changes in brain structure such as white matter lesions and atrophy are linked with changes in gait and mobility. However, changes in neural function may precede irreversible changes in brain structure. Previous work has shown that functional brain networks are associated with mobility function in older adults. Here, we sought to extend that work by replicating previous associations between mobility function and brain networks, and testing whether improving mobility through an exercise intervention produced concomitant improvements in brain networks. Short Physical Performance Battery (SPPB) and resting state functional magnetic resonance imaging (fMRI) were collected in 66 obese, sedentary adults 65–80 years old before and after a randomized trial adding weight loss to a 5-month aerobic exercise intervention. Graph theory-based methods were used to characterize brain network organization and compare participants in the highest (SPPB=12, n=22) and lowest (SPPB=3–9, n=21) tertiles of SPPB score. We replicated findings that the community structure of somatomotor cortex was less consistent in the Low SPPB group compared to the High SPPB group ($p=0.15$). The Low SPPB group improved SPPB significantly after the intervention (mean=1.73, 95%CI [1.02–2.45], $p<0.001$). Improved mobility scores were accompanied by improved consistency of the somatomotor network ($p=0.059$). These data demonstrate that functional brain networks add important information to the understanding of how the brain contributes to mobility function. Modification of brain networks may be a useful target to show efficacy of mobility interventions, and may provide further insights into the development of mobility disability.

THE EMERGING ANTIMICROBIAL PROTECTION HYPOTHESIS OF ALZHEIMER'S DISEASE

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A considerable body of data suggests the beta-amyloid peptide (A β) plays a key role in Alzheimer's disease

(AD) pathology. The physiological role for A β has been unclear. We recently showed that synthetic A β has potent *in vitro* antimicrobial activity against CNS pathogens. We have since generated *in vivo* evidence showing that A β protects against fungal and bacterial pathogens in transgenic mouse, *Drosophila*, *C. elegans*, and culture cell infection models, doubling host survival in some cases. Consistent with a protective role for A β *in vivo*, APP-null mice with low A β expression also show attenuated infection resistance. Oligomerization of A β is key for the protective antimicrobial actions of the peptide and mediates the agglutination and eventual entrapment of microbes in beta-amyloid deposits. The emergence of role for A β as an antimicrobial peptide (AMP) and recent identification of innate immune genes as AD risk factors has lead us to propose a new disease model we call the "Antimicrobial Protection Hypothesis" of Alzheimer's disease. Here we present data on how A β activities mediate the peptides AMP actions against fungal, bacterial and viral pathogens. We describe how our new model provides a framework for understanding A β activities, including host cell cytotoxicity, metal binding and oxygen radical generation, carbohydrate binding, and immune modulatory activities.

ACCELERATED COGNITIVE AND PHYSICAL FUNCTION AGING IN MIDDLE AGED PATIENTS WITH TYPE 1 DIABETES

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With increasing incidence and survival rates in T1D, the number of patients who is aging is also rapidly increasing. As people with diabetes grow older, they continue to be exposed to chronic hyperglycemia, and experience other medical conditions that accompany very long duration diabetes as well as the normal aging process. A striking feature of people with T1D is that they develop brain abnormalities similar to those observed in much older adults without diabetes. Features of accelerated brain aging include psychomotor slowing, brain small vessel disease and atrophy. These brain abnormalities are known to increase the probability of developing disability and dementia in population without diabetes; therefore, they cannot be considered benign. There is an urgent need to quantify the impact of these abnormalities on measures of cognitive and physical health, including clinically relevant cognitive impairment, physical performance, falls and disability. We review here the findings of our neuroimaging, cognitive and mobility study in a cohort of 109 patients with childhood-onset T1D, with retrospective data on microvascular complications (eye, kidney, nerve) since time of diagnosis in 1989 through 2006–08 (mean age of onset 8.6 $\pm$ 4.2 years, current age 47.6 $\pm$ 5.9, 46% women). In 2006–2008 these patients received a neuroimaging test, an extensive cognitive evaluation, and measures of gait speed at usual pace. Self-reported measures of falls and difficulties with instrumental activities of daily living were obtained concurrently.

TAU, P-TAU 181, AND γ -SECRETASE LEVEL: BLOOD-BASED MARKER FOR AD AND MCI

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The overexpression of cerebrospinal fluid (CSF) Tau and phosphorylated Tau₁₈₁ (p-Tau₁₈₁) proteins are well established

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hallmarks of Alzheimer's disease (AD). Elevated level of p-Tau₁₈₁ can differentiate AD from other neurodegenerative disease. However, the expression level of these proteins in serum of AD patient is not well set up. This study sought to evaluate the level of Tau, p-Tau₁₈₁ and γ -secretase in serum of AD, and mild cognitive impairment (MCI) patients for an alternative approach to establish protein-based markers by convenient approach. Blood samples were collected from 39 AD patients, 37 MCI patients and 37 elderly individuals as controls. The level of Tau, p-Tau₁₈₁ and γ -secretase in the serum of the different groups were measured by label free real time Surface Plasmon Resonance technology by using specific antibodies and were further confirmed by the conventional western blot method. An appropriate statistical analysis, including Receiver Operating Characteristic (ROC) was performed. The concentration of serum Tau, p-Tau₁₈₁ and γ -secretase were significantly higher ($p < 0.0001$) in AD as compared to MCI and elderly controls. A significant ($p < 0.0001$) downhill correlation was found between Tau as well as p-Tau₁₈₁ levels with HMSE and MoCA score and there was strong uphill correlation between Tau and p-Tau₁₈₁. This study, first time reports the concentration of Tau, p-Tau₁₈₁ and γ -secretase in serum of AD patients. The cutoff values of Tau and p-Tau₁₈₁ of AD and MCI patients with high sensitivity and specificity reveals that serum level of this protein can be used as a predictive marker for AD and MCI.

NEURODEGENERATIVE EFFECT OF NANOSIZED URBAN AIRBORNE PARTICULATE MATERIAL (NPM)

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Particulate air pollutants are increasingly recognized for their neurotoxic impact in human populations and in experimental rodent studies, but the mechanisms involved and interaction with the APOE $\epsilon 4$ risk factor for Alzheimer disease (AD) remain unknown.

To evaluate the mechanism behind air pollutant neurotoxicity were examined female EFAD transgenic mice (5x*FAD*^{+/-}/*human APOE* $\epsilon 3$ or $\epsilon 4$ ^{+/+}) with long-term exposure to nano-sized urban PM (nPM). nPM exposure increased cerebral β -amyloid, exacerbated by APOE $\epsilon 4$. Moreover, nPM exposure increased A β oligomers, caused selective atrophy of hippocampal CA1 neurites and decreased glutamate GluR1 subunit. nPM-induced CA1 atrophy was confirmed in wildtype female mice. Pro-amyloidogenic APP processing was also increased in neuroblastoma cells (N2a-APP/swe) with *in vitro* exposure to nPM, and correlates with alteration of lipid raft. We suggest that airborne PM exposure promotes pathological brain aging, with potentially greater impact in $\epsilon 4$ carriers throughout increased cerebral A β production and glutamatergic remodeling.

CALCIUM INFLUX ACCELERATES NEURITE DEGENERATION VIA MITOCHONDRIAL-DEPENDENT OXIDATION

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Reactive oxygen species (ROS) induce neuronal cell death in a concentration- and time-dependent manner. However, treatment with a low concentration of ROS, such as hydrogen peroxide induced neurite degeneration prior to the cell death. Previously, we found microtubules alteration and autophagy dysfunction in ROS-treated cultured cells and aged-mice brain. However, the detailed mechanism of ROS-derived neurite degeneration has not been elucidated. In order to verify the mechanism of this morphological alteration, we considered a possibility of calcium homeostasis alteration in ROS-treated neuronal cells. Treatment with calcium ionophore ionomycin rapidly enhanced calcium influx and induced mitochondrial superoxide production. Furthermore, we found mitochondrial lipid peroxidative products. These fluorescent emissions were detected by a time-lapse live cell imaging system. Cytochrome C protein expression significantly increased in ionomycin-treated neurons. However, caspase 3 protein expression did not change of all samples. These results indicated that over influx of calcium ions induces neurite degeneration via mitochondrial dependent oxidative damage. Neurite degeneration is well known in a development and progression of several severe neurodegenerative disorders. These phenomena via calcium-related pathway may be important event in these neurodegenerative disorders.

ALCOHOL CONSUMPTION AND LONGITUDINAL CHANGE IN WHITE MATTER TRACKS

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While alcohol abuse has many detrimental physical and mental effects, there is considerable debate on whether moderate alcohol use, as compared to abstainers, might have a positive effect on health and cognitive functioning in old age. A metaanalysis of 15 studies reported that alcohol abstainers had an increased risk of Alzheimer's disease (AD) compared to light to moderate drinkers (Anstey et al, 2009); AD risk reduction for moderate drinkers were also found by Deckers et al., 2014. However, findings regarding neural function and alcohol use have been mixed and shown nonlinear patterns. Several cross-sectional studies have reported some positive effects of moderate drinking associated with white matter hyperintensities, gray matter, and cerebral infarction. Longitudinal studies regarding association of neural function and moderate alcohol consumption are lacking. This study examined 8-yr longitudinal change (DTI) in white matter tracts, comparing alcohol use in cognitively normal abstainers vs moderate alcohol consumers, aged 50 – 80+ yrs from the Seattle Longitudinal Study (SLS; N = 163). Moderate alcohol use defined as in other studies as 1 – 14 drinks per week. Significant differences in white matter integrity for abstainers vs moderate drinkers were found in white matter tracts: Cingulate (CN), inferior longitudinal fasciculus (ILF), superior longitudinal fasciculus (SLF), and fornix (FX). Effects were primarily found for radial diffusivity (ILF, CN) and axial diffusivity (SLF, CN), compared to FA. Effects were moderated negatively by age in SLF, CN and FX. Effects were moderated by negatively APOE $\epsilon 4$ allele in ILF and CN.

CCT AND BDNF DURING BED REST: PROTECTING AGING INDIVIDUALS FROM ACUTE STRESS

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During acute stress (such as 14 days of horizontal bed rest, BR) plasma level of the neurotrophin brain-derived neurotrophic factor (pBDNF) was demonstrated to increase in older, but not younger adults. We hypothesized that this increase might represent a mechanism of brain protection, and that performing computerized cognitive training (CCT) would alter this pBDNF increase. Thus 16 older adults (healthy volunteers) were divided into two groups: CCT (59.1 ± 3.6 years old) and control (C) group (59.1 ± 2.5 years old). All subjects underwent 14-day BR; the CCT group performed 45 min/day of spatial navigation task. PRE- and POST-BR pBDNF, muscular mass, neuromuscular function and metabolic parameters were measured.

There was a significant interaction effect between time and group ($p = 0.011$) on pBDNF levels, that increased POST-BR for C ($p = 0.009$) but not for CCT ($p = 0.281$) group. CCT group showed anti-insular modifications in metabolism (increase in plasma glucose) whereas C group showed an increase in fat mass and decrease in plasma triglycerides. Muscle mass decreased in both groups. There was a negative correlation ($r = -0.821$) between POST-BR maximal explosive power of lower limbs and pBDNF in CCT group and a positive correlation in C group ($r = 0.810$). Finally, only in C group, the variation of maximal voluntary contraction of knee extensors negatively correlated with pBDNF variation ($r = -0.905$). Our data seem to support the concept that if an external protection for brain occurs (i.e. CCT) there is no pBDNF increase, however if no CCT takes place pBDNF increase is associated to a certain preservation of neuromuscular function.

ASSOCIATIONS BETWEEN APOE GENOTYPE AND PSYCHOLOGICAL CONSEQUENCES POST STROKE

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The contribution of genetic factors such as the presence of ApoE E4 allele and its association with cognitive impairment post stroke remains inconclusive generally and is unknown within Middle-Eastern regions. This study examined the association of ApoE genotype with cognitive impairment and mood in stroke patients and compare these functions to healthy older adults.

A prospective stroke sample of $n = 50$ patients (case group) and $n = 50$ healthy ageing individuals (control group) were recruited from the largest Medical Complex in Bahrain. A neuropsychological battery of cognitive assessments (including pre-morbid, global and executive cognition), were conducted on all participants, and then stratified by cognitive function: no cognitive impairment, mild cognitive impairment and moderate to severe cognitive impairment. Anxiety and depression were assessed using the Hospital Anxiety and Depression Scale (HADS).

The most frequent ApoE genotype was E2/3 in both case (44%) and control groups (63%). No statistical significant association was found by cognitive impairment stratification and ApoE genotype for either case or control groups. ApoE genotype E2/4 had worse cognitive function ($\chi^2 (3) = 8.29$, $p < .05$) in the control group. A statistical significant difference was found between ApoE genotype and total anxiety scores in that ApoE genotype E3/3 were highly anxious in the case group ($\chi^2 (2) = 6.77$, $p < .05$).

The presence of ApoE genotype E4/3 and E4/4 was low to non-existent in this Bahrain sample explaining why no significant associations were found with cognitive impairment. Further examination of mood dysregulation and ApoE genotype polymorphism may be warranted.

DEVELOPMENTAL PROGRAMMING ACCELERATES BRAIN AND CARDIAC AGING IN THE NONHUMAN PRIMATE

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Decreased fetal nutrient delivery leads to developmental programming. We hypothesized that programming predisposes to premature brain and cardiac aging. We developed baboon offspring of mothers fed *ad lib* (control) or with reduced nutrition of 70% control diet during pregnancy and lactation, resulting in intrauterine growth restriction (IUGR). MRI data from 29 control (CTL) baboons (aged 4–22y; human equivalent 16–88y) were used to construct a reference curve for brain aging. We also studied IUGR baboons (8 male, 8 female) age 5.7 y and CTL offspring (8 male, 8 female), age 5.6 y with MRI to evaluate left ventricular (LV) and right ventricular (RV) functional parameters, normalized to body surface area. Premature brain aging by +2.7 y ($p < 0.01$) occurred in young adult female IUGR offspring vs. CTL. Cardiac data are presented for CTL, IUGR, OLD, mean ± SEM: left ventricular ejection fraction ($58 \pm 3\%$, $45 \pm 2\%$, $50 \pm 3\%$), filling rate ($88.8 \pm 7.1 \text{ mL/sm}^2$, $63.5 \pm 7.0 \text{ mL/sm}^2$, $62.0 \pm 7.3 \text{ mL/sm}^2$), right ventricular ejection fraction ($49 \pm 2\%$, $32 \pm 3\%$, $39 \pm 3\%$) and stroke volume ($26.5 \pm 1.8 \text{ mL/m}^2$, $20.0 \pm 1.8 \text{ mL/m}^2$, $17.5 \pm 2.2 \text{ mL/m}^2$) were all decreased ($p < 0.05$) similarly in IUGR and OLD. To our knowledge these cohorts are the first to reveal both premature brain and cardiac functional aging by young adulthood resulting from developmental programming and IUGR in any species. Further studies across the life-course will determine progression of cardiac dysfunction. These and other multi-organ non-invasive *in-vivo* aging related biomarkers we are developing will reveal determinants of premature aging and aid the development of preventive interventions and pharmacological treatments on an individualized basis.

SESSION 4520 (POSTER)

PHARMACOLOGY

APPROPRIATENESS OF PROTON PUMP INHIBITOR USE IN A PSYCHOGERIATRIC POPULATION

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Inappropriate medication use is the use of a medication where the potential risks associated with use outweigh the potential benefits. Inappropriate medication use among older people is known to contribute to adverse health outcomes including hospitalisation and death. Proton pump inhibitors (PPIs) are medications which are commonly used to treat gastric-acid related disorders. Long-term use of PPIs has been associated with several risks including *Clostridium Difficile* infection, pneumonia, kidney disease and potentially dementia. Inappropriate PPI use is common in older people with up to 80% of patients using a PPI inappropriately. This study explored the appropriateness of PPI prescribing in an inpatient psychogeriatric population which is a vulnerable and understudied patient cohort. Pilot data obtained from 67 inpatients showed that 33% of patients were using a PPI at the time of admission. PPI use was found to be potentially inappropriate in 68% of cases. Un-investigated GORD was the most commonly identified inappropriate indication with 41% of patients using a PPI for this reason. The average frailty score was increased by 10% and the Katz index for independence in activities of daily living was reduced by 15% in PPI users compared to non-users. Both nationally and internationally, PPIs are listed as the most commonly prescribed medications and the costs to the government and the individual are significant. This study demonstrates that there is an opportunity to deprescribe PPIs in psychogeriatric patients which would not only reduce the risk of adverse health outcomes but also result in significant cost saving.

PHARMACOLOGICAL IMPACT OF HOSPITALIZATION IN AN ACUTE GERIATRIC UNIT

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The impact of hospitalization on the treatment of elderly patients has not been widely studied. Previous studies examine some treatment characteristics in an isolated way and also provide mixed results and few until now have explored the modification of treatments during hospitalization with a mixed comprehensive approach. We have conducted a retrospective observational study in 235 admitted patients, and compared polypharmacy (≥ 5 and ≥ 10 drugs), potentially inappropriate prescribing or potentially omitted prescription (PIP-POP), drug interactions, the use of drugs with impaired renal function and the anticholinergic load of the treatments before and after admission to hospital. Their relationship with mortality, readmissions and emergency visits after a six-month follow-up were also analyzed by multivariate logistic regression. We found that the total number of drugs increases (9.1 vs. 10.1 $p < 0.001$), without increasing chronic drugs (8.5 vs. 8.3). There were no significant variations in the number of patients with polypharmacy (86.5% vs. 82.2%), those who presented inappropriate prescribing criteria (68.5% vs. 71.5% STOPP; 58% vs. 58% START) or those presenting interactions (82.5% vs. 83.5%). Those receiving drugs with

anticholinergic effect tend to increase but without reaching statistical significance (39.5% vs. 44.5%; $p = 0.064$). An association was found between hyperpolypharmacy and the risk of readmission (OR 2.302; 95% CI 1.197–4.425), and emergency visits (OR 1.928; 95% CI 1.049–3.546).

PREDICTIVE FACTORS FOR THE PRACTICAL MANAGEMENT OF THE ANTICOAGULANT THERAPY IN FRAIL OLD PATIENTS

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Purpose : Preventing embolic cerebral infarction is important since it decreases activity of daily living and quality of life in old people. However, appropriate use of anticoagulants is difficult in frail old people because of increasing risk of bleeding events. Thus the present study examined the predictive factor for practical management of anticoagulants in older patients.

Methods : 835 patients aged ≥ 65 who were admitted to the geriatric ward of The University of Tokyo Hospital between 2013 and 2015 were enrolled. 100 patients (men 48%, mean age 84.4 ± 7.4 years) had atrial fibrillation. We followed the patients ≤ 3 years after baseline. Major gastrointestinal bleeding, stroke and all cause mortality were investigated for outcome. Comprehensive geriatric assessment was performed and frailty was evaluated by BMI, IADL scale and Barthel index, MMSE, vitality index, GDS15, fall risk index, history of fall and by living alone or not.

Results: Among them, 44 % were taking anticoagulant therapy. There was no significant difference between with or without anticoagulant therapy in all three outcomes. The fall risk index had an increased risk of major gastrointestinal bleeding (adjusted hazard ratio 1.8, 95% confidence interval 1.1 to 4.5) and MMSE was increased risk of stroke (adjusted hazard ratio 0.8, 95% confidence interval 0.6 to 1.1), a history of fall was increased risk for all cause mortality (adjusted hazard ratio 5.6, 95% confidence interval 1.1 to 26.7).

Conclusions : Fall risk index, MMSE and history of fall might be the predictor factors for practical management of anticoagulants in frail old people with atrial fibrillation. Further studies are needed to clarify the medical appropriateness of anticoagulants.

CHANGES OF NITRIC OXIDE SERUM LEVELS WITH SSRI USE IN GERIATRIC OBSESSIVE COMPULSIVE DISORDER

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Nitric oxide (NO) is an inflammatory mediator, shown to have a possible role in pathophysiology of some psychiatric disorders such as obsessive compulsive disorder (OCD). Some studies on animal models have shown that increased NO production could lead to reversed effect of selective serotonin reuptake inhibitors (SSRIs). This study tries to assess the correlation of NO serum levels with the use of SSRIs in geriatric OCD.

Patients aged 60 and older, diagnosed with OCD and candidates of receiving an SSRI drug; entered this study voluntarily. For assessing NO serum levels, blood samples were drawn from subjects before starting drug therapy and when the patient had shown signs of response to the drug. NO concentrations were measured by Nitrate/nitrite colorimetric assay kit (Griess method).

27 patients met our inclusion criteria. Mean serum concentration of NO prior to drug therapy was $29.94 \pm 18.9 \mu\text{mol/L}$. This value was $17.55 \pm 2.75 \mu\text{mol/L}$ when the symptoms showed signs of improvement. With a p-value of 0.041, there was a significant correlation between NO levels and the use of SSRIs. Mean duration of therapy for these cases was 4.03 ± 0.5 months. Type of the SSRI, duration of disease, gender and severity of OCD did not have any relationship with NO levels.

Our results show that geriatric patients on SSRI drugs had lower NO serum concentrations when their OCD symptoms started to resolve. Such data can be helpful in finding a predictive factor of response to therapy, and augmentation therapy with future drugs that target NO synthesis.

POLYPHARMACY E-CONSULTS: A METHOD TO ASSESS MEDICATIONS AND ADDRESS POLYPHARMACY IN RURAL PATIENTS

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The Geriatric Polypharmacy E-consult began in 2015 to address issues of polypharmacy among older Veterans in rural community based outpatient clinics (CBOCs) outside Pittsburgh, Pennsylvania.

Methods: Completed a telephone medication reconciliation of all prescription and non-prescription medications plus review of medical records. A geriatrician and pharmacist reviewed collected information to provide recommendations to VA and non-VA physicians via medical chart and letter.

Results: 82 Veterans & caregivers contacted (average age 76 years (range 59–92)). Most had more than one physician providing care and many had cognitive decline. Reviewed 1,215 medications across 82 Veterans, averaging 14.8 medications/person (range 5–29). Medications in medical record did not correspond with the medications actually taken by patient in 68 of 82 cases (83%). Recommended discontinuing medication (including supplements) - 308 times, for an average of 3.8 medications/ person. Potentially problematic prescribing and medical practices found: no indication for drug (147 instances), drug use without adequate monitoring (n=123), potential adverse drug event (n=102), wrong /ineffective drug given (n=89), adverse drug-disease interactions (n=64), diseases remained untreated (n=55), patient not adhering to drug regimen (n=41), dose of drug too low to be effective (n=30), dose of drug too high (n=30), therapeutic duplication (n=21), problematic drug-drug interactions (n=20), drug taken for too long (n=4), wrong directions for drug (n=4). E-consults saved Veterans 9,597 miles of driving (117 miles/Veteran), 204 hours of driving (2.5 hours/Veteran).

Conclusion: Complete medication reconciliation involves additional effort beyond the usual clinical practice especially

with cognitive decline. Potential to avoid adverse medication events is significant.

RELATIONSHIP BETWEEN POLYPHARMACY, GAIT SPEED AND FUNCTIONALITY IN ELDERLY OUTPATIENT DEPARTMENT

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Polypharmacy is the concurrent use of more than five different medications consumed by a person at the same time. It is related to adverse drug reactions, increased morbidity and mortality. The present descriptive study analyzed 126 patients over a period of 6 months in elderly outpatient department at the San Ignacio University Hospital in Bogotá Colombia. All patients must have polypharmacy criteria to be included. Barthel index, mini nutritional assessment and gait speed (GS) were carried out. At baseline, 68.2% were female. Polypharmacy (to use between 6 to 10 medications) was met for 103 patients (81.8%). In addition, there was extreme polypharmacy (use of more than 10 medications) in 23 (18.2%) patients. Besides, normal GS was reached only for 13% (standard measure of normality is faster than 0.8m/s). Functional evaluation measured by Barthel index demonstrated independence at the ADL only for 29 (23%) subjects. Finally, in terms of comorbidities and nutritional status, 92% had more than 5 clinical conditions and only 35% had normal nutritional status. In conclusion, polypharmacy is a risk factor that could impair functionality, nutritional status and be associated with decreased GS. New studies are needed to get more information on the impact of polypharmacy in the elderly population.

UPDATE OF A VALIDATED CLINICAL TOOL FOR IMPROVEMENT OF DRUG TREATMENT IN THE ELDERLY

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Many studies have revealed that elderly people are frequently the victims of inappropriate drug treatment. The major problem is that for most of the drugs there is no evidence regarding efficacy and safety in the elderly. This dilemma is intensified by the high incidence of multimorbidity and therefore polypharmacy in this group of patients. To increase the appropriateness of pharmacotherapy in the elderly we have developed a clinical aid called the FORTA List. FORTA was originally created by Wehling and validated and expanded by experts in a Delphi consensus procedure. Later on, we evaluated FORTA's usefulness in a pilot clinical study as well as in a controlled prospective trial. Both of them confirmed that FORTA significantly ameliorates the quality of pharmacotherapy and reduces the incidence of adverse drug reactions. As an evidence-based tool the FORTA List needs frequent updates as the field of geriatric pharmacology advances rapidly. Therefore, we conducted a new Delphi survey to update this useful clinical tool. This Delphi consensus procedure involved 21 experts who evaluated the proposal of 4 initiators. The new FORTA List now contains 48 (21.3%) additional items as compared to its

previous version and 3 new indications (nausea and vomiting, hypothyroidism, obstipation) were added to the list resulting in 29 indications in total. Besides, all medications used to treat dementia associated depression ($n=3$) and anti-cancer medications ($n=27$) received a less positive classification than before. All in all, the updated list now covers more illnesses and contains more medications used to treat elderly patients.

SESSION 4525 (POSTER)

PHYSICAL ACTIVITY: PRECURSORS AND BENEFITS

EFFECTS OF SELF-EFFICACY ON PHYSICAL ACTIVITY, FUNCTIONING, AND AUTONOMY IN MULTIMORBID ADULTS

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Multimorbidity poses a threat to autonomy in older adults in line with less activity and compromised functioning. This study examined effects of self-efficacy on three outcomes: subjective physical functioning, physical activity, and perceived autonomy. The longitudinal study was conducted with 309 multimorbid older adults (aged 65–85) including three measurement points over 6 months.

First, subjective physical functioning was regressed on health-specific risk perception and general self-efficacy. The latter two factors interacted in a way that risk perception predicted physical functioning only for individuals with low self-efficacy.

Second, received friend support as well as self-efficacy were specified as predictors of exercise frequency. Besides main effects of social support and self-efficacy, an interaction between them emerged. Persons with low support were less likely to be active even if they were highly self-efficacious.

Third, we tested effects of perceived self-efficacy and instrumental received social support on autonomy. Low self-efficacy and low support were jointly associated with lack of autonomy. However, the relation of self-efficacy with autonomy was also moderated by received support. The combination of high self-efficacy and low support yielded the highest level of autonomy. This is explained with higher need of support in multimorbid older adults who need outside help and who are competent in mobilizing such help. Receiving social support bolstered autonomy in lower self-efficacious individuals, but in highly self-efficacious individuals support threatened autonomy.

MOVING BEYOND WALKING: ENCOURAGING SENIORS TO DO MORE VARIED PHYSICAL ACTIVITY

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Physical activity guidelines for later life often recommend engaging in varying forms of exercise, including cardiovascular, resistance, flexibility, and balance training. Unfortunately these guidelines are rarely promoted effectively and many older people are unaware of optimal types and duration of physical activity. Health promotion communications designed to improve knowledge and motivation relating to physical activity need to build on current beliefs and behaviours to ensure they are perceived to be reasonable and achievable by the target audience. The objectives of the present study were to (1) assess older Australians' beliefs and behaviours relating to physical activity and (2) provide recommendations for future health promotion communications targeting this group. Interviews were conducted with more than 250 Australians aged 60+ years, with an approximately equal gender split. Interviewees discussed their physical activity beliefs and behaviours, with a particular focus on the types, duration, and intensity of activity currently undertaken and believed to be ideal. The interview transcripts were imported into NVivo11 for coding and analysis. Overall, attitudes to physical activity were ambivalent and the most commonly undertaken and endorsed form of activity was walking. Most interviewees were unaware of guidelines relating to frequency, duration, and intensity of activity. In particular, very few appreciated the benefits of resistance training and only a small number regularly engaged in some form of strength exercise. Even fewer participated in balance or flexibility training. There appears to be a need for strategies to improve older people's knowledge of current guidelines and their motivation to comply with them.

AEROBIC EXERCISE ACCELERATES WOUND HEALING AMONG STRESSED OLDER WOMEN, BUT NOT STRESSED OLDER MEN

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Aging and psychological stress are associated with impaired wound healing. Aerobic exercise (AE) has been associated with accelerated rates of wound healing among healthy older adults. This study evaluated the influence of AE on wound healing among healthy, stressed older adults. 77 community-residing older adults (mean age=65.0±7.9 years; range: 55–84 years; 64% women) reporting elevated daily stress were randomly assigned to an AE group or a balance and flexibility (BF) control group. Both groups attended sessions 3x/week for 12 weeks. Participants completed comprehensive assessments prior to randomization and at study conclusion, including exercise capacity (VO_{2peak}) and psychological stress (Perceived Stress Scale-10), as well as additional self-report and biological markers. After 2 weeks of group sessions (AE or BF), participants underwent a standardized experimental wound procedure, and wounds were measured 3x/week until healed to calculate wound healing rate. Repeated measures analysis of variance (ANOVA) revealed a time by group interaction for VO_{2peak} [$F(1,66)=10.07$, $p=.002$], with a 13% gain in AE versus 2% in BF. As expected, in the full sample older age was associated with slower wound healing ($r=.24$, $p=.040$). Surprisingly, ANOVA revealed no difference in wound healing rate across groups, but wound healing was faster among men than

among women [$F(1,67)=5.46$, $p=.022$]. Also, there was a significant sex by group interaction [$F(1,67)=6.15$, $p=.016$]: among women, wounds healed faster in the AE group, but among men wounds healed faster in the BF group. Thus, among stressed older adults, AE may be more relevant for wound healing of women than of men.

THE BENEFITS OF LIGHT-TO-MODERATE PHYSICAL ACTIVITY FOR OLDER ADULTS

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The benefits of physical activity (PA) for older adults have been demonstrated in reduced prevalence of common chronic conditions (e.g., heart problems, diabetes or hypertension), improved mental health and quality of life, decreased probability of cognitive decline and reduced mortality. Less is understood concerning the health impacts of light-to-moderate intensity PA among older adults. In this study the purpose was to estimate prevalence of light-to-moderate PA levels (low, moderate and high) among AARP® Medicare Supplement insureds (insured by UnitedHealthcare), identify characteristics associated with PA levels and estimate the impact of PA levels on healthcare utilization and expenditures. In 2015, surveys were sent to a random sample of insureds in three states. Physical activity was determined from survey responses querying days per week of at least 30 minutes of light-to-moderate PA. Multivariate regression models, adjusting for confounding covariates and survey non-response bias, were utilized to determine characteristics associated with PA levels and the impact of PA levels on healthcare utilization and expenditures. Among survey respondents ($n=17,676$), low (0–2 days), moderate (3–4 days) and high (5 or more days) PA levels were 23.3%, 33.9% and 42.9%, respectively. The strongest predictors of moderate and high PA included being male, younger, self-reporting better health, using fewer prescription drugs and being less likely to be diagnosed with common chronic conditions or depression. Those engaged in moderate and high PA had significantly lower medical utilization and lower healthcare expenditures. Efforts to increase all levels of PA among older adults should be encouraged.

CHANGES IN PHYSICAL ACTIVITY AND DEPRESSIVE SYMPTOMS AMONG CHINESE OLDER ADULTS

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The protective effects of physical activity on depressive symptoms among older adults have had conflicting results. The study investigated the effects of changes in amount of time for physical activity each day and purpose for doing physical activity on depressive symptoms among the elderly. Data came from Chinese Health and Retirement Longitudinal Study (CHARLS, 2011–2013) longitudinal data a nationally representative sample. The analytic sample contained 1497 older adults aged 60 and above. The CESD-10 was used to measure depressive symptoms with a score from 0 to 30. We used multiple linear regression. Respectively, 14.7%, 25.1%

and 29.6% of the elderly increased the amount of time each day for vigorous, moderate and low physical activity from 2011 to 2013. After controlling demographic and socioeconomic variables, when increasing the amount of time for vigorous or low physical activity, the elderly tended to have more depressive symptoms. However, when adding the purpose for doing physical activity (job demands, entertainments, exercise and other), we found compared to job demands exercise was significantly associated with less depressive symptoms. The purpose for doing physical activity might be much more important than the amount of time for physical activity to mental health of the elderly. When we encourage productive engagement among older adults, we should pay attention to the health results of the increase of work related physical activity. And we suggest that environment should be perfected to increase exercise participation for the elderly.

PHYSICAL ACTIVITY ENGAGEMENT AMONG URBAN-DWELLING CHINESE OLDER ADULTS: A GROUNDED THEORY STUDY

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Background: Maintaining well-being of older adults has been identified as a critical public health concern in China. Physical activity (PA) produces many health benefits; however, for urban Chinese community-dwelling older adults' PA levels are still low. There is limited in-depth understanding of psychosocial processes that are important for engagement of PA among urban Chinese community-dwelling older adults.

Method: This study used grounded dimensional analysis, a variant of grounded theory to explore how participants' engaged in physical activity and conditions which influenced their engagement. Twelve urban community-dwelling Chinese older adults age over 60 participated. Semi-structured interviews were used for data collection. Open, axial and selective coding was used to analyze the data along with constant comparative analysis.

Findings: Four preliminary categories identified in the data include "Knowing Self", "Keeping Motivation", "Gaining and Building Support", and "Making PA as a Part of Life". Participants describe experiencing physical (stronger, decrease in pain, and less chronic disease symptoms), mental (more energetic, refreshed and joyful) and social (new friends and encouragement) benefits as important motivators to continue physical activity. Conditions which seemed to influence initiating and continuing physical activity were being part of groups and having structured community activities.

Conclusion: Understanding the meaning of PA for older adults could be important prerequisites for developing interventions to improve PA engagement. The importance of support systems and how to create these systems for urban dwelling Chinese older adults should be studied further.

ASSOCIATION OF ACUTE EXERCISE AND FINE MOTOR LEARNING IN OLDER ADULTS

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An acute bout of high intensity physical exercise, as compared to a resting condition, led to enhanced improvement in fine motor performance 24h after physical exercise in young adults, indicating that acute exercise can boost motor learning [1]. In older adults, cardiovascular fitness level is positively associated with fine motor performance [2]. We examined whether an acute bout of moderate intensity exercise affects motor learning in older adults. Thirty older adults (65–74 years of age) were assigned to an experimental group ($n = 15$, acute exercise: 20 min cycling at 65 % of maximum Watt performance level) or a control group ($n = 15$, rest: listening to an audio book). Groups were matched with respect to cardiovascular fitness level (assessed by use of spirometry (VO_2 -peak) on a bicycle ergometer). Motor learning was assessed with a visuomotor precision grip tracking task. Participants had to track a sine wave pattern with their right dominant hand at baseline (immediately before acute exercise/rest: 8 trials of 15 sec (i.e., 1 block)) and for practice (immediately, 30 min, and 24 h after exercise/rest: 4 blocks each). Tracking variability was operationalized as the root mean square error (RMSE: at baseline and last practice block). Preliminary analyses revealed that the experimental group performed better 24 h after intervention as compared to the control group, indicating improved motor consolidation processes. These findings are promising, as they indicate potential applications for motor rehabilitation.

[1] Roig et al. (2012). *PloS One*, 7(9), e44594.

[2] Hübner et al. (under review).

LEISURE-TIME PHYSICAL ACTIVITY AND AFFECT IN MIDDLE-AGED AND OLDER WOMEN

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Previous literature on exercise and mood has emphasized relatively short-term affect in the context of acute exercise or structured exercise interventions. The present study investigated exercise and mood in a more ecologically-relevant way, reflecting longer-term affect in the context of regular leisure-time physical activity. We focused on middle-aged and older women, an underrepresented group in the study of physical activity. The sample included 861 women ranging in age from 40 to 75 ($M = 56$) from the second wave of the MacArthur Studies of Midlife (MIDUS2). A composite measure of moderate and vigorous leisure-time physical activity approximated meeting CDC physical activity guidelines. Following Ekkekakis and Petruzzello's (2002) recommendation to use the affective circumplex to tap both emotional valence and activation in research on exercise and affect, four scales indexed high and low activated positive and negative affect ($\alpha = .84$ to $.92$). A 30-day time frame was used to reflect broader factors influencing mood (Mroczek & Kolarz, 1998). In multiple regression analyses controlling for socio-demographic factors and health status, leisure-time physical activity was positively associated with high-activated positive affect ($B = .15$, $p < .001$) and low-activated positive affect ($B = .10$, $p < .002$); and negatively associated with high-activated negative affect ($B = -.07$, $p < .038$) and low-activated negative affect ($B = -.08$, $p < .015$). These results demonstrate potential benefits of regular leisure-time physical activity for longer-term affective

responses encompassing high and low activated positive and negative affect among middle-aged and older women.

PSYCHOSOCIAL MEDIATORS BETWEEN SOCIOECONOMIC STATUS AND PHYSICAL ACTIVITY IN OLDER JAPANESE ADULTS

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Empirical studies conducted in developed countries have indicated differences in physical activities among older adults according to their socioeconomic status (SES). However, few studies have examined the mediators between SES and physical activity, and therefore, limited knowledge is available regarding the relation between SES and physical activity. This study examined the psychological mediators between SES and physical activities among older Japanese adults. Data were obtained from a probability sample survey conducted with 739 participants living in two wards of Tokyo, Japan. Physical activity was divided into active (engaged in 60 min or more per week) and inactive (not engaged in 60 min or more per week). SES was evaluated by educational attainment and household income. The following three dimensions of psychological mediators were assessed: control expectancy for physical activity, self-efficacy of physical activity, and social support for physical activity. Age, sex, and daily activities were included as control variables. A multiple mediator model was used to evaluate the indirect effects of SES through the mediators. Educational attainment was found to influence physical activity significantly. In addition, the relation between educational attainment and physical activity was mediated by two mediate variables: self-efficacy and social support; in particular, self-efficacy had the strongest mediating effect. These two significant variables explained the majority of differences in physical activity resulting from different educational attainment levels. Household income did not influence on physical activity significantly. Therefore, it is necessary to enhance self-efficacy and social support to promote healthy physical activities among SES-disadvantaged older adults in Japan.

CAN A LATIN DANCE PROGRAM IMPACT PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOR AMONG OLDER LATINOS?

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Low levels of physical activity (PA) and sedentary behavior (SB) are associated with obesity, cardiovascular disease and cancer. Older Latinos are 46% less likely to engage in leisure-time PA than older non-Latino whites and spend an average of 11.11 hours/day in SBs. Interventions that concomitantly improve PA and reduce SB among older Latinos have yet to be conducted. Thus, the purpose of this study was to determine if a Latin dance program infused with discussions about SB information would have an impact on PA and SB among older Latinos. Spanish-speaking older Latinos [$N=21$, 75.4 ± 6.3 years old, 76.2% female, 22.4 ± 2.8 MMSE

score] were randomized into a 16 week, twice-weekly dance intervention or to a wait-list control group; the wait-list control group crossed over at week 17 and received the dance intervention. Participants were given a GT3X+ accelerometer to wear over their non-dominant wrist and an ActivPAL inclinometer on their non-dominant thigh for 7 days. The Sedentary Behavior Questionnaire (SBQ) was administered. Data was collected at baseline, month 2, 4, 6, and 8. Repeated measures ANOVA were used to determine overall time and interaction effects. Results revealed no time or interaction effects for accelerometer data or ActivPAL data. There was a significant time effect for the SBQ weekday sedentary time, $F(1.70, 32.27) = 5.73, p < .01$. These results warrant further research in the study of the impact of a Latin dance program and its impact on PA and SB related outcomes among older Latinos.

PHYSICAL LITERACY: A MODEL TO ENGAGE AND SUPPORT OLDER ADULTS IN PHYSICAL ACTIVITY AND SPORT

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Physical literacy (PL) is a promising strategy to increase physical activity and sport participation across the lifespan. This presentation outlines the developmental process of creating a PL model for older adults, by an expert team of multi-disciplinary academics, non-profit organizations and user groups. The process began with an iterative consensus development process which identified the use of the adopted International Physical Literacy Association within an ecological model approach, reflecting a full range of key characteristics proposed to influence physical literacy in older adults. The model is anchored with the individual (intrapersonal factors) and depicted to have influences from inter-personal, organizational, community, and policy factors. Broader consensus for the PL model was reached using an online Delphi survey. An international group of multi-disciplinary and multi-sectoral Delphi participants who encapsulate the scope of the proposed physical literacy model were invited to participate. Twenty-nine Delphi invitees participated in the first round of the survey with significant consensus being reached for each of the elements of our model (i.e., % responding agree, somewhat agree, or strongly agree). Open-ended feedback from Round 1 was discussed by the expert team and a modified model was distributed in Round 2 of the survey. Twenty-three out of the original 29 respondents completed the second round (79%) and a significant consensus was again achieved. Next steps include determining methods to assess physical literacy in older adults and dissemination of the model.

DYNAMIC COMPLEXITY OF PHYSICAL ACTIVITY PATTERNS: NEW CONCEPTS FOR GERIATRIC ASSESSMENT

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Background: An important dimension of physical activity (PA) behavior is the temporal pattern reflecting how movement features, postures and activities are interwoven in daily life. This pattern reflects a subject's ability to timely respond to environmental demands and adapt to internal states (physiological, mental). Beyond traditional measures such as accumulated activity levels, the focus is therefore on dynamic complexity of PA patterns, quantified in terms of diversity and moment-to-moment variations of activities/movement features. We hypothesized that higher complexity levels would indicate better functioning, (i.e., ability to perform a wide range of movements/actions and to timely respond to environmental demands) and, inversely, that lower complexity levels would indicate worse function, resulting from frailty, fear of falling, or previous falling experience.

Methods: 70 older persons, aged 65–95 years, were monitored over two days using an accelerometer fixed on the chest. PA patterns were sequences of various bouts (locomotion, sedentary, active) characterized by timing, duration and movement intensity (cadence, trunk acceleration). Embedded complexity was quantified with dynamic entropy measures. Frailty condition, fear of falling, fall history and clinical/demographic covariates were assessed for each participant.

Results: Statistical analysis revealed that severity of frailty condition, low fall self-efficacy scores and fall history were significantly ($p < 0.05$) associated with lower complexity levels. Between-group comparisons revealed that fall self-efficacy has much stronger impact on pattern complexity ($p = 0.006$, Cohen's $d = 0.94$) than on accumulated locomotion time ($p = 0.9$, Cohen's $d = 0.05$).

Conclusions: Complexity of physical activity provides new insight on health, functional status, and mobility, as well as on their intertwined relationships.

ACTIVE AND HEALTHY AGEING - IMPLEMENTING A FALL AND FRACTURE PREVENTION CARE PATHWAY AT SCALE

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Background: AFFINITY, a population health improvement project, is implementing a national strategy on the prevention of harmful falls and fractures in older persons. AFFINITY is also a commitment within a pan European programme on active and healthy ageing that aims to increase the average healthy lifespan of citizens by 2 years by 2020.

Methods: AFFINITY has adopted a whole system and multi-stakeholder collaborative approach. Key implementation elements: empowering citizen self-management, robust governance, integrated service delivery model and change management supports. AFFINITY is a joint project of the national service provider and its indemnifier. AFFINITY is

being embedded within new service provider structures and processes, using enablers: digital technologies, funding and human resources. Four early adapter sites are developing evidence-informed integrated care pathways (ICP) since 2014 to address the needs of their older populations: timely access, quality multidisciplinary interventions with measurable outcomes. Learnings are used to identify and scale up additional sites to ensure spread.

Results: Full implementation will mean that persons 65 years and older will: proactively co-produce their own health & wellbeing, access quality ICP, according to need, have less harmful falls & fracture sequelae enjoy safer age friendly environments and improved quality of life years.

Conclusions: AFFINITY will be an exemplar of a coordinated, sustainable and effective model of care for older persons. Cooperation between AFFINITY and its European partners will enhance and enrich the underlying information and process models, embedding practices and upscaling. Change management success factors will be transferable to similar large scale implementation projects.

PROSTATE CANCER SURVIVORS: PERCEIVED MOTIVES, BENEFITS, AND BARRIERS FOR PHYSICAL ACTIVITY

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Regular physical activity can result in a number of health-related benefits for prostate cancer survivors. The aim of this study was to identify perceived motives, benefits and barriers for physical activity in prostate cancer survivors.

Sixteen prostate cancer survivors from the Auckland region of New Zealand were individually interviewed. Participants ranged in age from fifty seven years to eighty eight years of age. Time since diagnosis ranged from one year to seventeen years. Six men were currently on androgen deprivation treatment. The remaining ten men were in complete remission and were treatment free. Interviews were audiotaped and transcribed. Data were analyzed using an inductive thematic approach.

Four main themes were identified regarding perceived motives for physical activity post diagnosis: health-related reasons, stress management social reasons, and past history of physical activity. Three main themes were identified relating to perceived benefits for physical activity post diagnosis: health-related benefits, psychological benefits, and cognitive benefits. Four main themes were identified relating to perceived barriers for physical activity post diagnosis: incontinence and bowel issues, pre-existing chronic health conditions, lack of time, and age-related decline.

These findings indicate that some prostate cancer survivors are engaging in physical activity to obtain both physical and psychological health-related benefits. With increases in survivorship, lifestyle-related advice and interventions that focus on physical activity can be beneficial in improving the health-related outcomes of prostate cancer survivors.

SESSION 4530 (POSTER)

QUALITY OF LIFE AND SUBJECTIVE WELL-BEING

THE RELATIONSHIP BETWEEN FREQUENCY OF SOCIAL INTERACTION AND EMOTIONAL WELL-BEING AMONG OLDER ADULTS

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The effect of social interaction on the well-being of elderly people has been discussed in the literature. We examined the effect of the frequency of social interaction on the emotional well-being of the elderly.

The data were collected from a survey of community-dwelling elderly over 65 years in age living in Kameoka City in 2012. The study population was adjusted to eliminate those who needed long-term care or other special support. The 8,272 subjects of the study (3,889 male, 4,383 female) were divided into three groups based on the frequency of their social interaction with friends –Low, Middle, High, and the prevalence of social interaction differences were analyzed by sex, age, and participation in leisure activities. The three group differences of their mean WHO-5 scores and GDS scores were assessed using multi-factor analysis of variance adjusted by age, sex, and participation in leisure activities. Overall, 40.7 % of women showed high frequency of social interaction and 37.1% of men showed low frequency ($p<0.001$). By age, 52.8 % of those over 90 years old showed low frequency and 37.1 % of those in their 70s showed high frequency ($p<0.001$). For those participating in physical activity, 46.6 % showed high frequency ($p<0.001$). With respect to measures of emotional well-being, the high-frequency group showed a higher WHO-5 score (50.37 ± 23.69 , 60.07 ± 20.75 , and 66.67 ± 18.21 , $p<0.001$) and a lower GDS score (7.16 ± 2.11 , 6.61 ± 1.91 , and 6.28 ± 1.69 , $p<0.001$).

THE INFLUENCE OF INTEGRATED HEALTHCARE GOVERNANCE ON IMPROVING THE LIFE QUALITY OF STROKE PATIENTS

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Objective To explore the influence of Integrated Healthcare Governance on the Quality of life of stroke patients in Rehabilitation Clinic. **Method** 60 stroke patients were randomly divided into intervention group and control group equally. During the research process, 1 case died in intervention group. In control group one case died of recurrent cerebral infarction and another case was sent to ICU ward. Eventually, 29 cases were included in intervention group and 28 in control group. Integrated Healthcare Governance was carried out in Rehabilitation Clinic for the intervention group. The control group patients received traditional discharge nursing and follow-up. ADL were compared in two groups at 1 month, 6 months and 12 months after intervention.

Results A month after intervention treatment, ADI total score of self-care ability was 30.67 ± 24.55 points in the intervention group and 34.11 ± 27.35 points in the control group. The differences between the two groups had no statistically significant ($P > 0.05$). Six months after intervention, ADI total score was 46.38 ± 22.75 points in the intervention group, the score was 33.04 ± 26.95 points in the control group, $P < 0.05$. 12 months after intervention, ADI total score of self-care ability was 52.41 ± 21.45 points in the intervention group, compared with 38.82 ± 26.23 points in the control group, $P < 0.05$.

Conclusion The Integrated Healthcare Governance can increase the self-care ability and quality of life effectively for outpatient stroke patients.

EFFECT OF COUPLE-BASED REMINISCENCE THERAPY ON ELDERLY STROKE SURVIVORS AND THEIR SPOUSE CAREGIVERS

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Purpose: The aim was to evaluate the effectiveness of couple-based reminiscence therapy on reducing anxiety and depression of patients with stroke, burden of spouse caregivers, and improving benefit-finding of caregivers.

Design: A quasi-experimental design with a control group with pre- and post-tests.

Method: 62 elderly stroke couples were recruited from two communities in Zhengzhou, China. They were randomly assigned into two groups: 32 couples in intervention group received 8-week couple-based reminiscence therapy designed according to caregiving situation, 30 couples in control group received only 2-week health education sessions. Data were collected in two time points: pre-intervention and post-intervention. The study instruments included: demographic sheet, Self-rating Anxiety Scale (SAS) and Self-rating Depression Scale (SDS) for stroke survivors, Caregiver Burden Inventory (CBI) and Positive Aspects of Caregiver (PAC) for caregivers were used to evaluate the effect of intervention. Data were analyzed using the descriptive statistics, chi-square and T test with SPSS21.0.

Results: The findings showed that elderly patients with stroke in intervention group had lower score in SAS and SDS than that of control group, the difference was statistically significant ($P < 0.01$); caregivers in intervention group had lower score in CBI and better score in PAC than that of control group with the statistically significance ($P < 0.01$).

Conclusions: Couple-based reminiscence therapy in this study decreased anxiety and depression of elderly stroke survivors, reduced burden and improved benefit-finding of spouse caregivers. Further study is required to provide more evidences on the effect of the couple-based reminiscence therapy for stroke survivors and their spouse caregivers.

OLDER RE-MIGRANTS' EXPERIENCES OF INTEGRATION AND INCLUSION FROM A LIFESPAN PERSPECTIVE

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All over the world streams of refugees and migrants seems to increase. Thus, will actualize increased migration

of older people. Development of integration programs in the culture for older migrants seems to be a necessity. The aims of this paper is to deepen the understanding of how Older Sweden-Finns (65+), experiences integration and inclusion, when living in Sweden, and why they re-migrated to Finland after retirement. Sweden-Finns belongs to minority groups. A theoretical framework based on ethno-gerontology is used, to understand ageing from a minority group's point of view. The study is a part of a larger project "Ageing between two cultures". Data was collected by 21 narrative lifespan interviews, 8 men and 13 women, analyzed by inductive thematic content analysis. The interviewees told about their childhood and youth, when and why they had moved to Sweden, how they had experienced their lives in Sweden, and why they had moved back. Results shows integration is due to good working and social conditions, benefits of linguistic proficiency in both countries languages, a better life in Sweden. Due to communication problems, cultural differences, lack of close relations, longing for Finland, lack of integration is experienced. Reasons to re-migrate, return to relatives, childhood home, back to origin, to be buried in country of birth. Ageing seems to activate plans to return "home". However, "feeling at home" seems to be more than to be integrated. Further analysis is needed to deepen the understanding of meaning of ethnicity, language and migration from an ageing perspective.

PRE-TREATMENT QUALITY OF LIFE IN OLDER CANCER PATIENTS: A PERSISTENT PREDICTOR OF SURVIVAL

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A prospective, longitudinal, study was done to investigate the predictive role of HRQoL and other domains captured by the EORTC QLQ C-30 Questionnaire on the survival of older cancer patients. QLQ C-30, Hindi version, was filled up by 300 patients attending the Geriatric clinic with a tissue diagnosis of malignancy on index visit. The patients were followed up and their survival status at 24 weeks noted. High scores for functioning dimensions and low scores for symptom dimensions on the questionnaire indicated better QOL. Cox regression modelling was used to identify predictive factors for survival. Out of 300 patients, 260 questionnaires could be used for analysis as 25 had to be abandoned due to incomplete filling and 15 due to non-cooperation. For the functioning dimensions, the highest mean score was for cognitive functioning (74.6 ± 25.9) and the lowest was for role functioning (47.2 ± 34.1). For symptom dimensions, the lowest score was for diarrhea (11.5 ± 24.2) and highest for fatigue (59.7 ± 27.7). Functionality (p value- <0.001), Role play (p value- <0.001), Emotional domain (p value 0.005) and self rated QoL (0.0008) were related significantly to survival. Among symptoms, Fatigue (p value-0.004) and Pain (p value-0.0002) had significant relationship with survival. Adding to previous knowledge about factors that may influence patients QoL like functional impairment, this study shows a persisting relationship between Pre-treatment global QoL, emotional condition and symptoms like persistent fatigue and pain in older individuals and survival. This knowledge can help in prognostic prediction, treatment planning and enhancing QOL.

SELF-RATED HEALTH AND ITS ASSOCIATIONS WITH QUALITY-OF-LIFE IN HETEROGENEOUS OLDER POPULATIONS

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Self-rated health (SRH) is a strong predictor of morbidity, mortality and health-care utilization. Although SRH generally deteriorates with age, older people are heterogeneous in this sense. The aim of this study is to explore the heterogeneity in SRH in different samples of older people and its associations with health-related quality-of-life (HrQOL).

We studied SRH in patient data from eight study samples (all >65y; total N=3231). SRH was inquired with four options (very good, good/ poor, very poor). Same clinical methods were used to assess all samples.

The mean age ranged from 75 (spousal caregivers; N=209) to 85 (population sample; N=901). In six samples 2/3 were females whereas in Helsinki Businessmen Study (HBS; N=733) all were men and 65% of patients with dementia (N=214) were men. Good SRH ranged from 48% in hospitalized delirium sample (N=171) to 97% in HBS. HrQOL (by 15D) ranged from 0.60 (nursing home sample; N=326) to 0.88 (HBS). Overall, SRH was associated with HrQOL. However, in the clinical cohort of cardiovascular patients (DEBATE study; N=394) with high number of comorbidities and among delirium patients the SRH was not associated with HrQOL. Life satisfaction was lowest among spousal caregivers (74%) and lonely older people (N=208) (82%). The predictive value of SRH on 2-year mortality varied between samples.

Older people are heterogeneous socioeconomically, psychosocially and in their health which has important consequences to their SRH, HrQOL and prognosis.

IMPACT OF THE QUALITY OF LIFE ON INFLAMMATORY BIOMARKERS IN BRAZILIAN OLDER ADULTS

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Scientific evidences show a relationship between chronic inflammation and quality of life (QoL). This study verified the impaired quality of life, in different domains, associated with elevated inflammatory biomarkers levels, in older adults. Cross-sectional population-based study (SABE Study), including older adults (≥ 60 years-old). The inflammatory biomarkers used were uric acid, fibrinogen e C-reactive protein serum levels determined by using sensitive regular immunoassays (ELISA). QoL was assessed using the SF12 questionnaire. Socio-demographic information and health conditions were: sex, age and educational level; number of non-communicable diseases, self-reported conditions (chronic pains, hypertension, diabetes and cardiovascular disease), functional capacity, body mass index and waist circumference, respectively, identified using questionnaire and specific measures. Multiple logistic regression was used to analyze this association. From the 1.344 older adults, 1255 were eligible to be part of this study. There was no association of uric acid and fibrinogen with QoL. When we regarded

the levels of CRP, men showed a higher average, being that older men (≥ 75 years) had a decrease in levels of CRP. Older adults with one or more chronic diseases, hypertension and BMI higher than 30kg/m^2 presented low values in the physical domain of SF12 and were associated with high levels of CRP. The adjusted model showed a strong relationship with the worst ratings in physical domain of SF12 and high BMI values. The joint associations of physical domain of quality of life and inflammation in older adults have a significant effect in chronic inflammation.

SESSION 4535 (POSTER)

QUALITY OF LIFE AND SUBJECTIVE WELL-BEING IN LATER LIFE II

INDEBTEDNESS OF THE ELDERLY IN SOUTH BRAZIL – A STUDY OF RISK FACTORS

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The traps of the consumer society created from the access facilities of credits represent a constant danger of excessive debt, up to an indebtedness, in which a person loses the conditions to repay their debts. These constellations bring very specific threats to the elderly. On the one hand there is a constant appeal of credit institutions to make a payroll loan, on the other hand, the elderly have become important sources of funds for many Brazilian families. Thus, the financial risk of violence against older people is also increasing significantly. In this scenario it becomes important to know in more detail the mechanisms that can boost elderly hiring credits and thereby jeopardize often drastically, their income.

This paper presents the first results from a study realized in seven cities of Rio Grande do Sul, Southbrazil, interviewing older persons (n=350) about their consumer practices, their relation to money and to indebtedness as well as sociodemographic e financial data of the participants.

Results show that there are big differences among the participants, going from extremely cautious dealing with money on to cases of overindebtedness. There is a strong influence of the cultural context (immigrants from different cultures). During their life, many elderly experienced critical financial situations, mostly caused by health problems or unemployment in the family. And in about 30% of the cases, the debts were made to help other people, basically the own children. The results point out to the necessity of specific financial education for elderly.

EFFECTS OF OLDER ADULTS' SUBJECTIVE LIFE EXPECTANCY ON SOCIAL RELATIONSHIPS AND WELL-BEING

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The perception about the remaining length of life potentially influences attitudes toward social relationships and well-being in older age (Charles and Carstensen, 2010). This study aimed to assess the direct and indirect effects of

older adults' subjective life expectancy (SLE) on their social relationships and well-being. Two waves of data (2008 and 2010) from 1,057 older adults participating in the Health and Retirement Study (HRS) were analyzed using the SEM with bootstrap sampling. The hypothesized model included marital quality, frequency of visiting with adult children, number of friends they have, and volunteering in the community. Participants' well-being was measured with the number of depressive symptoms and life satisfaction. The model fit the data well, χ^2 ($df = 6, N = 1,057$) = 13.6, $p = .01$, CFI = .98, RMSEA = .05. The results of the study revealed that older adults with higher SLE scores were more likely to participate in volunteering ($\beta = .07, p = .019$) and had a close relationship with their spouse ($\beta = .06, p = .047$). Higher SLE scores predicted higher level of life satisfaction ($\beta = .09, p = .003$) and fewer depressive symptoms ($\beta = -.09, p = .003$). Finally, there were marginally significant indirect effects from SLE to life satisfaction via closeness to spouse ($\beta = .02, 90\% \text{ CI } [.00, .03]$), and from SLE to depressive symptoms via volunteering ($\beta = -.01, 90\% \text{ CI } [-.02, .00]$). We conclude that older adults' SLE influences their well-being directly and indirectly through social relationships.

CONSIDERATION OF ORAL HISTORY STORYTELLING AS ESSENTIAL TO SUBJECTIVE WELL-BEING AFTER 100

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The purpose of this exploratory study was to examine the intervening link between engagement in oral history storytelling and change in reported indicators of subjective well-being. Participants for this study included $N = 112$ community-dwelling centenarians ($M = 100.89, SD = 1.52$) residing in private homes and care facilities in the state of Oklahoma. Preliminary and post assessments of subjective well-being indicators were conducted relative to completion of a 60-minute oral history interview. IBM/SPSS 23.0 was used to conduct paired sample t-tests to determine any evidence of change in statistical mean scores between preliminary and post subjective well-being scores. No significant mean change was evident between pre and post mean scores involving life satisfaction, negative affect, sense of personal growth, or gerotranscendence. However, significant mean differences were detected between preliminary scores of purpose-in-life ($M = 33.47, SD = 8.03$) and post scores of purpose-in-life ($M = 34.82, SD = 8.42; t(95) = -1.99$); preliminary scores involving sense-of-self ($M = 40.81, SD = 5.84$); and post scores of sense-of-self ($M = 41.98, SD = 5.25; t(98) = -2.95$); and preliminary scores of positive affect ($M = 32.96, SD = 8.38$) and post scores of positive affect ($M = 34.88, SD = 8.83; t(108) = -3.17$). Results indicate that engagement in oral history storytelling helps improve sense of purpose, strengthens self-identity, and increases positive emotional expression among persons living 100 years or longer. Further insight into the therapeutic benefits of oral history storytelling relative to quality-of-life for long-lived adults will be addressed.

PSYCHOLOGICAL WELL-BEING IN ITALIAN ELDERS WITH AND WITHOUT PARKINSON'S DISEASE: A PRELIMINARY STUDY

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Chronic degenerative conditions characterized by motor dysfunction such as Parkinson's disease may impact the determinants of quality of life in late adulthood, such as psychological well-being (PWB) and affective status. Nonetheless, this issue has not been substantially investigated in the Italian population. Here in a preliminary study we explored relationships between several mental health and motor functions in a group of 30 cognitively healthy community-dwelling Italian elderly with and without Parkinson's disease (mean age = 74.3 years, $SD = 7.1$). Each participant was individually presented with a battery of psychological and motor tests assessing cognitive efficiency, PWB, affective status, lifestyle, handgrip strength, three-dimensional gait analysis, and static balance (through postural sway analysis). In particular, kinematics of gait was characterized by means of Gait Profile Score (GPS), a synthetic measure of the deviation of the gait from physiologic conditions. Statistically significant Pearson's product-moment correlations were found between maximal handgrip strength and several PWB indexes. Moreover, patients with Parkinson's disease reported lower perceived physical health and personal satisfaction, as well as increased values of GPS than controls, however greater depressive signs were not found in the former group. Finally, a linear regression analysis revealed that the occurrence of Parkinson's disease explains 26% of the variance relative to a self-reported personal satisfaction index. These preliminary outcomes highlight a general link between motor and psychological outcomes and the impact of Parkinson's disease on both.

THE IMPACT OF YOGA ON PHYSICAL FUNCTIONING AND QUALITY OF LIFE IN SEDENTARY OLDER ADULTS

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Reduced mobility in older adults has been linked to general disability and limitations in daily activities that enable independent living. To test whether sedentary older adults would attend and benefit from yoga, we compared participant outcomes from a Hatha Yoga intervention and a health education (HE) intervention. Participants were randomized to either yoga (twice weekly instructed yoga classes plus daily home-practice sessions), or HE (10 weekly informational lectures). Pre and post intervention, participants completed physiological assessments evaluating various aspects of gait, stability, strength, and balance, as well as questionnaires evaluating quality-of-life (SF-36) and adverse events (AE). A total of 371 older adults aged 60–89 were screened and 46 (63% female, 83% white, mean age=74) met the selection criteria of no exercise in the past 3 months and low/moderate physical functioning (Short Physical Performance Battery score 3 - 9). Mean attendance was 71% for yoga and 58% for the HE group. No serious AEs were reported,

and qualitative data indicated high levels of satisfaction. Compared to HE participants, yoga participants showed significantly greater improvements ($p < .05$) in vestibular balance, left leg lift, and rhythmic weight shift. Trends ($p < .10$) were observed for multiple SF-36 subscales, chair stands, and grip strength. The median effect size for physiological variables was 0.31. Our results show that recruiting and retaining inactive older adults for a physical activity trial can be accomplished with adequate resources. Noting the small sample size, we observed significant results on multiple outcome measures.

CONTRAST IN THE PERCEPTION OF QUALITY OF LIFE: CAREGIVERS AND CARE RECIPIENTS WITH DEMENTIA IN CHILE

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Quality of life (QoL) of persons with dementia (PwD) and family caregivers is a fundamental and usual treatment outcome. To learn about the difference in the perception of the PwD's QoL as perceived by both the person and caregiver, a cross-sectional study was conducted in subjects with mild and moderate dementia and their caregivers, who assisted a day-care center for dementia in Santiago, Chile, from September 2013 to August 2014. Data were collected using QoL-AD to assess the perception of the person with dementia and using Caregiver-QoL to evaluate the caregiver's perception of QoL of care recipient. Total sample consisted of 73 PwD and 73 family caregivers. Analysis involved t-student (ordinal) and Wilcoxon (categorical) test, considering $p < .05$ and 95% CI.

63% (43) of PwD were women, mean age 76.8 ± 8.46 . Dementia severity was 61,6% mild, 30,1% moderate and 8,2% moderate-severe. For caregivers, mean age was 54 ± 13.42 , 84,9% (62) were woman. 47,9 % (35) of caregivers were sons/daughters of care recipient, while 28,8%(21) were spouses. Caregiver's perception of care recipient's QoL scores were lower than those reported by the PwD (Caregiver-QoL= 26.2 ± 5.69 PwD-QoL= 28.8 ± 6.29 , $dif=2.59$; $IC=1.4-3.7$), particularly on energy level ($p=0.007$), memory ($p=0.035$), relationship with friends ($p=0.009$), daily life activities capability ($p=0.004$), and situation with finance ($p=0.005$). Care recipients perceived a better QoL than their family caregivers. This study shows the discrepancy of perceptions of quality of life between care recipients and caregivers and highlights the caregivers need to learn about the factors that relate to QoL in care recipients.

UNDERSTANDING PICKLEBALL AS A NEW LEISURE PURSUIT IN OLDER ADULTS

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Pickleball has recently emerged as the fastest growing sport in the U.S. Pickleball is a paddle sport that combines elements of tennis, badminton, and table tennis, and played on a badminton-sized court with a perforated plastic ball.

Despite the increasing popularity among older adults, no previous research has examined the behavior of older adults in pickleball settings. This study explored the characteristics of pickleball participants, including lifestyles and psychosocial benefits. The study participants were 153 older adults who competed in pickleball tournaments in a Southern and a Southeastern state in the U.S. Hotelling's T^2 test and MANOVA were employed to determine differences in age (50–59, 60–69, and 70+ years), gender, occupational and marital status in outcome variables (i.e., life satisfaction, optimism, social integration). The results showed a significant difference among the age groups, gender, and occupational status on the outcome variables. To be specific, participants in the oldest group (70+) reported significantly higher life satisfaction than the 50–59 years age group. In addition, female participants scored significantly higher on social integration. With regard to employment status, retired participants scored significantly higher on life satisfaction than the employed participants. Our findings suggest that playing pickleball is: (1) suitable for older women who feel lonely or in need of extended friendships through exercise, and (2) recommended for older adults who are searching for a productive and fruitful retirement. Taken together, this initial empirical study showed that playing pickleball can be a key leisure pursuit that contributes to well-being of older adults.

LIVING ARRANGEMENT PREFERENCES, REALITIES AND SUBJECTIVE WELL-BEING OF ELDERLY CHINESE

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Objectives. The purposes of this article were a) to investigate the determinants of preference for intergenerational coresidence and b) to examine the effects of living arrangement concordance (i.e., having a match between preference and reality) on the subjective well-being (SWB) of older Chinese after controlling for personal characteristics and actual living arrangements.

Methods. Data derived from the China Health and Retirement Longitudinal Study (CHARLS) national baseline conducted in 2011. Multivariate imputation by chained equations technique was applied to deal with missing data issues. A total of 6461 samples aged 60 and older from 28 Chinese provinces were analyzed using multivariate regression models.

Results. Living arrangement preference is indicative of need, cultural norms and current living arrangement experiences. The results support the hypothesis of discrepancy theories that having living arrangement concordance improves older parents' SWB (i.e., depressive symptoms and happiness). In addition, the previously predictive effects of actual living arrangement lost significance when we added actual living arrangement and concordance simultaneously.

Discussion. Living in a preferred arrangement appears to be more important than living in a traditional arrangement from the point of view of older adults' SWB. Programs designed to improve well-being in later life may not assume that there is a one-size-fits-all model for all; instead, older people should be given more choices of living arrangements.

THE EFFECT OF MUSIC ON DAILY STRUCTURES OF NURSING HOME RESIDENTS

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Music-based interventions, like regular musical activities, music therapy or listening to music can help maintain physical and mental health and cognitive abilities of older adults. Studies have shown that singing and music listening increase cognitive performance, improve mood, orientation and the coordination of motor movements. In nursing homes, musical leisure activities are rarely offered and immobile older adults are often not able to participate. Moreover, residents are normally not included in the decision making process, at which time and how often music is played in the institution. Little is known about the effect of music, when accompanying the daily routines of residents of nursing homes.

The aim of the presented study was to investigate the effect of music on daily structures of nursing home residents. For this purpose, together with caregivers, relatives and residents, we developed a concept of a “nursing home of music”. During the three months intervention phase, we equipped a nursing home with several music systems, e.g. karaoke, individual headphones, and offered various musical leisure activities in regular intervals.

For our analysis, we used various instruments to measure changes in the emotional well-being of the residents during their daily routine with electronic generated sensor data and with qualitative data via standardized observation protocols and semi-structured interviews. In our speech, we will present results about the usage, the effectiveness and acceptance of the music interventions both from residents, relatives and caregivers.

COUPLES COPING AND QUALITY OF LIFE IN PATIENTS WITH MILD-TO-MODERATE DEMENTIA AND CAREGIVERS

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Quality of life (QOL) is an important outcome measure in dementia trials and a major goal in care of patients with mild to moderate Alzheimer's disease (AD). Coping strategies that both partners' utilize influences the ways couples deal with the stressors associated with cognitive deficits and have an impact on the patient's quality of life. Although couples' coping has been explored in other literatures of chronic illnesses, there is limited understanding of the couples' joint coping in families dealing with AD. Thus, the primary aim of this study is to examine the relationship between severity of neuropsychiatric symptoms and quality of life and the buffering role of couples' coping among AD patients and their partners. Thirty community dwelling AD patient/caregiver dyads recruited from an outpatient memory clinic completed the Quality of Life in Dementia scale (QOL-AD) and the Neuropsychiatric Inventory (NPI-Q). Clinicians reported on the coping strategies both partners used. Higher depression in patients was found to be associated with lower QOL reported by patients ($b=-0.76$, $p<0.01$). In response, couples utilized greater positive dyadic coping strategies to help patient cope with the depression ($b=0.86$, $p<0.05$). The

findings of this study have implications for designing couple interventions for families coping with dementia.

RISK FACTORS FOR LOW HEALTH LITERACY AMONG FEMALE ADULTS

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Introduction: Low health literacy is associated with poor physical and mental health. The purpose of the study is to measure health literacy in female adults and determine the predictive factors for health literacy.

Method: The cross-sectional survey was conducted in the community setting of Southern Taiwan. 353 females were recruited and interviewed in person. Basic characteristics included age, education, income, unhealthy behaviors (smoking, alcohol consumption, betel nuts chewing), physical and community activity, and occupation. Health literacy was measured by the Chinese version of European Health Literacy Survey Questionnaire. Respondents were classified into four different literacy levels (i.e., inadequate, problematic, sufficient, and excellent).

Results: Mean age of participants was 61.56 ± 8.35 (77.3%), ranging from 38 to 89 years old. 47% of participants ended education below senior high school level and 10.5% had college or above education. More than half of all had inadequate (17.6%) or problematic (49.3%) general health literacy. In multinomial logistic regression analysis, females with elementary school education (OR= 2.78, 95% CI 1.28–201.05) and those living on farms (OR=2.69, 95% CI 1.74–124.13) were at higher risk for inadequate health literacy. In addition, females with elementary school education (OR=1.92, 95% CI 1.74–26.97) and junior high school (OR=1.59, 95% CI 1.24–19.39) were more likely to have problematic health literacy. Furthermore, participation in community activity was a protective factor of having problematic health literacy (OR=0.97, 95% CI 1.19–5.83).

Conclusion: Among community-dwelling females, education level, occupation, participation in community activity were significantly associated with health literacy after adjusting for covariates.

THE NEEDS AND ASPIRATIONS OF VISION IMPAIRED OLDER PEOPLE LIVING IN ENGLAND

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Sight loss affects people of all ages but in the UK is more common in late old age, with older women and people from minority ethnic groups particularly affected. This is an area that is still under-researched. Specific vision impairment (VI) conditions including age-related macular degeneration (AMD), glaucoma, cataracts and diabetic retinopathy can be disabling especially where treatment varies. The research supported by the Thomas Pocklington Trust (TPT) considered how older people with VI express their preferences for where and with what kinds of support they would like to live; understand choices over lifestyle and living arrangements; consider how control and autonomy can be maintained or delegated; address

issues of risk-taking and responsibility, and convey the impact of VI on personal identity. In-depth qualitative research through interview and observation was undertaken involving a purposive sample of 50 English older people focusing on the oldest age groups, except in relation to black and Asian minority ethnic (BAME) groups where life expectancy is slightly lower, plus a smaller group of relatives, friends and professionals. Findings show how VI can lead to learning new skills, accepting interdependency, learning to benefit from technology; how access to appropriate services relates to location and availability of statutory and voluntary organizations; how staying in your own home is key to wellbeing even though issues of isolation and loneliness can occur; practical knowledge and cultural approaches to life can be essential, and for some responsible risk-taking helps to retain a sense of self.

CITY LIVABILITY AND THE WELL-BEING OF OLDER AMERICANS

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Quality of life is a multidimensional construct often conceptualized in terms of social connectedness, happiness, and independence. Because of the common physical and mental declines associated with aging, older persons' quality of life might be especially sensitive to their social and physical environments. Ecological theories of aging suggest that the well-being of older persons is a function of their competencies and of the challenges and stressors of their environments, yet insufficient attention has been given to macro-level city environments. Buffel and her associates (2012) propose that city environments matter for the happiness of older persons, and these authors have encouraged more comparative research on age-friendly cities. The present study combines two sources of data, individual-level survey data (Wave 1 of the National Social Life, Health, and Aging Project (n=3,005)) and official records about demographic, economic, crime, weather, and arts and leisure characteristics of metropolitan statistical areas in the United States (n=57). Analyses utilize hierarchical linear modelling techniques to study how a diverse set of city-level factors are related to a diverse set of measures of the well-being of older persons. Our results show that measures of income, employment, education, and crime at the city-level are particularly consequential for a diverse set of measures of the well-being of older persons, including mental health, self-esteem, happiness, depression, anxiety, and stress. This macro-level analysis suggests the importance of identifying why these measures of city-level quality of life are particularly influential for the well-being of older persons.

ENHANCING AUTONOMOUS MOTIVATION MEDIATES WELL-BEING IMPROVEMENT IN HIV-INFECTED OLDER ADULTS

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We previously demonstrated the effect of a self-determination theory (SDT) guided physical activity (PA) counseling intervention on emotional well-being among HIV-infected older adults (HOA). However, the mechanism underlying the intervention's effect on psychological well-being is unclear. Here we investigated whether the intervention effects on

autonomous motivation and autonomy mediates the intervention's effect on psychological well-being. Community-dwelling HOA with mobility impairments (N = 67) were randomized to a 12-week PA of counseling intervention grounded in self-determination theory (SDT) or a usual care control group. Autonomous motivation for PA, autonomy for PA and emotional well-being were assessed at baseline and post-intervention. Fifty-nine participants completed the study (M age = 55 years; M CD4 count = 675 cells/mm³; duration since HIV diagnosis = 17 years; 39% female). The two groups were similar in their demographic and clinical characteristics. Autonomy and autonomous motivation for PA improved in the intervention group compared to the control group. Emotional well-being was higher in the intervention group compared to the control group post-intervention (p<0.05). Increased autonomy and autonomous motivation for PA mediated the interventions effect on emotional well-being. Our findings suggest that increases in autonomy and autonomous motivation for PA mediated the effects of the intervention on emotional well-being. These results underscore the role of PA interventions enhancing autonomy and autonomous motivation in improving emotional well-being in HOA with the end-goal of promoting successful aging.

SESSION 4540 (POSTER)

RETIREMENT PROCESSES AND POLICIES

FISCAL VULNERABILITY AND ADJUSTMENT TO RETIREMENT

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Much research examining adjustment to retirement overlooks the unique experiences facing individuals who do not have sufficient resources while they are working to accumulate fiscal stability post-retirement. Although retirement serves as a major transition for all individuals, the working poor and those who are financially vulnerable prior to retirement likely experience a different trajectory when they go on to retire than those who have the resources needed to maintain a high standard of living when they stop working. This study uses the 2004–2014 waves of the Health and Retirement Study to examine change in life satisfaction pre-versus post-retirement for three groups of full-time workers who go on to fully retire: those with incomes in ranges that qualify for social welfare programs (i.e., <250% of poverty – poor/near poor), those who are financially vulnerable but above qualifying thresholds (i.e., 250%–399% of poverty – financially vulnerable), and those who have sufficient fiscal resources (i.e., 400% of poverty or greater – financially stable). Controlling for baseline differences in overall life satisfaction, demographic factors, health status, job characteristics, social support and engagement, results show that although all groups experience an increase in overall life

satisfaction, financially vulnerable individuals experience significantly less increase relative to poor/near poor and financially stable individuals. Sensitivity analyses reveal that the degree to which financially vulnerable individuals experience constraints over sense of personal control prior to retirement explains this increased loss. In this session we will discuss implications of these results for policy and programs that might support retirement adjustment processes.

RECENT AND FUTURE PENSION REFORMS IN RURAL CHINA: A REVIEW OF SEVERAL OPTIONS

J.B. Williamson, *Sociology, Boston College, Chestnut Hill, Massachusetts*

In 2009, the Chinese government began introducing the New Rural Pension System (NRPS). The goal has been to rapidly extend pension coverage for rural residents who currently make up 45% of the total population. In 2008 less than 70 million out of 730 million rural residents were covered by any sort of pension and even a smaller fraction of those age 60 and over were receiving pensions. Most of the elderly were, entirely dependent on support from their children, land, and personal savings. During the following six years, NRPS coverage was successfully extended to cover 477 million by the end of 2014, achieving coverage for about 77 per cent of the rural population and pension benefits were by then being paid to almost the entire rural population over age 60. This entirely new program in just six years grew to cover more people, than any other pension program in the world. In this poster (and the related paper) describe the huge success of the NRPS, but the focus will be on the needed next steps, merging the rural pension scheme with a similar urban pension scheme and several other reforms under discussion by pension policy analysts that could help deal with some of current and likely future limitations of the current scheme. We will emphasize proposals for dealing with the issues of adequacy (which is currently big problem), coverage, (which could become a big problem) and sustainability (which could also become a big problem) in the decades ahead.

THE ASSOCIATION BETWEEN PENSION PLAN TYPES AND FINANCIAL LITERACY AMONG OLDER ADULTS

Y. Li, J.A. Burr, E.A. Miller, *Gerontology, University of Massachusetts Boston, Boston, Massachusetts*

In the U.S., employers are increasingly offering defined contribution (DC) pension plans in place of defined benefit (DB) pension plans to their employees. Yet, research shows that many older employees are financially illiterate and unprepared to manage their pension funds, especially when confronted with a wide variety of financial instruments. The central thesis of this study is that participating in DC plans provides the motivation and opportunity for employees to educate themselves to maximize their pension plan returns. The same motivation is not present for employees participating in DB plans. Cross-sectional analyses of the 2010 Health and Retirement Study (n=1,281) investigated the association between different types of pension plans and multiple indicators of financial literacy. We also examined

the moderating effect of gender. Regression results showed respondents with DC plans were more likely to correctly answer a set of financial literacy questions, in comparison with respondents with DB plans. Men with both DC and DB plans scored significantly higher on a financial literacy index than women with both plans, relative to respondents with DB plans only. Results from this study suggested that traditional financial education programs may not be the only means of achieving financial literacy. Our conclusion is that older adults have higher financial literacy if they were incentivized by participation in DC plans to manage financial resources, including deciding where to invest pension funds. This is especially important as research demonstrates that the effectiveness of traditional financial education programs is limited.

SUBJECTIVE RETIREMENT TRANSITIONS AND DEPRESSIVE SYMPTOMS: AN ACTOR-PARTNER INTERDEPENDENCE MODEL

S. Han, K. Kim, J.A. Burr, *Gerontology, University of Massachusetts Boston, Boston, Massachusetts*

Retirement marks an important life transition that affects not only the individual retiree but also his or her spouse. Based on the life course perspective on "linked lives," this study added to the growing body of literature on retirement and mental health by employing a dyadic perspective to examine relationships of subjective retirement transitions and depressive symptoms over time. Five waves of nationally representative panel data from the Health and Retirement Study (2004–2012) were utilized. The study sample included 6,652 co-residing, community-living couples. Retirement transitions were measured by examining self-reported retirement status at each wave. Respondents were considered to have experienced a transition if the status at a subsequent wave changed from the status at the previous wave. We used longitudinal actor-partner interdependence models to examine effects of one's own and spousal retirement transitions on depressive symptoms over the study period. Models were adjusted for individual- and couple-level covariates known to influence depressive symptoms in later life. Results indicated that one's own transition to retirement was associated with more depressive symptoms only for husbands when compared to staying in the labor force. Further, husbands whose wives transitioned to retirement or continued in the retirement status showed fewer depressive symptoms compared to husbands whose wives remained in the labor force. However, wives were largely unaffected by their own or their spouse's retirement status transitions. Our findings suggest that there are differential effects of subjective retirement transitions on mental health for wives and husbands, in the context of their linked lives.

EDUCATIONAL ACTIVITIES IN THE SECOND HALF OF LIFE: AGE-RELATED CHANGES AND COHORT DIFFERENCES

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Participation in educational activities (e.g. go to lectures, take classes) decreases with age. Previous research shows

educational activities are associated with better health and well-being throughout the lifespan, therefore, it is important to understand how age affects educational participation. However, it remains an open question, if changes in educational behavior reflect age or cohort differences or primarily indicate changes in opportunity structures, e.g. transition into retirement. Using data of two national representative surveys of Germany, this study aims at disentangling cohort differences and age-related changes in educational activities. Participation in educational activities will be analyzed using cohort-sequential data of the German Ageing Survey (N = 20.113, 40–85 years old, samples assessed in 1996, 2002, 2008, 2014) and longitudinal data of the National Educational Panel Study (N = 13.115, 40–70 years old, annually assessed since 2009).

Analyses of the cohort-sequential data show age differences in educational activities consistent with previous findings: Participation in educational activities in adulthood is more common than in old age. However, individuals around the retirement age (58–69 years) increased their participation over time. Preliminary analyses indicate that generations approaching old age now are more active than generations before them. Those results will be complemented by examining age-related changes using longitudinal data. Findings will be discussed with regard to implications of age-related changes and cohort differences in educational activities as well as to what extent changing opportunity structures, e.g. being employed vs. being retired, account for differences in educational activities in the second half of life.

THE UNBEARABLE LIGHTNESS OF BEING RETIRED: A QUALITATIVE STUDY OF RETIRED CHIEF EXECUTIVE OFFICERS

M.P. Silver, *University of Toronto, Toronto, Ontario, Canada*

There is a lightness that can be associated with relinquishing the responsibilities of work in retirement, which for some individuals can be unbearable. This study explored the work and retirement transitions of retired Chief Executive Officers (CEOs) from healthcare organizations to examine their perceptions about being retired. In-depth, in-person interviews were conducted with 26 retired CEOs of healthcare organizations using an interview guide that was informed by the life course theoretical perspective to explore participants' career trajectories and retirement experiences. Verbatim transcripts, notes, and career trajectory maps were analyzed making use of thematic analysis. In the wake of trailblazing careers, participants associated feelings of unbearable lightness and ennui with being retired. Participants acquiesced to societal pressures to retire, either by choice or force, despite their desires to continue to achieve personal fulfillment through work. These findings diversify knowledge of contemporary retirement by illustrating how anachronistic and ageist notions of retirement as an age-graded exit from employment can threaten an individual's sense of self and foreshortened workforce contributions. Participants desire to be fulfillment employed instead of retired reinforce the notion that retirement is better understood as a liminal or threshold stage where an individual contemplates his or her next step and even whether the status will hold.

POST-RETIREMENT MIGRATION: A CASE STUDY IN ALICANTE, SPAIN

M. Repetti, *University of Lausanne, Lausanne, Switzerland*

In most European countries, welfare state systems rely on families as first providers of solidarity, with public provisions being considered as additional. In this context, retired people are considered to comprise a great potential pool of volunteer workers, through different kinds of gendered contributions for men and women. In this way, they contribute to the social contract that is based on the implicit idea that most family members live in close enough proximity to be able to maintain solidarity through regular concrete help. But this principle is increasingly challenged though transnationalization of family relations, such as is the case for late life migration. Indeed, when they decide to retire under the sun, post-retirement migrants are not able to contribute their labor to the everyday life in their community of origin – especially to their families – in the same ways as if they were still living there. At the same time, this shift in context might also lead to different forms of unpaid work for both men and women.

This research is a case study in Alicante, Spain. I present a preliminary analysis based on qualitative and semi-structured interviews with post-retired migrants from northern Europe as well as observations and informal interviews. I discuss how these post-retirement migrants negotiate the terms of the social contract from which they benefit as retirees, in a context wherein ensuring concrete and regular intergenerational help within family is not possible.

THE SILVER TRAVELER PROFILE AND PRODUCT PREFERENCES

C. Goh, *Temasek Polytechnic, Singapore, Singapore*

Similar to many countries, Singapore's population is ageing rapidly. By 2030, 1 in 5 Singaporeans will be aged 65 and above. This unprecedented demographic shift will redefine many aspects of our country. Government policy makers have started preparing for this and businesses, including the tourism industry, are increasingly aware of the many opportunities relating to the 'silver market'. Consequently, Temasek Polytechnic and the National Association of Travel Agents Singapore (NATAS) have collaborated on a three year research study to better understand the needs and profile of the Silver Traveller.

The research consisted of a pilot phase and a full-scale research phase. The quantitative survey targeted respondents aged 48 years and above and investigates, life stages (e.g. retirement), health status, income level, travel history, preferences, and purchasing decisions. Asian cultural traditions such as filial piety are also noted. The findings from more than 1000 respondents, shed light on older adults travel preferences, and the consumer products which may better target inbound Asian senior travellers, especially as over 80% of the respondents in the pilot are ethnic Chinese. Silver Travellers as consumers of tourism services all of their lives, at 50 years and beyond, are dealing with empty nests, pre/retirement, grandchildren, and other factors. They are also more educated and affluent than previous generations. Hence, they make different travel decisions compared to their younger days and compared to previous cohorts. The Silver Traveller is on the move in Asia – we need to be ready for them.

SESSION 4545 (POSTER)

SEXUALITY AND SEXUAL IDENTITY IN THE OLDER POPULATION

SEX, DEMENTIA, AND LONG-TERM CARE: DOES DEGREE OF INTIMACY AFFECT PUBLIC PERCEPTIONS?

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Healthy sexual expression can occur among individuals with dementia as cognitive decline does not always reduce the desire to engage in sexual behavior. However, persons with dementia may face relentless scrutiny from long-term care staff for showing interest or engaging in sexual behavior, particularly when that behavior is deemed erotic. Research has shown that LTC staff members are more accepting of less physical displays of affection, which are often perceived as caring or loving behaviors, compared to more erotic or implied sexual behaviors, such as intercourse or viewing pornographic material. Attitudes of the public were examined using a multiple segment factorial vignette with a probability sample of 329 respondents from a southern state. Because sexual intercourse and heavy petting is often considered taboo, it was hypothesized that a greater proportion of respondents would expect staff intervention for residents who engage in erotic versus less physical behaviors. Nearly 80% of respondents indicated that long-term care staff should intervene in an attempt to stop the relationship, however, the degree of intimacy had no statistical bearing on responses. Respondents who were opposed to the behavior generally cited the individual's lack of consent capacity while those who were supportive commonly cited adult autonomy as their rationale. The findings from this study can inform long-term care staff sensitivity training content and can be used to initiate further discussion on attitudes of long-term care staff toward sexually active residents who reside in their facilities.

INTIMACY, SEXUALITY AND DEMENTIA: THE LAST TABOO

S. Davidson¹, M. Schulz², 1. *Occupational Therapy, Baycrest Health Sciences, Toronto, Ontario, Canada*, 2. *Alzheimer Society of Canada, Toronto, Ontario, Canada*

The subject of intimacy and aging remains one of our last taboos. Factor dementia into this mix and one confronts many challenging practice dilemmas, often influenced by strong opinions, values and beliefs. Health care providers in all settings, but most notably in care environments where there may be privacy, consent and capacity concerns, face these challenges with very little support, few resources and much misinformation.

A collaboration of clinical practice and dementia subject matter experts in one major metropolitan area has identified a need to help health care providers address issues of intimacy in their dementia care practice. Gaps exist in knowledge related to the appropriate application of consent and capacity laws as well as in a structured approach to assist health care providers in understanding what triggers, including a desire for intimate contact, might be influencing an individual's behaviour and to offer a systematic approach to

intervention. Resources have been developed to help health care providers to:

- a) reflect on their values, attitudes and beliefs in considering the rights of adults living with dementia to express their sexuality and need for intimacy;
- b) understand how personal beliefs may influence practice;
- c) learn person centred strategies to enhance the quality of life of persons with dementia in their care.

This poster presentation will highlight the application of person-centred strategies and resources to increase staff skill and sensitivity when approaching challenging situations involving persons with dementia and the expression of their sexuality and need for intimacy.

BRINGING SEXY BACK: EXPLORING INTIMACY AND SEXUALITY AMONG OLDER RESIDENTS IN LONG-TERM CARE

B.A. Meisner, M.R. Malone, *Dalhousie University, Halifax, Nova Scotia, Canada*

Continued intimate and/or sexual expression in later life improves health and well-being. However, older adults may not experience the many health-promoting and disease-preventing benefits of intimacy/sexuality as a result of a complex series of biopsychosocial and behavioural factors. Further, older adults who live in long-term care (LTC) settings often have additional barriers related to intimacy/sexuality, but relatively little is known on this topic. This study explored first-hand perspectives of 10 older residents of a LTC facility in Nova Scotia, Canada on how intimacy and sexuality are defined, perceived, and experienced in their present living environment. Data collection consisted of a two-phase qualitative interview process. First, a life review approach was used to establish rapport with each resident and to situate their perspectives on intimacy/sexuality in the context of their life histories. Second, semi-structured interviews were conducted. Thematic constant comparison analysis was used to extract central themes from these data. Results demonstrated that: a) LTC residents have diverse definitions of intimacy/sexuality, and that the language choices used to discuss these terms are significant; b) while age may be perceived as a factor for continued intimate/sexual expression, it is not the determining factor; c) LTC residents experience and engage in intimacy/sexuality through many forms, and these experiences vary across individuals and over time. Ultimately, findings emphasize the importance of giving voice to older residents' perspectives of intimacy/sexuality, and the value of using these voices to inform future relevant aging-related research, policies, and practices in LTC settings.

MENTAL HEALTH CARE AND THE LGBT POPULATION IN LONG-TERM CARE: COMPETENCY, TRAINING, AND BARRIERS

R. Smith, J. Altman, S. Meeks, *University of Louisville, Louisville, Kentucky*

The study describes results of survey data on providers' competency, training, and barriers encountered in delivering mental health care to LGBT older adults in nursing homes. Fifty-seven providers completed the survey: 47% psychologists, 12% social workers, 11% psychiatrists, and 4% nurses. Providers had practiced in nursing homes for about 12.5 years. 39% of providers reported they provided no care to LGBT residents the past year, while most of the

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61% of providers who did reported working with 1–6 LGBT residents. 62% of providers reported the services they provided were focused on LGBT issues, while 38% reported that the focus was not at all related. For training, 86% of providers reported no formal coursework in LGBT issues or left the item blank; 81% reported no continuing education hours and 70% of providers reported no self-study hours. Providers reported that LGBT issues were relevant to their practice (83%), that they felt somewhat or well prepared to work with this population (76%), and were also somewhat or very willing to learn more (90%). Reported barriers included lack of training in LGBT issues, (85%) lack of familiarity with or availability of evidence-based treatments (76% and 79% respectively), resident unwilling to identify as LGBT (94%), and stigma (91% definitely or probably). Only 21% reported that their personal comfort could be a barrier. Results from this sample indicate facilities need more training, more evidence-based treatments, and less stigma to provide mental health care for the LGBT population.

DEVELOPMENTAL PERSPECTIVES OF ATTITUDES TOWARD THE LGBT COMMUNITY: AN ANALYSIS OF THE LGB-KASH

K. Murry, L. Beck, M.R. Crowther, R.S. Allen, *Psychology, University of Alabama, Tuscaloosa, Alabama*

The broadening acceptance of LGBT individuals has led to significant generational cohort differences in identity development, experiences of discrimination, and social structure (Dentato et al., 2014). Research into how these generational differences impact perceptions of the LGBT community has not been well documented. As knowledge and awareness of the community continues to grow, measures designed to assess these perceptions have failed to keep up. The LGB-KASH is composed of five factors (internalized affirmativeness, civil rights attitudes, knowledge, religious conflict, and hate) designed to assess knowledge and attitudes towards LGB individuals (Worthington et al., 2005). In an effort to improve this measure, focus groups were conducted utilizing two LGBT+ campus organizations from different age cohorts. Group A was comprised of undergraduate students including three females, one male, one FTM transgender, and one “other”. Each of these individuals self-identified as gay or queer, with ages ranging from 20–22 ($M = 20.83$; $SD = .98$). Group B was comprised of five female faculty and staff who self-identified as lesbian, queer, or bisexual. The mean age for Group B was 33.5 ($SD = 7.55$; Range = 27–41). Qualitative analyses revealed thematic differences in perceptions of the LGB-KASH. Group A primarily focused on the measure’s outdated terminology and lack of inclusivity. Comparatively, consistent themes of Group B included issues related to religious assumptions, assessment of LGB history, and the broader implications of the items. These findings highlight the importance of acknowledging LGBT cohort differences in an effort to understand generational influences on the LGBT community.

GENERATIVITY AMONG LGBT OLDER ADULTS

K.L. Bower, D.C. Lewis, *Human Development & Family Science, University of Georgia, Athens, Georgia*

In this poster we explore social, cultural, and personal influences that inform the meaning of generativity among aging

individuals who identify as LGBT. This exploration took place within the context of historical, individual, familial, and relational culture. We interviewed aging individuals who identified as LGBT to understand how societal structures influenced their lives. We met with individuals, agencies, and LGBT-centered organizations across multiple regions of the United States. Using qualitative methodology, we engaged in in-depth interviews and participant-observation to gather the richness of narratives across individual and organizational realms. This research was important because it addressed the need for recognizing individuality that exists within a broad LGBT older population. In order to understand who LGBT individuals are in old age, we sought to understand their cohorts and how one’s past, present, and future were all components of identity. By addressing the social influences and cultural context, we discerned the individuality that constitutes the LGBT population. By exploring personal aspects of past experiences, we provide an important context for understanding present decisions and future generativity. Moreover, this poster provides a venue for meaningful conversation about the heteronormativity within gerontology and how we can continue to expand traditional ideas to include everyone, not only majority populations.

VARIABILITY IN OLDER ADULT SEXUALITY: A FEMINIST GERONTOLOGICAL PERSPECTIVE ON HEALTH AGING

C. Barmon², E.O. Burgess¹, J.C. Morgan¹, 1. *Georgia State University, Atlanta, Georgia*, 2. *Central Connecticut State University, New Britain, Connecticut*

As the baby boom generation ages, more scholars are examining the sexual behavior of older adults. A sometimes explicit, but often implicit assumption in this research, is that sex is good for you—that it is an integral part of a full and healthy life or successful aging. However, the direction of the relationship between sex and health is still elusive. Moreover, much of this research measures sexual behavior as frequency of vaginal intercourse. Narrow definitions of sexual behavior disregard sexual minorities, people with disabilities, and older adults who lack opportunity or interest. Coming from a feminist gerontological perspective, this research explores differences in what counts as sex and how gender and social location influence the relationship between health and sexual activity. Using a nationally representative sample of community-dwelling older adults (3005) from the first wave of the National Social Life, Health, and Aging Project (NSHAP 2014), we find that older adults engage in a wide variety of sexual activity which differs by social location (e.g. gender, race, and class). In addition, using more inclusive definitions of sex, partnered sexual behavior is associated with health even after accounting for demographics and relationship factors. In conclusion, existing models of aging and sexuality, relying on limited definitions of sex, may limit our understanding of the experiences of women and sexual minorities. Moreover, a more nuanced understanding of the relationship between health and continued sexual activity better addresses the heterogeneity of the aging population.

ATTITUDES OF OLDER ADULTS TOWARDS DISCUSSING SEXUALITY WITH SOCIAL WORKERS

M. Salisu, *Social Welfare, Graduate Center, CUNY, Bay Shore, New York*

As the older population in the U.S is increasing, so does their sexual activity (Goodson 2010). Increased sexual activity is associated with successful ageing (Gott & Hinchliff, 2003), as evidenced by positive physical, social, and emotional health indicators (Bash, Mortimer, VandeWeerd, & Corvin, 2013). However, older adults face double jeopardy with regard to their sexual health: they view their sexuality as private while providers often view them as asexual (Eldred & West, 2005). Many healthcare professionals are involved with the care of older persons, yet little is known about with whom this older population is most comfortable discussing their sexual needs and concerns.

Possibly, far more than most professional groups, social workers have had the highest level of comfort with discussing sexuality and behaviors with older adults. Nonetheless, there is dearth of research available to assess whether older adults are comfortable discussing their sexual health concerns with social workers.

This paper describes surveys that were gathered to uncover older adults' attitudes about discussing sexual health issues with social workers. It also discusses barriers to initiating this conversation relating to their sexual health and the efforts being made to address the barriers.

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“THERE’S NO NICE MEN HERE”: THE GENDERED CONTEXT OF REPARTNERSHIP IN ASSISTED LIVING

E.O. Burgess³, A.A. Bender¹, C. Barmon², 1. *Emory University, Atlanta, Georgia*, 2. *Central Connecticut State University, New Britain, Connecticut*, 3. *Georgia State University, Atlanta, Georgia*

Re-entering the dating marketplace after the death of a spouse is challenging for both men and women because of uncertainty about how to negotiate the changing landscape of dating and intimacy. A complicating factor for understanding issues of partnership, sex, and intimacy for older adults is the use of long-term care. Using a feminist gerontological perspective and guided by a grounded theory perspective, we examine how the context of Assisted Living (AL) shapes the opportunities and experiences of residents seeking to experiment with dating, cross-sex companionship, and repartnering in six AL facilities. We found individuals express desires which are further mediated by social patterns and interactions with other residents and staff members. The ability for AL residents' to engage in dating, intimacy, and repartnering in the AL setting was controlled by individual and community factors. Although sexuality and intimacy are framed as intensely personal decisions, we found that the gendered context of assisted living shaped residents' sexual decision making. What is unique to AL is how desire and lack of desire are expressed, the environment in which relationships take place, and the individual and institutional barriers and opportunities that influence the ability to date and/or repartner. This research expands previous studies of sexuality and

older adults by examining not only opportunity structure for repartnering but also explaining how the gendered social climate of AL influences individual behavior.

ADAPTING SEXUAL SCRIPTS FOR OLDER ADULT INTIMACY AND RELATIONSHIP INITIATION: A FEMINIST FRAMEWORK

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Sexual intimacy plays a significant role throughout every developmental life stage, and is incredibly important in the later stages of life when relationships with loved ones are vital, and there is increased risk of social isolation, loneliness and high rates of depression. The desire for sexual expression is often ignored or even actively discouraged in older adults. This avoidance could be partially caused by sexual scripts about sexual intimacy that deter intimacy in older people. Practitioners must recognize individual factors that impact the interest, need, or desire for sexual expression in later life stages.

Sexual intimacy is beneficial in older adults, nevertheless, barriers can exist to intimate and sexual expression for some older adults due to scripts about sexuality that deter physical intimacy and sexual encounters in later life. A theoretically-based conceptualization of sexual intimacy and aging is useful to inform practitioners and researchers where support and advocacy may be implemented to foster health intimacy for older adults. Understanding the sexual scripts within the levels of cultural/historical, social/ interactive, and personal/ intra-psychic provides a unique opportunity for clinicians to assess the experience of sexuality as social and learned interactions. The experience of relationship initiation can be deconstructed to examine how relationships evolve to be sexually intimate. These learned scripts can then be reconstructed to aid older clients to increase the level of sexual intimacy to their desired level.

RANDOMIZED CONTROL TRIAL WITH FOLLOW-UP TO IMPROVE HEALTHY WEIGHT IN OLDER LESBIAN/BISEXUAL WOMEN

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In recent years obesity has reached epidemic proportions. In 2012, the U.S. Centers for Disease Control and Prevention reported that more than two-thirds of U.S. adults over the age of 20 were overweight (69%) and more than one-third of U.S. adults (32% - 37.9%) were obese. Sexual minority women are heavily represented in these obesity statistics. Project LOLA utilized a 3-arm randomized control trial design of 16-weeks to test the effectiveness of achieving healthy weight among approximately 100 lesbian and bisexual women aged 40–69 in Columbia and St. Louis, MO. Participants were randomly assigned to a gym membership plus personal trainer group, smart pedometer use group, or a health education group (attention control group). All

groups had weekly meetings. Using analysis of variance, significantly more participants in the gym and pedometer groups met physical activity (PA) guidelines at the 8 month follow-up, and the attention control group reverted back to pre-intervention values. Mediators or moderators, such as PA motivation, self-efficacy, social support, resilience, stress, depressive symptoms, general health status and demographics, were considered in the statistical models. Evaluation of several health-related behaviors to achieve healthy weight, such as weight loss, waist-to-height ratio reduction, increased aerobic fitness, decreased sugar-sweetened beverage consumption, increased fruit and vegetable consumption, and decreased alcohol consumption will be presented. These data support a tailored and activity focused approach to improving the health of older sexual minority women.

SESSION 4550 (POSTER)

SLEEP AND INSOMNIA IN LATER LIFE

FACTORS OF SLEEP AND NAPPING AMONG OLDER SINGAPOREANS: A LONGITUDINAL STUDY

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Extreme nighttime sleep duration and elevated nighttime sleep disturbance are associated with poorer well-being and higher risk for mortality in older adults. Daytime napping is also related to an increased risk of death in this age group. Thus, it is important to identify factors that influence elderly's sleep and napping. However, longitudinal data of determinants of nighttime sleep in older adults mostly comes from Western countries, and there is a dearth of relevant data of daytime napping. To fill these gaps, the present study addresses the impact of demographic, psychosocial and health factors on sleep duration and disturbance as well as napping duration in Singapore. We utilized two waves of data (N > 2500) from the Panel on Health and Ageing of Singaporean Elderly (PHASE). Regression results showed that short sleep 2 years later was predicted by Malay (relative to Chinese and Indian), and long sleep was predicted by weaker social networks with friends and relatives. Also, being unmarried and weaker social networks predicted more future sleep disturbance via higher level of depression. Furthermore, an older age, female gender, Malay or Indian (relative to Chinese), cognitive impairment, obesity, and smoking contributed to longer napping duration. Interventions addressing elderly's sleep and napping should take their ethnicity into account as sleep and napping patterns vary across ethnic groups. Extending older adults' social network may benefit their sleep.

THE STUDY OF THE ELDERLY'S SLEEP QUALITY AND THE EFFECTS OF MUSIC THERAPY ON SLEEP DISTURBANCES

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This study is to investigate the sleep quality of the elderly in urban communities of China, and to explore the effects of music therapy on sleep disturbances.

The research has two stages. first, a cross-sectional design was utilized to investigate the sleep quality of the elderly. A stratified cluster sampling method was used to recruit 431 elderly. Pittsburgh Sleep Quality Index is used for data collection. Second, a randomized controlled trial was utilized. 68 elderly with the PSQI $\geq$ 8 were recruited, and were randomly allocated to the intervention and control group. The control group received only the sleep health education, while the intervention group received music therapy and health education. All the interventions lasted for 3 months. Sleep quality was retested at the end of each month after the interventions.

The Results shows the average PSQI score of the elderly was 7.76 ± 4.51 (0~20). There were 202(46.9%) elderly with poor sleep quality (PSQI $\geq$ 8). The elderly went to bed at 7pm~2am, and got up at 4am~10am, with 6.10 ± 1.54 (1~10) hours being actually asleep at night.

After the interventions, comparison between groups revealed that all the other six components and total scores of PSQI at each post-test points showed no statistically differences between groups ($P > 0.05$), except for the significant differences in daytime dysfunction component at the first month ($P < 0.05$). Compared with the changes between pre-test and post-test, there was significant difference in groups at each time, and the PSQI scores of the intervention group reduced more than those of the control one ($P < 0.05$).

ECONOMIC HARDSHIP AND INSOMNIA IN OLDER ADULTS: DATA FROM THE NATIONAL HEALTH AND AGING TRENDS STUDY

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Older adults are at increased risk for insomnia symptoms as they age and are at increased risk for poorer health. They may also be at increased risk for economic hardship. Previous studies have shown that both economic hardship and insomnia are associated with poor health outcomes; however few studies have examined these relationships in older adults. Sleep may be one of the mechanisms through which economic hardship exerts negative effects on health in aging populations. Using data collected from 7,075 survey respondents in 2012 of the National Health and Aging Trends Study, we examined the association between economic hardship and insomnia in a nationally representative sample of Medicare beneficiaries aged 65 and older. Logistic regression models were developed to predict the association between economic hardship and insomnia in older adults. Results indicated higher levels of economic hardship were associated with a greater odds of insomnia, after adjusting for race, age, gender, and education (Model 1) (OR=2.62, 95% CI: 1.81,3.79), plus number of health conditions (Model 2) (OR=2.24, 95% CI: 1.52,3.30), plus anxiety and depression (Model 3) (OR= 2.14, 95% CI: 1.44, 3.18), ($p < 0.001$ for all three models). These findings indicate that after accounting for potential confounders, those with higher levels of economic hardship were twice as likely to have insomnia as those without economic hardship. By reducing economic

hardship in older adults, insomnia symptoms may decrease, and hence improve the overall health of older adults.

INSOMNIA AMONG COUPLES, MARITAL RELATIONSHIP QUALITY, AND METABOLIC SYNDROME IN LATER LIFE

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Clinical research has linked sleep disorders, including insomnia, to a higher risk of cardiometabolic outcomes, such as hypertension, diabetes, and the metabolic syndrome (MetS). However, very little research on this issue has been conducted with nationally representative samples of older American couples. We adapted a dyadic approach to investigate the interdependence of older adults and their partner's sleep problems with their corresponding risk of incident MetS. Further, for co-sleeping older adults, marital relationship quality has been prospectively associated with the incidence of MetS and subsequent coronary heart disease. We hypothesized that both insomnia among partners and marital relationship quality viewed from the perspective of actors and their partners would be related to the incidence of MetS. Data from the 2006 and 2010 Health and Retirement Study were utilized to examine these relationships (n=2,146 or 1,073 couples). Longitudinal multi-level (mixed) regression models were employed to estimate actor and partner effects. We found for wives that the risk of MetS increased over the observation period but not for husbands. We also found that insomnia at baseline was related to increased risk for MetS for both partners but risk increased over time only for husbands. For wives only, spouse's insomnia was related to an increased risk of incident MetS. For marital quality, we found marginally significant relationships once controls were added to the model. This study demonstrated the importance of sleep problems for MetS and how co-sleeping older adults are potentially impacted in terms of their MetS risk.

SESSION 4555 (POSTER)

SOCIAL ENGAGEMENT AND SOCIAL NETWORKS

IMPACT OF HEARING LOSS ON SOCIAL CONTACT AMONG KOREAN OLDER ADULTS: PLACE OF RESIDENCE AS MODERATOR

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Using data from the Korean Longitudinal Study of Aging (KLoSA), we examine (1) the impact of hearing loss on social contacts with friends, relatives, or neighbors among Korean older adults aged 60 and over, and (2) the extent to which the place of residence moderates the relationship between hearing loss and social contacts.

Analyses were based on data from the 2014 wave of KLoSA, with a sample of 4,971 older adults. The level of hearing loss was assessed with a question asking how participants would evaluate his or her hearing ability on a five point scale. The place of residence was determined according to the region where each individual lived, and it was categorized dichotomously into rural and urban areas.

The results indicated that higher levels of hearing loss were associated with fewer social contacts among older adults in Korea. The place of residence was found to be a significant moderating factor; the negative impact of hearing loss on social contacts was more pronounced among those who live in urban areas.

Assuming that community in rural areas have more inclusive atmosphere towards neighbors than urban areas, these findings point to the important role of social cohesion of a community in reducing social isolation of older adults experiencing hearing loss. They also call for community building efforts in urban areas, providing older adults with hearing loss and other community residents opportunities to better understand and befriends with each other.

SOCIAL HEALTH OF KOREAN RURAL ELDERLY: WITH A FOCUS ON AGE-GROUP DIFFERENCES

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The purpose of this study was to examine the differences in social health among three distinctive age groups – young-old (65~74), middle-old (75~84) and old-old (85+). In this study, social health is defined as the amount of interaction an individual has with their community, and it consists of 3 aspects: social networks size (family/relatives, friends/neighbors), social activity and sense of community (trust, norms, and participation). For the purpose, this study examined how age groups assessed their social health and whether there are any actual differences among the three age groups. Data was gathered from 320 rural elderly who live in rural villages using a structured questionnaire. The statistical methods used for data analysis were descriptive statistics, t-test, ANOVA and correlations and regression.

The major findings of this study are as follows: differences among the three groups in terms of social network size, social activity and sense of community seem to be apparent. The respondents belonging to the old-old group perceived their family/relatives network size to be smaller than the young-old and middle-old groups. Reports of social activity in community centers, senior meetings and other private meetings of old-old group is also lower than the other groups. However, the actual frequency of visiting community centers shows no differences between the age groups. Old-old group's participation level of sense of community is lower than the other age groups. A regression analysis of the social health variables shows that the age of respondents has a significant influence on the social health of the elderly along with gender, educational level, subjective health status and subjective economic status. It can be seen that the old-old, the oldest old age group in this study, is the most vulnerable when it comes to social health. On the basis of this analysis, various methods for supporting the rural elderly's social health are discussed.

THE FUNCTIONS OF LEISURE IN LATER LIFE: BRIDGING INDIVIDUAL AND COMMUNITY-LEVEL PERSPECTIVES

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Older people's leisure has been an enduring research topic in gerontology with current interest focused on its benefits

and role in successful aging. Leisure participation in older age has principally been researched from individual-level theoretical perspectives that view leisure as reflecting adaptations to aging-related losses and change. Recent orientations to later life leisure participation, such as innovation theory, emphasize positive developmental aspects and uses of older individuals' leisure pursuits, driven by personal agency. Moreover, the potential of later life leisure activities to contribute to community is conceptualized in social capital theory perspectives that bridge individual and community-level functions of leisure participation. This presentation uses findings from qualitative thematic analysis of oral histories on leisure conducted with 58 persons aged 60 and over in rural southwest England, to examine the personal uses and functions of their leisure occupations in older age, and the role that these activities play in connecting older individuals to their communities. Findings indicate that while participants described lifetime patterns of leisure characterized by a core set of activities and interests, later life was a period of significant leisure transitions in which they actively used new and continuing pursuits and pastimes to adapt to changing personal circumstances, abilities, and aspirations. The findings also demonstrate how participants' leisure activities—ranging from avidly pursued hobbies to formal volunteering—served both individual adaptive and developmental purposes, and as a means of fostering social connectivity and contributing to rural community life. Implications of these findings are discussed in regard to leisure theory.

SOCIAL NETWORKS AND SOCIAL SUPPORT OF OLDER MIGRANTS

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European societies are changing going along with new ways of life, different age compositions and increasing shares of migrants. Simultaneously, all across Europe we see a withdrawal of welfare states. These changes affect relationships between generations and cultures, and social support. Especially marginalized groups such as older migrants might adversely be affected. Using the German Socio-Economic Panel (SOEP) we compare social support networks among older Germans and Turkish, Greek, Italian, Yugoslavian, Rumanian, and Polish immigrants, as well as migrants from the former Soviet Union. We focus on changes of social relationships and social support over life course attributing this to the context of country of origin, generations and age, controlling for intra-individual effects by using panel data. Our results show significant inter-ethnic and inter-generational differences of social capital and social support: older Turkish migrants integrate more persons of the same origin into their networks than younger Turkish migrants; Polish and Rumanian networks consist of most Germans. Further, network compositions are rather inter-generationally than ethnically determined in terms of inter-ethnic ties, family members, and availability of support, e.g. by relatives living abroad. Nevertheless, Yugoslavian generations differ less across life course than Turkish, Greek, and Italian. Expectations of social support by family members, e.g. in terms of expected long term care givers are likewise affected by age. We conclude with a discussion on how network

compositions determine different needs of social support in life course and by national contexts.

MARITAL QUALITY AND LONGEVITY: UNDERSTANDING THE IMPACT OF JOINT DECISION MAKING AND MARITAL RISK

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Married individuals experience less disability and live longer than those who are unmarried. However, the quality of the marriage is also an important factor to consider since there are some aspects of marriage that can be either protective or detrimental. We utilized data on 4,569 married/partnered participants (ages 25–75, 689 deceased) from the Midlife Development in the U.S. Study (MIDUS) to examine how joint decision making and marital risk score (index of disagreement and subjective opinion of pending relationship dissolution) were related to 20-year mortality risk. We hypothesized that greater joint decision making scores would predict a decreased risk of dying while a higher marital risk score would predict an increased risk of dying. We tested hypotheses using Survival Analysis controlling for age, gender, marital status, race and education. In this first model, analyses revealed that joint decision making did not significantly predict mortality risk (HR = 1.00; CI = 0.99–1.01; $p = 0.917$). However, in our second model, the marital risk score was a significant predictor of mortality (HR = 1.16; CI = 1.03–1.30; $p = 0.014$). Examining both variables in the same model revealed that marital risk still predicted mortality while joint decision making did not. Findings suggest that even though being married is protective in terms of health, the quality of the marriage is still important. Further research in the area is needed to better understand the association between marital status and health since the quality of the marriage may impact this association.

THE LONGITUDINAL IMPACT OF SOCIAL NETWORK SIZE AND SATISFACTION ON LATE-LIFE WELL-BEING

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Links between social support networks and health have been well documented across the life course; however, to continue to understand the nuanced influence of social networks in late-life further multi-faceted and longitudinal research is warranted. The current study extends this line of research by examining how both structure and quality of social networks impact change in late-life psychological, physical, and functional health. Using longitudinal data from a community-based sample of 301 adults aged 60 – 98, the purpose of the present study was to examine whether social network size and satisfaction impact well-being (i.e., depressive symptoms, life satisfaction, self-rated health, number of diseases, and ADLs) over time. Multiple regression analyses were conducted with Wave 1 network size and satisfaction predicting Wave 2 well-being while controlling for Wave 1 well-being to assess change over a two-year period. Age, sex, education, and marital status were included as covariates to account for demographic variation. Network size was not associated with change in self-rated health or number of diseases, but smaller network size was associated with increased depressive

symptoms, decreased life satisfaction, and increased ADLs over time. Lower network satisfaction was associated with increased depressive symptoms, decreased life satisfaction, and decreased self-rated health over time. Findings suggest that a lack of social network support (both quantity and quality) has negative implications for older adults' psychological well-being over time; whereas, access to social support may promote functional health. Implications for older adults' well-being will be discussed along with avenues for intervention and future research.

NEIGHBORHOOD SOCIAL SUPPORT AND COMPANIONSHIP AMONG THE VERY OLD LIVING IN AN URBAN AREA IN JAPAN

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Neighbors should play a significant role in our social network, especially when we become very old and have a limitation in mobility. However, little is known about the functions of neighborhood relationship and its impact on well-being of the very old. In this study we focused on the availability of emotional support, tangible support, and companionship with non-kin neighbors of the very old and examined its effect on the well-being of the older people. Interviews were conducted in 2015 in Kawasaki, Japan. Respondents were randomly selected community dwelling adults aged 75 years and older ($n = 873$). It was found that 59.7% of the respondents had acquaintances or friends in their neighborhood. Among them, about a half replied they could rely on their neighbors emotionally or instrumentally. Also about 70% answered they enjoyed companionship with their neighbors. No gender or age differences were found for the proportion of having close neighbors. Respondents who used sports facilities or community centers in their neighborhood were more likely to have close relationship with neighbors. Analyses on the association between neighborhood relationship and well-being found that having close neighbors and companionship with neighbors were associated with life satisfaction and QOL measures positively. These correlations were larger for the older age groups. These results suggested that neighborhood social network, especially having companions in the neighborhood might gain its importance in our life as we age. Strategies for promoting neighborhood companionship should be considered for better community life for the very old.

LONELINESS AND SOCIAL SUPPORT OF JAPANESE OLDER ADULTS WITH SENSORY IMPAIRMENTS

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We investigated the prevalence and associating physical and social factors of loneliness of Japanese older adults with self-reported hearing and/or vision impairments. Our analyses used longitudinal data of the nationally representative Japanese older adults of 65 years and older ($n=4997$) in the Nihon University Japanese Longitudinal Study of Aging

(NUJLSOA) collected between the years of 1999 and 2009. The study sample was constructed by pooling longitudinal data collected between each five waves of the survey period. Over 30% of the study sample reported some levels of hearing or vision impairments. Compared to those with no sensory problems, a higher portion of older adults with sensory impairments reported that they had felt lonely. They also rated their overall health poorer and reported more problems of physical functions. The larger percentage of older adults with sensory impairments lived with their children and received relatively more support from children. The results of the logistic regression analysis showed that having more difficulty with activities of daily living was a significant associating factor of loneliness among older adults with sensory problems. In addition, the frequency of contact with non-coresident children tended to have a weaker association with loneliness of older adults with sensory problems compared to those with no sensory problem. Based on these results, we discuss the issues pertinent to Japanese older adults with sensory impairments and ways in which social support and services need to be provided to alleviate the loneliness of this group of older adults.

ALTERATIONS IN SOCIAL NETWORKS OF THE ELDERLY ACCORDING TO CHANGES IN THE DEPENDENCY PROFILE

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Aim: Verify the alterations in the configuration of social networks of the elderly according to changes in the dependency profile. **Method:** Longitudinal population-based study that used the 2006 ($n = 1,413$) and 2010 ($n = 990$) cohorts of the Health, Well-being and Aging Study (SABE). To establish the different levels of elderly dependence a hierarchical scale of reported difficulties was used, constructed by the Guttman scaling method. To characterize the social networks the following variables were used: number of network members; living arrangement; sex and age of the members; co-residence with children or only with elderly individuals; satisfaction with the relationship; receiving and offering social support (financial, material, emotional, performing tasks inside and outside the home, company and personal care). The differences between the structural and functional characteristics of the social networks in 2006 and 2010 were estimated using the McNemar and Wilcoxon tests. **Results:** The elderly people who decreased their level of dependency from 2006 to 2010 and those who maintained the same condition from 2006 to 2010 received and offered more support in 2006. Those who presented an increased level of dependency began to receive more personal care and support to perform household chores in 2010. **Conclusion:** Health professionals should encourage the formation of social networks where the elderly can effectively exchange support, since these networks may be a possibility for meeting the needs of elderly care in situations of dependency.

LONGITUDINAL IMPLICATIONS OF SOCIAL INTEGRATION FOR HEALTH AND WELL-BEING IN LATE-LIFE

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Distinct components of social integration have documented links to late-life well-being. Recent research highlights the value of not only addressing these components separately, but of examining social integration comprehensively. The purpose of the present study was to examine the longitudinal health implications of social integration as assessed by the multi-faceted and comprehensive Social Integration in Later Life Scale (SILLS). Specifically, using a community-based sample of 301 adults aged 60 – 98, multiple regression analyses were conducted with Wave 1 social integration (including 4 subscales assessing frequency and satisfaction of social ties and community interaction) predicting Wave 2 well-being 2 years later (depressive symptoms, life satisfaction, self-rated health, number of diseases, and ADLs) while controlling for Wave 1 well-being. Age, sex, education, and marital status were included as covariates. Greater overall social integration (and specifically frequency of community interaction) was associated with a decline in depressive symptoms, an increase in life satisfaction, and an increase in self-rated health over time. Lower satisfaction with social ties predicted increased depressive symptoms over time. Overall social integration did not predict change in diseases over time; however, greater satisfaction with community was associated with increased ADLs over time, likely indicating the increased community integration within senior long-term care facilities. These findings highlight the importance of social integration, particularly within the community, for perceptions of well-being in late-life. Implications for research and intervention promoting late-life social integration and well-being will be discussed.

AGE DIFFERENCES IN THE EFFECTS OF PREFERENCE FOR SOLITUDE ON EMOTIONAL WELL-BEING

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Time being alone increases with age, and older adults have higher preference for solitude (PS) than younger adults (Toyoshima & Sato, 2014). People with high PS more often choose to spend time by themselves. High levels of PS do not indicate that the person spend most of their time alone; rather, they perceive greater potential benefits in spending time alone. This study examined age differences in the effects of PS on emotional well-being. We conducted an Internet survey of 1500 people: 500 younger adults (aged 29–31), 500 middle-aged adults (aged 49–51), and 500 older adults (aged 69–71). We administered a questionnaire including variables regarding preference for solitude, emotional well-being (positive and negative affect), loneliness, and frequency of being alone in daily life. We examined the effect of PS using hierarchical multiple regression analysis. The results showed a significant negative effect of PS on negative affect for older ($\beta = -2.39, p = .017$) and middle-aged ($\beta = -2.08, p = .038$) adults, but not for the younger adults ($\beta = -1.81, p = 0.72$).

There were no significant PS effects on positive affect for any of the groups. These results suggested PS decreases negative affect and promotes emotional well-being. Moreover, the effect is stronger for older adults. PS levels may potentially explain why older adults maintain their well-being even though they spend more time alone.

SUBJECTIVE EXPERIENCE OF (DIS)ABILITIES: A QUALITATIVE APPROACH TO PHYSICAL ABILITY OF NONAGENARIANS

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About one third of oldest old resides in the community and is relatively independent in their daily activities. However, we know more about the disabilities of the nonagenarians than about their everyday abilities of these independent but very old individuals.

In this research we report the results of qualitative life course interviews of the Vitality 90+ Study from Tampere, Finland. Forty-five (20 men) nonagenarians were interviewed in their homes in 2012 and interview themes included questions about everyday activities such as shopping and main features of the living environment. The analysis focused on subjective experiences of own ability to perform everyday activities and reflections on how the living environment affected these experiences.

Results show that doing grocery shopping is a valued activity and for those who are able to go shopping it is also part of their daily exercise regimen. Relatives, friends and neighbors often had a significant role in enabling shopping activity. Subjective experience of physical functioning therefore relied on successful interplay of personal physical ability, features of the environment and relationships with other people.

Studying subjective functional ability offers an important perspective for understanding the quality of everyday life of nonagenarians. To fully comprehend the physical functioning of nonagenarians, it is necessary to study the interplay of social relationships, living environment and mundane activities like shopping.

SELF-IMAGES OF CHILDLESS AND SINGLE ELDERS FROM A BIOGRAPHICAL PERSPECTIVE

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Aging without children as well as without partner are associated with loneliness and missing support, when it comes to the need of care. While previous findings show that childless elders do not have significantly less intergenerational ties than older parents, they are more concerned about care dependency and generativity. There is little known about how they develop resilience over the life-course to cope with old age. This presentation conceives childlessness as a result of multiple biographical decisions instead of a 'one time only' decision. The qualitative approach of biography research was chosen to focus on individual and societal aspects of being childless throughout the life course and in the present. Data is drawn from ten in-depth interviews with childless and single older men and women (63–80 years old). First findings from the reconstruction of two cases allude to

a positive self-image, in their narratives they actually seem to avoid negative references to stereotypes of childless elders. The interviewees perceive themselves as in whole embedded in their social networks, which consists mostly of long-standing relationships. They do not regret being childless, although participants with lesser intergenerational contacts address the lack of grandchildren. Along with this, missing social and intergenerational ties are linked to negative subjective well-being. These first findings from an ongoing Ph.D. study reveal the accumulated resources and risks of childless and single persons in old age. Besides, the biographical approach helps to gain a deeper understanding of childlessness as a lifelong process.

SOCIAL NETWORK FUNCTIONS RELATED TO CO-ENGAGEMENT IN SOCIAL ACTIVITY AND PSYCHOLOGICAL WELL-BEING

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Socially engaging with others has been shown to be important for the well-being of older adults. However, little is known about how co-engaging in activity with someone may facilitate well-being. This study investigated whether network functions (i.e., social support, companionship, social influence) are more likely to occur in relationships involving co-engagement in activities, versus relationships without co-engagement, and whether these functions may explain well-being.

Adults ages 60 years and older were interviewed once in-person or by phone in a rural US Midwestern city. A total of 133 respondents provided information on 1,740 relationships within their social networks.

Respondents identified 68% of enumerated network members as someone they interacted with at least once a month. Focusing on those who interacted at least monthly, 57% co-engaged in social activities with the respondent. Results of the generalized linear mixed model analyses showed the relationships involving co-engagement were more likely to also involve emotional support ($OR=3.69$, $p<0.001$), informational support ($OR=2.91$, $p<0.001$), companionship ($OR=9.38$, $p<0.001$), and encouragement for healthy behaviors ($OR=2.55$, $p=0.002$) than those not involving co-engagement. Having more members providing companionship was associated with better psychological well-being: Ryff's environmental mastery ($p=0.01$) and positive relations with others ($p<0.01$) scales.

Co-engagement in social activity brings social benefits like support, companionship, and encouragement. Companionship may contribute to the psychological well-being of older adults. Future research may explore how other aspects of older adults' well-being, such as physical health and health behaviors, may be facilitated by functions like social influence and support arising from co-engagement in social activity.

IMPACT OF SOCIAL DISENGAGEMENT ON PHYSICAL PERFORMANCE IN JAPANESE COMMUNITY-DWELLING ELDERLY STUDY

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Aim: Study on the pathways between social disengagement and sarcopenia or its diagnostic physical functions remains inadequate. This study aims to examine the relationship between social engagement and physical functions with a particular focus on two components of social engagement – social participation and social relations – and their differential pathways to physical performance.

Methods: Large-scale longitudinal health-check cohort study, 'Kashiwa study', was conducted with subjects of a total of 1,205 community-dwelling older adults aged 65 years or older, who was randomly selected from the resident register in Kashiwa city, Japan in 2012. Timed up-and-go (TUG), time to rise from a chair 5 times and maximum gait speed were used to assess physical performance. The indicators used to assess social participation were organizational attendance and frequency of going out. Eating alone, reciprocity of social support and social network were used to assess social relations.

Results: The model that linked social engagement and physical performance via two pathways showed a significantly good fit ($GFI=0.971$; $AGFI=0.958$; $RMSEA=0.043$; $AIC=342.876$; $CFI=0.952$). Psychological pathway connected social relations with physical performance via loneliness, mental health and nutritional deficiency. Behavioral pathway linked social participation with physical performance via physical inactivity.

Conclusion: Social participation and social relations were related to physical performance via differential pathways. Social preventive measures against physical frailty, especially sarcopenia, need to involve comprehensive assessment of their social engagement and composite interventions to that target both the behavioral and psychological pathways.

THE EFFECT OF SOCIAL ENGAGEMENT AND ITS CHANGE ON INCIDENT DEMENTIA AMONG CHINESE OLDER ADULTS

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Purpose of the study: To examine the effect of social engagement (SE) and its change on incident dementia among older adults in China.

Design and Methods: Data were drawn from the 2002, 2005, 2008/2009, and 2011/2012 waves of the Chinese Longitudinal Healthy Longevity Survey (CLHLS), we used generalized estimating equations (GEE) for repeated measures log-binomial regression to examine the effect of SE and its change on the incidence of dementia, and the incident dementia was modeled on the exposure of SE lagged one wave to ensure the exposure preceded the outcome, hence, three occasions (2002–2005, 2005–2008/2009, and 2008/2009–2011/2012) were conducted in this study. Sensitivity analysis was conducted to test the robustness of findings.

Results: During 9-year follow-up, 338 developed dementia among 7511 Chinese older adults aged 65 or over. SE was

associated with incident dementia after adjusting for social demographic characteristics, life styles and baseline health status (Relative Risk (RR) =0.35, 95% Confidence Interval (CI)=0.16–0.78), and the interaction of SE and time was statistically significant (RR=1.13, 95% CI=1.02–1.24). The risk of incident dementia was reduced among participants with stable high (RR=0.29, 95% CI=0.19–0.44) or an increased (RR =0.20, 95% CI=0.10–0.37) SE compared with those with stable low SE. The findings remained robust to sensitivity analysis.

Implications: A high level of SE could prevent or delay the incidence of dementia and the effect is stronger over time. Furthermore, sustaining a stable high or increasing SE is associated with lower risk of dementia.

YOU'VE GOT A FRIEND IN ME: CAN SOCIAL ENGAGEMENT MEDIATE THE RELATIONSHIP BETWEEN MOOD AND MCI?

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Social networks can change with age, for reasons that are adaptive or unwanted. A larger social network is beneficial to both mental health and cognition. Consequently this study explored this association and assessed the mediation of the relationship between mild cognitive impairment (MCI) and mood problems by social network size. This study includes an analysis of data from the Cognitive Function and Ageing Study Wales (CFAS Wales). CFAS Wales data were collected by conducting structured interviews with older people aged over 65 years of age living in urban and rural areas of Wales, and included questions that assessed cognitive functioning, mood, and social networks. This study demonstrates that having a larger social network is beneficial to both mood and cognition. Correlation analyses suggest that as social network increases, symptoms of anxiety and depression decrease. Regression analyses reveal that social network size is a significant mediator of the relationship between MCI and mood problems. These findings are important, as mood problems are a risk factor for progression from MCI to dementia, so interventions that increase and strengthen social networks may have beneficial effects on slowing the progression of cognitive decline. Social network size represents a potentially modifiable variable, in that more opportunities to socialise can be explored and implemented. For example, many older people struggle to access transport to attend social situations, which could be acted upon, and additionally, advances in technology could be utilised to provide social opportunities for older people.

DEPRESSION AND SOCIAL MEDIA USE AMONG MIDDLE AGED AND OLDER U.S. ADULTS

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The growth of social media (SM) use is evident in the middle age and older adults, and its association with mental well-being remains unclear. This study used data from the third wave of the National Survey of Midlife Development in the United States to examine SM use and its association

with depression to answer whether the presence of past year depressive episode can be predicted from SM contact. This study surveyed 3,294 adults ages 35 and above about their frequency of SM use to contact friends or family and depression. SM use was assessed by self-reported time with eight responses, ranging from 1= "several times a day" to 8= "never or hardly ever." Depression was assessed using self-report of past 12 months' depressive episode. Logistic regressions were performed. The weighted sample was 54.9% female and 89.5% White. Accounting for baseline depression and other important potential confounders, this study did not demonstrate that frequency of social media use to contact friends and family predict depressive episodes, as opposed to other studies done on a young adult cohort. Results were robust to all sensitivity analyses. SM use is not associated with increased depression. Given the proliferation of SM, further studies should look at the possibility of social media use in offering middle age and older adults a medium to connect and engage, develop a sense of community and possibly offset the risk of depression and isolation.

THE RELATIONSHIP BETWEEN SOCIAL SUPPORT AND DISTANCE TO THE PARENTS' HOUSE IN JAPAN

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The purpose of this study is to reveal whether size of the gap between the respondent's house and their parents' house affect the amount of the exchange of social support when parents and their children are living apart.

This study utilized data collected in Sapporo, Japan, in January 2015. Respondents to the survey were men and women from 35 to 60 years of age whose parents were still alive (n=510). This survey was conducted in Sapporo, the prefectural capital of Hokkaido.

The dependent variable was delivery and acceptance of sentimental and tangible support. And the independent variables were the distance from respondent's house to their parents' house and basic attributes and attitude concerning family of the respondents, ADL and living arrangements of their parents.

The results of the analysis are as follows. 1) The distance to their parents' house reduced only tangible support delivery for the respondents. 2) The relationship between mothers and their daughters seemed to be very strong. 3) The interaction of parents with their neighbors tend to decrease social support from respondents. 4) The parents' physical situation that measured by ADL increased care that respondent provided.

Though social support delivery from children is based on the traditional family structure and the mother-daughter relationship, but it seems to give by somewhat rational choice, which is opposite to the traditional criterions, because care decrease by the distance of the houses and parents' interaction with the neighbors.

SOCIAL RELATIONSHIPS AMONG ADULT THEATER AUDIENCE MEMBERS

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Research suggests that social networks decrease in size as individuals grow older and that older adults perceive more positivity and less negativity associated with their social

relationships (English & Carstensen, 2014). In the context of a larger study of well-being associated with theatre audience involvement, we hypothesized that theatre patrons age 60 and above would report attending the theatre with fewer companion types than younger patrons, but would also report greater social engagement, positive relations, and sense of belonging. Data were from an online survey of 841 theater patrons of a nationally-recognized repertory company. We determined that individuals aged 60 and over attended performances with significantly fewer companion types ($M=1.23$, $SD=.71$) than did younger individuals ($M=1.45$, $SD=.84$), $t(664)=-3.59$, $p<.001$, $d=.28$. Older individuals also reported significantly higher social engagement with the people they generally attend performances with, $t(665)=2.72$, $p=.007$, $d=.21$, and higher scores on the Ryff Well-being: Positive Relations with Others scale, $t(628)=2.52$, $p=.012$, $d=.20$. Despite attending the theater with fewer types of companions, older adults did not differ from younger adults in their sense of belonging when attending performances, $t(654)=.63$, $p=.531$, $d=.05$. These results suggest that older adults continue to gain social benefits through engagement with the performing arts, even as the makeup of their social network changes, and are consistent with socioemotional selectivity theory.

English, T., & Carstensen, L. L. (2014). Selective narrowing of social networks across adulthood is associated with improved emotional experience in daily life. *International Journal of Behavioral Development*, 38(2), 195–202.

SESSION 4560 (POSTER)

SUCCESSFUL AGING

PERSPECTIVES ON SUCCESSFUL AGING: INSIGHT FROM THE JIRELS IN EASTERN NEPAL

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Concerns have been raised about existing definitions of successful aging. In particular, it has been argued that they are influenced by the values of researchers and lack input from the populations studied. Efforts have been made to address the issue by asking older adults what they deem to be important elements of successful aging. The majority of these studies, however, have been conducted in developed countries. We, therefore, know little about how aging in a developing nation shapes beliefs about successful aging. The objective of this study is to expand understanding of what it means to age successfully by investigating the phenomenon in Nepal, a developing country with a median age of approximately 23 years and per capita GDP of 2,500 US dollars. To permit comparison with data gathered in the United States and Japan, we used a modified version of an existing questionnaire. The questionnaire captures 13 potential attributes of successful aging and includes an open-ended item designed to elicit other perceived elements of successful aging. The study sample includes 1,750 members of the Jirel population, an ethnic group located in the Dolakha District

in eastern Nepal. To date, a total of 250 in-person interviews have been completed, with an additional 500 to be completed by February 2017. Findings from this study serve to enhance understanding of how the sociocultural context in which one grows old shapes beliefs about successful aging.

MEANING OF LIFE IN OLD AGE AND THE PRESERVATION OF COGNITIVE ABILITIES

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Cognitive decline is considered one of the most feared changes that occur as people age (Lustig et al., 2009; Morley, 2004). It affects elders' quality of life and can limit their participation in social interactions, in the labor market, and their independence in general (Salthouse, 2004). Although a decline in some cognitive aspects is considered a robust phenomenon of aging (Craik & Salthouse, 2011), large variance implies that in some cases cognitive abilities are preserved. In this study we test the possibility that adapting to the changing circumstances of aging and deriving new meaning in this stage of life may be one of the factors predicting preserved cognitive abilities. In two experiments we tested the influence of meaningful aging on cognitive abilities in later life. Meaning in life levels (high, mild, low) were assessed for ninety-five older adults (67–85) who had already retired. Cognitive abilities were assessed by a Flanker task (Erikson & Erikson, 1999) considered to measure inhibition and by a lexical decision task considered to measure vocabulary. Experiment 1 demonstrated that participants who engaged in meaningful activities (either high or mild) showed superior performance compared to the performance of participants reporting low meaning in life. In Experiment 2 we compared the performance of participants who reported high meaning in life to the performance of young adults (20–28). Older adults' performance was preserved in both cognitive tasks. The findings presented here imply that a meaningful aging may be an important factor in preserving cognitive abilities in later life.

EXCEEDING GENERATIVE SELF-EXPECTATIONS WITH AGE IS LINKED TO BETTER COGNITIVE-AFFECTIVE STATES

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Generativity, or concern with contributing to others, is an important aspect of middle and later life. Greater self-perceptions of generativity are associated with more favorable well-being over time. The aim of this study is to examine how perceptions of generativity and realizations of generative expectations are linked to individuals' cognitive-affective well-being. Data from Waves 2 and 3 of the National Survey of Midlife Development in the United States (MIDUS) were used to examine how individuals' predicted and achieved generative contributions, and any deviation between them, relate to their cognitive-affective states, including social connectedness, self-enhancement, and positive affect. In demographically-adjusted regression analyses, both perceived generative contributions and more positive expectations regarding future generativity, were significantly ($p<.05$) associated with higher levels of each cognitive-affective state,

concurrently, and ten years later (generative contributions: positive affect $\beta=.18$ & .14; self-enhancement $\beta=.18$ & .14; social connectedness $\beta=.23$ & .17, respectively; generative expectancies: positive affect $\beta=.20$ & .16; self-enhancement $\beta=.19$ & .16; social connectedness $\beta=.22$ & .17). Examination of the discrepancy between self-reported generativity at follow-up and the level of generativity participants predicted for themselves ten years prior indicated that more positive deviations were associated with better well-being at follow-up (positive affect $\beta=.15$; self-enhancement $\beta=.13$; social connectedness $\beta=.14$). A Johnson-Neyman analysis indicated these associations were strongest in those in their mid-40's to mid-70's. Findings suggest that greater feelings of generativity, and more positive expectations for future contributions, are associated cross-sectionally and over time with better well-being. Enhanced well-being is particularly linked to greater than expected generativity in middle, and young-old, ages.

WHO IS MOST LIKELY TO PLAN FOR FUTURE CARE NEEDS?

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Planning for future care needs is an important but often neglected aspect of aging well. Decisions about care are often made reactively after a catastrophic health event, leading to significant stress for older adults and their family members. The purpose of this study was to use a well-established theory of behavior, the Theory of Planned Behavior (TPB), to predict planning, including the avoidance of planning and stages of planning behavior. Predictors from the theory (i.e., attitudes, norms, perceived control) were combined with other variables supported by the literature (i.e., age, future self-continuity, perceived future financial status, work experience with older adults, caregiving experience, contact with nursing homes) to determine who is most likely to engage in planning behavior, and who may be at risk for lack of planning. A sample of 83 participants (aged 18–70) completed questionnaires assessing these variables. Hierarchical regression analyses, with age entered in step 1, were used to determine which factors predicted overall planning, the avoidance of planning, and four stages of planning (awareness, gathering information, decision-making, and concrete planning). Taken together, these predictors explained a significant amount of variance in planning behavior, for example, 64% of the variance in concrete planning. Moreover, TPB predictors (attitudes, norms, and perceived control) were significant predictors of all stages of planning. These findings suggest that: a) the TPB has utility in predicting who is most likely to plan across a wide age range, and b) interventions designed to promote planning should target predictors of planning (e.g., perceived control).

AGING WITH PURPOSE: A REVIEW OF THE LITERATURE

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Purpose in life can provide a sense of intentionality and goal directedness, guide behavior to achieve personal aims and living objectives, foster resilience against life obstacles, and may offer insight into how and why certain people remain healthy over time. A review of the literature was undertaken to identify

and consider contemporary research pertaining to purpose and older adults. Thirty two studies were selected for evaluation. Research outcomes were generally consistent in showing that a higher sense of purpose is related to a range of better health and wellbeing outcomes for older adults. Social and environmental factors such as residence and marital status appear to influence the experience of purpose, with community dwelling older adults reporting greater purpose than older adults within a residential or similar type setting, and those married reporting higher purpose than widowed adults. The present research into age and purpose suggests strongly that purpose declines over time. Conversely, it is argued that the potential to experience purpose persists across the life span, by providing opportunities for older adults to continue contributing roles, participate in meaningful activities and sustain their social value and sense of relevance. Further research could target purpose experienced by the oldest old age group, those living within non-community settings, and people with age related cognitive impairment such as dementia, to ensure greater research inclusivity and that benefits associated with purpose can endure throughout one's life span.

SUCCESSFUL AGING AND COGNITIVE FUNCTIONING IN OLDER ADULTS

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The cognitive functioning, as a general measure, is a criterion commonly used to define and operationalize successful aging. (Project-Conacyt-256589)

The aim of this study is to analyze the prevalence of successful aging and its relationship with specific domains of cognitive function in older adults.

A total of 201 older adults 60-years and older (mean age=71.88, SD=7.07 years, 84% women). Successful aging was operationalized in accordance with no important disease, no disability, physical functioning, cognitive functioning, and being actively engaged. Cognitive functioning was assessed by a battery including learning potential (RAVLT), episodic memory (Subtest-RBNAS), working memory (Digit Span Backward WAIS-IV), metamemory (self-report), processing speed (Symbol Digit WAIS-IV), attention (TMT-A), executive functioning (TMT-B), semantic fluency (vegetables, animals, fruit), phonetic fluency (FAS), visuospatial skills (Block Design WAIS-IV). Sociodemographic and health data were also asked. Pearsons correlation test and linear regression models were performed.

5.5% met the five criteria for being considered successful agers, 21.4 four criteria, 37.3% three criteria, 24.9% two, and 10.4% only one criteria. No important disease 13.4%, no disability 80.6%, physical functioning 27.9%, cognitive functioning 92%, and being actively engaged 30.8%. Differences by gender and age were not observed. Better performance on all cognitive domains were positively related to successful aging ($p<.05$), except for metamemory.

Knowledge generated by this study reveals the role of specific domains of cognitive functioning in successful aging, and sets a scenario to promote successful aging, through

alternatives centered in the improvement of cognition in the older adults.

SUCCESSFUL AGING: VARIABILITY AND PREDICTORS

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The concept of successful aging (SA) lacks a precise universally agreed definition and is commonly used to mean “all things to all people”. (Project-Conacyt:256589).

Aim: To analyze the variability in the proportion and predictors of successful aging in the same sample when applied different theoretical criteria.

638 older adults were assessed with a comprehensive battery and classified as successful agers if they met the criteria proposed by nineteen different definitions of SA, proposed and published by different authors. Prevalence and predictors for each definition were calculated.

Range in the proportion of participants meeting the criteria for SA varied between 1.7–97% (Mean=33.6%;SD:30.7). Major variations were observed when definitions included “without disease” as criterion for SA (Mean:3%;DS:1;median:3.1;percentile:25–75=2–4). Among the studies including “functional ability” mean proportion was 29.9% (SD:28.1;median:17.3;percentile:25–75=5.1–57.8) and doubles when this criterion was not included (mean:64.7%;SD:45.9;median:64.7;percentile:25–75=32.2–97.2). When cognitive ability was not included as criterion 54% of successful agers were reported (SD:33.7;median:70;percentile:25–75=23.3–76.4) and when it was included decreased to 21.4% (SD:21.8;median:10.8; percentile:25–75=3.6–44.4). When criteria were exclusively biological, mean proportion of successful agers was 63.8%; according to the only definition merely psychological, proportion was 97.2%. Stronger predictors for SA were age, education, disease, functionality, depression, cognitive status, being active.

The nature of definitions results in a wide variability in the proportion of successful agers in the same population. It is necessary to establish criteria to define the concept of successful aging. “Tell me how do you define SA and I tell you how many successful agers there are”.

THE EFFECTIVENESS OF TEMPORAL COMPARISON IN OLD AND VERY OLD AGE: EVIDENCE FROM THE SWISS CONTEXT

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Despite increasing frailty in old and particularly in very old age, the majority of old people maintain however a positive sense of subjective well-being and identity continuity. Subjective well-being is influenced by processes of temporal comparisons in which individuals compare themselves to themselves at a previous point in time. Our communication examines how temporal comparisons are effective

compensatory mechanisms that stabilize octogenarians and nonagenarians' subjective well-being.

The sample included 717 individuals living in Switzerland, aged 80 to 84 at baseline and followed over 10 years. We performed hierarchical linear regressions for analysing the effect of temporal comparison on self-rated health and on affective well-being, controlled by sociodemographic and frailty. Separate analyses were run among older (aged 80 to 85) and oldest old (aged 86 to 94) people, as well as among people who died during the follow-up (n=211).

Temporal comparison has a significant, independent and positive influence on self-rated health for both age groups as well as for deceased people: people who rated themselves in better health than in the previous wave have higher levels of self-rated health. The temporal comparison has a positive effect on affective well-being among survivors, whatever their age group, but has no effect among deceased people.

Results highlight the meaningful role and effectiveness of temporal comparison as a resource for promoting well-being and continuity for octogenarians and nonagenarians. They suggest that this adaptive strategy remains effective along the frailty process, but its efficacy appears to decrease with the proximity of death.

DEAR ANNA AND AL: GIVING ADVICE INCREASES OLDER ADULTS' SUBJECTIVE WELL-BEING

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Many people view successful aging as an oxymoron because they associate the aging process with decline and impending death (Vaillant, 2002). However, there are ways to improve aging and to increase older adults' well-being. This study investigated the impact of older adults giving advice to others. I believe that older adults who give advice to others will have higher subjective well-being (as measured by mental well-being, life satisfaction, and positive affect), generativity, and meaning. Furthermore, I believe meaning and generativity may mediate the relationship between giving advice and subjective well-being. In a randomized controlled intervention, members of several senior centers (N = 81) recruited to participate in a psychology study were randomly assigned to one of three conditions. The experimental group responded to letters asking for advice from community members in an activity, called the “Dear Anna and Al: Advice Column Workshop.” The active control group wrote letters detailing different parts of their daily routines and the no-treatment control group simply filled out questionnaires. Compared to participants in the active and no-treatment control groups, older adults who gave advice had improved measures of meaning, generativity, mental well-being, positive affect, and life satisfaction ($d_s > 0.86$). These findings suggest that sense of generativity and meaning promotes increased subjective well-being in older adults.

AGED WELL IN PLACE: A MIXED-METHODOLOGY EXAMINATION OF 10 YEARS OF CENTENARIAN AUTOBIOGRAPHIES

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IAAG 2017 World Congress

Becoming a centenarian with an autobiography is a fair indicator of having aged well in place: One has arrived at a rare age with the wherewithal and support to tell one's story. This study uses both text analytics and illustrative vignettes from standardized two-page autobiographies of 218 Utah centenarians collected over a ten-year period. The autobiographies were collected by the Utah Division of Adult and Aging Services. The biographical information was initially analyzed using LIWC (linguistic inquiry and word count) and elements of the SAS text analysis package. Additional compression and sorting of the data was done by blind interns from the Utah Centenarian Study (Spearman's $\rho = .81$). The topics that will be examined for both overall relative importance and temporal shifts in importance are: Do's and don'ts; Education and experience; Family, friends and caregivers; Fears and concerns; Health and nutrition; Innovations and technology; Love and loneliness; Money and success; Physical activity and work; Politics and war; Religion and spirituality; Roles and employment; Service and sacrifice.

SUCCESSFUL AGING IN OLDEST-OLD ADULTS: ROLE OF PHYSICAL AND SOCIAL FACTORS

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Social and non-health related behaviors are associated with aging successfully, operationalized by self-perceived health. The authors examined relationships among social engagement, physical activity, frailty, and health in a lifespan sample ($N = 732$) drawn from the Louisiana Healthy Aging Study (LHAS). Four age groups were compared: younger (21–44 years), middle-aged (45–64 years), older (65–84 years), and oldest-old adults (85 to 101 years). Linear regression analyses indicated that, after controlling for sociodemographic factors, physical activity and hours spent outside of the house were positively associated with self-reported health. Importantly, physical activity and hours out remained significant when frailty was accounted for. These data indicate that social and physical activities remain an important determinant of self-perceived health into very late adulthood despite variations in physical frailty. Implications of these data for current views on successful aging and strategies to promote health and wellness in later life are discussed.

THE WITHIN-PERSON COUPLING OF HEALTH GOAL PURSUIT AND AFFECT OVER 100 DAYS

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Goals and self-regulation have important roles for achieving and maintaining resources that are meaningful for adaptation in the face of multiple losses with aging. Despite the fact that goals and affect likely drive one another, relatively little empirical research has examined the processes involved in self-regulating health goals and emotional states. We explored whether health regulatory processes are associated with emotional states on a daily basis to understand how goals and self-regulatory strategies change through the process of working toward a meaningful health goal. Using data from the microlongitudinal Personal Understanding of Life and Social

Experiences (PULSE) project ($N = 76$, $\text{Mage} = 62.6$, $SD = 7.3$), we examined within-person coupling of daily health-goal progress and affect by estimating these processes over a 100-day study period. Multilevel random coefficient models revealed that on days when individuals reported higher positive affect than their own average, their health-goal progress was significantly higher while on days when individuals reported higher negative affect than their own average, their health-goal progress was significantly lower. Importantly, the within-person coupling of health-goal progress and negative affect, and positive affect both dampened over time. These changes in patterning over days may be an important part of the long-term regulation process, as older adults change their goals over time to reflect new realities in the aging process. Our findings in microlongitudinal measures of daily intraindividual variability provide enhanced knowledge of the self-regulation of goal pursuit in the domain of health and could lead to better behavioral health strategies.

DOES SOCIAL ENGAGEMENT MITIGATE DECLINES IN COGNITIVE FUNCTIONING OVER TIME?

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We investigated whether social engagement mitigates declines in cognitive functioning in older adults over time. We used a nationally representative sample of 6,902 Medicare beneficiaries age 65 and older who completed the 2011 National Health and Aging Trends Study (NHATS). We used multilevel mixed effect models (growth curve models) to examine effects of social engagement on both initial levels and change in cognitive functioning over 4 annual surveys, controlling for age, gender, race, education, vigorous physical activity and social network size. We used two measures of social engagement: an aggregate sum of number of types of social activities completed in the past month (e.g., visiting with family, going out for enjoyment; range 0–6) and the effect of each of these considered separately. Cognitive functioning was a summed measure of immediate and delayed word recall (range 0–19). Results showed that both measures of social engagement were positively correlated with level of cognitive functioning, with baseline activities having a stronger effect than changes in engagement between survey waves. However, their effects on the rate of cognitive decline were not significant, with the exception of the effect of visiting friends and family ($b = 0.48$ on the measure of cognitive function over all years; overall model pseudo $R^2 = 15.8\%$). That there are (only) modest effects of social engagement on amelioration of cognitive decline add to debates about both the tractability of cognitive decline in older adults, as well as ongoing debates about what measures and study designs will be most helpful in understanding these processes.

THE ASSOCIATION BETWEEN POSITIVE EMOTIONAL EXPERIENCE AND SELF-ESTEEM IN OLDER ADULTS

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Background

In an aging society, it can increase the risk of social isolation and the loneliness among elderly which causes low self-esteem. Several reports have shown that positive emotional experience through intergenerational exchange with children is positively associated with the development of self-esteem of elderly. However, very few studies have investigated the mechanism.

Objective

The objective was to construct an Intergenerational Exchange Emotional Scale (IEES) for elderly to measure the degree of positive emotional experience through intergenerational exchange with children, and investigate the association with self-esteem of elderly.

Methods

In 2014, we conducted survey among local residents in Kanagawa Prefecture in Japan. 2,500 residents, aged 20–84 years, were randomly selected from the basic resident register. Of these, 978 residents responded the survey (39.1%). Finally, the data of 275 residents (over 65 years) were analyzed. Self-esteem was measured by the Two-Item Self-Esteem scale (TISE). As for IEES, we gathered episode on positive emotional experience of intergenerational exchange through interview research for 47 elderly, and constructed 9 items of Index.

Results

Factor analysis show that IEES consisted of 3 factors: approval feeling (AF), self-sufficiency feeling, (SSF) and self-enhancement feeling (SEF). Furthermore, structural equation modeling clarified that AF and SSF have positive effect and SSF have negative effect on self-efficacy of elderly ($P < .05$). The model fits the data well ($X^2(80) = 131.4, p = 0.0$; CFI = .95, RMSEA = 0.5).

Discussion

Based on the results, it is important to experienced approval feeling and self-enhancement feeling through intergenerational exchange with children to develop the self-efficacy.

THE FUMANET EXERCISE PROGRAM TO PREVENT AND POSTPONE DEMENTIA—A CROSS CULTURAL COMPARISON

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This research investigates the use of the Japanese FumaNet Exercise Program in Hawaii, to investigate its use as a means of preventing or delaying dementia by providing an easy but challenging set of multiple tasks in an enjoyable atmosphere of community, as well as giving seniors an active role in teaching the activity.

Used in Japan for over 10 years, the FumaNet Exercise program takes advantage of Japanese group dynamics which encourages seniors to work in self-initiated groups to work together to promote health and prevent dementia in an enjoyable manner that can be easily continued for a long period of time in each community.

Results from a survey of 92 seniors in Hawaii participating in a sample class showed that while over 80% of respondents felt that the exercise was enjoyable, good for improving strength, good for improving psychological

health, and beneficial in strengthening informal social support networks, only 54% felt they would continue to participate in the FumaNet program on a regular basis.

While showing obvious popularity in Hawaii, the results for continuity were not as high as previous research in Japan, thus indicating the need for further research. In this globally aging society, seniors supporting seniors and seniors working together to maintain their health and longevity will become a vital necessity, and this exercise program is one effective step in “helping seniors to help others”.

VALIDATION OF DIFFERENT SUCCESSFUL AGEING CONSTRUCTS AND COMPARISON OF THEIR PREDICTORS

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The lack of consensus on what constitutes successful aging (SA) has triggered over 100 different operational definitions. This heterogeneity hinders the straightforward identification of modifiable predictors of SA. It remains to be clarified whether predictors of SA differ as a function of varying constituents of SA and whether reserve models from dementia research can be used to predict SA. It was therefore the aim of the current study to replicate and validate existing SA constructs and compare their predictors in a German subsample of a prospective longitudinal multicenter study.

The sample consisted of 1995 individuals ($M_{AGE} = 83.9$ years; $SD = 3.36$; 66% females). Health-related parameters were measured repeatedly every 1.5 years over 12 years. Data assessed at follow-up 3 and 5 were used for current analyses. A confirmatory factor analysis (CFA) was performed to test whether different constituents of SA, such as physical and cognitive health, functioning, well-being and social integration, form a uniform SA construct or represent separate aspects.

Preliminary analyses revealed that the best model fit could be achieved with a SA model that combines all SA constituents (SA-ALL). If the SA model lacks the constituent for well-being, it showed a lower correlation with GP-rated health status. If the SA construct lacks constituents for physical health, prediction of mortality over a three years period was significantly worse. Motivational reserve and age were significant predictors of SA-ALL and a pure physiological SA construct. Final results will be presented at the congress.

ACCELEROMETER PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOR AND MORTALITY RISK IN OLDER WOMEN: THE OPACH STUDY

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The consistently observed associations for self-reported physical activity (PA) and sedentary behavior (SB) with mortality

may be underestimated by exposure measurement error, especially in older adults. We examined accelerometer measured PA and SB with all-cause mortality in 6,385 women ages 63–91 followed a mean of 2.5 years. Vector magnitude counts/15-sec epoch from hip worn triaxial accelerometers (required ≥ 4 of 7 days with ≥ 10 hr/day wear time) were used to define time in SB (0–18 counts/15 sec) and total PA (≥ 19 counts/15 sec; all intensities combined) based on cutpoints determined from a calibration study among similarly aged women. Cox regression was used to estimate hazard ratios (HR) and 95% confidence intervals (CI) for these associations. There were 271 (4.2%) deaths during 14,212 person-years follow-up. An inverse gradient in mortality rates was observed across incremental PA quartiles: 38.2, 16.5, 13.9, 8.5 per 1,000 person-years (trend, $p < .001$). Adjusting for accelerometer wear-time, age, and race, corresponding HRs (CI) for PA quartiles were 1.00 (referent), 0.50 (0.37–0.69), 0.52 (0.37–0.73), 0.36 (0.24–0.54), trend $p < .001$. Mortality rates for incremental SB quartiles were 10.5, 13.8, 23.1, and 29.3 per 1,000 person-years ($p < .001$). Corresponding adjusted HRs (CI) for SB quartiles were 1.00 (referent), 1.19 (0.78–1.82), 1.90 (1.29–2.81), 2.25 (1.53–3.33), trend $p < .001$. Preliminary additional adjustments for smoking, alcohol, comorbidities and measured physical functioning did not substantively change the pattern of association with mortality for PA or SB. Total PA and SB measured by accelerometry are associated with mortality in older women. Intervening on both behaviors could improve longevity at older ages.

MEANING OF LIFE AND PRESERVATION OF COGNITIVE ABILITIES: LINKAGE TO THE PLACE OF LIVING IN OLD AGE

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An old person's identity in the present decade is the identity of a person rejected by the society in which he lives, and one who society determined should abandon his social functions because of chronological age (Hazan, 1996). In such a situation, the question of meaning in life becomes central and dominant (Ryff, 2013). Our work presents a study combining quantitative and qualitative methodologies, which explore the effect of the nature of one's type of residence on a meaningful lifestyle and the capability to maintain cognitive abilities in old age. Based on the concepts of meaning, presented by Frankl (1946) and categorization performed by Fontana (1977), we created three levels of significance, which examined using multi-qualitative indicators. Along with these, performance capabilities were also examined with emphasis on cognitive inhibition, which is age-sensitive cognitive competence. The research was based on 60 participants who lived at home and another 57 living in different types of residential settings outside their home. Our findings indicate that there is dependence between the residential style and the ability to lead a meaningful life during old age. We found more people with high meaning among those who lived in their own homes, compared to others living in other residential settings. In addition, their inhibition capabilities were clearly better. Our work inspires new thinking about the appropriate style of living for elderly persons in a postmodern society, and thoughts on the importance of further integration into the existing social system.

SESSION 4565 (POSTER)

TECHNOLOGY AND AGING

HUMANIZING TECHNOLOGY FOR TELEREHABILITATION OF STROKE PATIENTS

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Background: Telerehabilitation innovates rehabilitation of stroke patients in active aging context. With the growing need of healthcare workers in a tight labour market and rising demand for more effective means of rehabilitation which can improve patients' outcomes, there is a pressing need for modernized solutions. Such an improved approach which leverages on the widespread confluence of technology and service innovation can better alignment of financial incentives for both patients and service providers to promote wiser spending. The key element of telerehabilitation is a humanizing technological framework which the stroke patients and their caregivers enjoy the intuitiveness and friendly engagement of the solution.

Method: This paper will touch on the challenges and needs which are unique to stroke patients. For them to perform rehabilitation on their own with a new technological intervention. The system has been developed by a team of inter-disciplinary background with regular meetings, seamless communication and continuous revisions from patient trial and feedback before the formal implementation. It consists of an iPad for Facetime with therapists and motion sensors to track the patients' movements.

Findings: The system was found to be user friendly with high level of cognition. The design of technology, the user interface, and its seamless integration into the patients' rehabilitation regime, illustrating the need to consider human factors in system design and implementation from the perspectives of practitioners, systems team and eventually, the policy makers.

Implications: The effectiveness of telerehabilitation will depend a lot on humanizing the technology, including its user friendliness and cognition.

PROMOTING MENTAL WELL-BEING AMONG OLDER PEOPLE: AN EVIDENCE REVIEW OF TECHNOLOGY-BASED INTERVENTIONS

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Given a changing demographic landscape, the promotion of older adults' wellbeing and independence is a public health issue. In recent years, the potential of technology-based resources for the promotion of wellbeing in later life has been highlighted. This systematic review analysed the effectiveness of technology-based interventions for the promotion of mental wellbeing among adults aged 65 and over

without extensive health or social care needs. The data originates from an evidence review project commissioned by the National Institute for Health and Care Excellence (NICE) in the UK on the effectiveness of different actions to promote the mental wellbeing of older people. Systematic searches were performed in 8 bibliographic databases. Publications from the period 2003 onwards were considered. From the original review data material, 25 intervention studies were selected for this review, covering technology use for educational purposes, computer/internet exposure or training, telephone/internet communication, or computer gaming. The number of studies employing an RCT design and looking at comparable outcomes was low, resulting in the strength of the evidence being moderate and somewhat inconsistent. When considering the six studies with higher quality ratings, four of them - all focused on computer/internet training - reported significant favorable effects on one or several outcomes among intervention recipients (e.g. increased life satisfaction, experienced social support). While the review results highlight a lack of methodologically rigorous studies evaluating the effects of technology-based interventions for optimal ageing, they also present promising examples of effective interventions that can serve as best practice examples in this emerging field.

TELEHEALTH INTERVENTION FOR MOOD AND CHRONIC ILLNESS IN OLDER HOME HEALTH PATIENTS: RANDOMIZED TRIAL

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Approximately 25% of older home health patients with chronic diseases are readmitted to hospital within one month of discharge underscoring health system challenges. Depression is highly prevalent among older adults with chronic diseases. Delivering telehealth services may provide an effective approach to improving outcomes and reducing readmissions by monitoring physical and mental health symptoms, increasing communication with primary care, and delivering evidence-based depression care. This is the first study to report the results of a randomized trial of I-TEAM© (Integrated Telehealth Education and Activation of Mood), a telehealth nurse-delivered intervention model for chronic illness and co-morbid depression vs nurse-delivered in-home health care augmented with psychoeducation. The 3-month intervention included telemonitoring of biometrics, problem-solving treatment for depression, and communication with the primary care physician for antidepressants. The two groups were compared at baseline, 3, and 6-months post-baseline on depression, health status, problem solving, self-efficacy, and health utilization (number of readmissions, patient episodes of care, and ER visits). At 3 and 6 months post-baseline, depression scores decreased by 50% in the I-TEAM group as compared to controls. The I-TEAM group reported significant improvement in problem solving skills and self-efficacy in managing their medical condition compared to controls. The I-TEAM group had significantly lower ER visits ($P < .03$) at 12-month post-baseline compared to usual care. Patients reported that telehealth services were feasible and satisfactory. After attending this activity, participants will be able to discuss the I-TEAM integrated

health and mental health model and associated benefits with telehealth technology services.

ACTIVE AGING AND INTERNET USE: DOES INEQUALITY EXIST ACROSS AREAS AND OLDER ADULTS?

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Purpose: Internet use is one indicator of active aging index, which represents the opportunity to social connection social participation, learning, receiving information and service application. The study was to examine the internet use and area difference and related individual factors for the middle-aged and older adults in Taiwan. **Methods:** The data were from the 2013 Digital Divide Survey (Middle-aged and Elderly Adults), with $n=7157$ persons. The samples were drawn from the middle-aged and older adults aged 50 years old or more population. The interviews were collected by telephone in 2013. Descriptive analysis, Chi-square test, and generalized linear models with binary logistic response were applied. **Results:** There were 43.0% of the participants using internet. The participants who lived in the towns with higher digital development and wealthier income cities/counties were more likely to use internet. Sex, age, education, income, and occupations (professions, housewives/unemployed/students, and retiree) were significantly different in internet use. For those internet users, 12.2% used instant communication app, 11.0% used social media, 35.4% used both, and 41.3% did not use any. Only 5.5% of the users expressed their political opinions online. For the internet users, being female, younger, higher educated, and working in service industry were more likely to use social communication or social media apps. **Discussion:** There were area- and individual socioeconomic inequalities in internet use for the current middle-aged or older cohorts in Taiwan. The structural barriers need to be removed to promote active aging.

THE INFORMATION AND COMMUNICATION TECHNOLOGIES UTILIZATION PATTERNS AND CHANGES IN SELF-RATED HEALTH

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Objective: Information and communication technologies (ICT) has increasingly become a major resource for individuals improving their health-related quality of life. This study aims to identify ICT utilization patterns among middle- and old-aged adults, and to examine how these patterns influence self-rated health.

Methods: We used 2012 and 2014 Health and Retirement Study, a nationally representative sample of Americans aged 51 and older. Our sample was restricted to individuals who responded to questions about technology use asked to a subsample of 2012 interviews ($N=1,504$). Latent Class Analysis were used to identify ICT utilization patterns based on the use of email, social networking sites, online video call, instant messenger, smartphone, exercise equipment, health monitoring device, and online health information. OLS regressions were used to examine the effects of ICT utilization patterns at the baseline on self-rated health at the follow-up.

Results: Four ICT utilization patterns such as multifarious (16%), ecommerce-oriented (13%), fundamental (29%), and minimal users (41%) were identified. Even after controlling for socio-demographic attributes and health conditions, multifarious users were most likely to have better self-rated health, and minimal users tended to have the worst self-rated health overtime. Compared to ecommerce-oriented users, fundamental users had worse self-rated health.

Discussion: This study demonstrated different ICT utilization patterns, positive effects of various ICT utilization, and the advantages of ICT utilization among middle- and old-aged adults. Improving ICT access and education programs will help to improve health outcomes among middle- and old-aged adults.

ACTIVITY MONITORS TO ASSESS EFFECTS OF MEDICATIONS ON OLDER ADULTS-USABILITY TESTING

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The optimal ways to use “wearables” and assess them in older adults has not been fully delineated [TOPIC]. We sought to test the usability of an accelerometer. [RQ]. Healthy older adults over 65 years with no more than one chronic disease were invited to use an accelerometer at home for 5 days and take part in a follow-up focus group (FG). Participants were trained on wearing, charging and handling of the accelerometer and charging dock. The semi-structured focus groups utilized a usability conceptual framework and were conducted using “think aloud” interviews. The FGs were audio recorded and analyzed, looking for themes related to usability in the context of aging [Methods]. Ten (10) older adults (age range 65–91 years, mean 76.7, SD 7.9) were trained in the wearing and charging of the accelerometer. Of the ten (10) devices tested, two were lost when the waist clip came off and one stopped collecting data due to charging dock issues. During the cognitive interviews, two themes emerged: wearability and process. Wearability themes were: comfort of monitor on waist and the challenge of keeping the monitor attached. Process themes were: challenges associated with charging the monitor and the high dexterity needed to manipulate the accelerometer [Results]. **The feasibility testing indicated that the accelerometer used was not adequately adapted to the users’ strength and dexterity to be worn. [Conclusions]. Usability testing for “wearables” in older adults must take into account specific physical challenges more common in older adults.**

A SYSTEMATIC REVIEW ON APP-BASED INTERVENTIONS RELATED TO ALZHEIMER’S DISEASE OR DEMENTIA

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Hundreds of smartphone applications are available to support people with Alzheimer’s disease or dementia (AD/dementia) and their caregivers. Smartphone applications may provide a unique and effective means of administering interventions. The purpose of this study was to systematically search and describe the literature on mobile apps used

in interventions on AD/dementia and to evaluate the potential of apps to be implemented in AD/dementia interventions.

A systematic review was conducted in April 2016 using a set of predetermined search terms in several scientific journal databases. Only English articles pertaining to interventions using smartphone apps were included in the final sample. App functions, target user groups, country, app platform and study design were coded for each study in the final sample.

A final sample of 11 studies identified for this review were primarily feasibility and pilot studies with small sample sizes. Studies were mostly conducted in Europe, with Android being the preferred platform. Functions of the mobile apps mainly focused on occupational therapy to support people with AD/dementia, and cognitive assessment to allow early screening of cognitive impairment.

Findings of the review provide support for the use of app-based interventions on AD/dementia. The lack of large sample studies with rigorous research design using mobile phone apps may signal a need for additional studies on the potential use of mobile apps to assist individuals with mild or moderate AD/dementia, their family caregivers and health professionals. Additional concerns include the reliability and validity of cognitive assessment tool administered by mobile apps.

DIABETES EDUCATION AND INTERGENERATIONAL TECHNOLOGY TRANSFER

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This paper will describe how the implementation of an intergenerational diabetes and technology knowledge transfer program, which utilized a proven intervention for increasing health literacy for HIV/AIDS, resulted in: 1) participants’ increased health literacy and self-efficacy for diabetes self-management (DSM), and 2) intergenerational technology knowledge transfer for the skills necessary to access health information to support DSM. There are 2 groups of participants: 1) African Americans aged 65 or older diagnosed with type 2 diabetes and, 2) adolescents aged 18 – 25 connected to the diabetic participants via family or social-relationships. The 2 project sites were located in Flint and Detroit, Michigan.

The paper chronicles a research approach to improve DSM by accessing, then enhancing the technology skills necessary to use digital resources. The approach was informed by the potential to use intergenerational technology skills transfer for DSM, which represents 80% of recommended diabetes management and have been shown to improve self-efficacy, knowledge, and adherence to prescribed regimens. Across various settings, intergenerational technology transfer activities increase learning for both adolescents and older adults.

The paper describes the current level of digital knowledge, technology readiness, and self-efficacy for African Americans aged 65 or older, with respect to DSM. Further, we will describe the impact African American adolescents have on older African American’s perception of relevance, knowledge, and self-efficacy concerning digital skills, access, and resources that can support DSM. This paper discusses

the targeting of a very important research problem, addressing health disparities by enhancing DSM skills via intergenerational technology transfer.

IPAD USE AMONG OLDER WOMEN WITH LOW VISION: FOLLOW-UP FOCUS GROUP FINDINGS

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There is a growing need for older adults with low vision to use mainstream technology to enhance performance of daily activities and social connectedness. The purpose of this presentation is to describe the findings of a qualitative focus group examining the long term use of the iPad by older women with vision loss who, 22 months prior, received small group iPad instruction to enhance the performance of daily activity and social engagement. Five older women (mean age: 70.2 years) with moderate to severe visual impairment participated in the focus group. They reported using the iPad a mean 4.3 hours per day [range: 1–8 hours]. Key applications and accessibility features that were used most often include email, the camera, applications for listening to or reading books, the alarm, and access to the Internet for general information gathering. Participants consistently reported that the initial instruction in the use of the iPad and ongoing integration of it into daily activities has decreased social isolation and depressive symptoms while increasing sense of purpose, connection to others, and empowerment. As one participant stated, “the iPad gave us hope to come out from the dark”. Features of this iPad training course that were instrumental in teaching and sustained use of the iPad to enhance daily activities include a structured class format, group instruction, and teaching strategies that maximized use of remaining vision. Access to the use of tablet technology by older adults with vision loss and issues related to health disparities will be discussed.

NEW MEDIA AT OLDER AGES: EVERYDAY CHALLENGES

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Social well-being is important to cognitive health, but maintaining social relations often becomes more difficult in later life due to retirement, chronic disease, and the death of spouses and friends. Social media platforms, such as Facebook and Twitter, are accessible and relatively low cost communication technologies that enhance feelings of social connection and reduce loneliness. Yet, usage and adoption of these platforms remains low among older adults, in part due to challenges in deploying them for everyday use. Using data gathered in two focus groups (n=16), participant observation of six four-week social media training workshop interventions (n=47), and two post-workshop participant debriefing sessions (n=14), we investigate the attitudinal and practical challenges associated with social media adoption at older ages. As prior studies suggest, we find that age-related declines in physical and cognitive abilities and reduced perceptions of benefit inhibit the use of these media, especially when using the small mobile devices

for which they are designed. Importantly however, we find that social factors, such as the under-valuation of weak and informational relationships or token levels of social reinforcement, and insufficient conceptual knowledge related to the internet and platform interoperability significant impair older adults' ability to deploy these media in everyday contexts. We conclude with practical strategies to assist older adults in gaining social media competence and suggest ways in which these findings might be applied in training older adults to use other communication technologies and applications.

POLICY PRACTICE OF TECHNOLOGY FOR SENIORS AT WORK IN A SINGAPORE HOSPITAL: A QUALITATIVE STUDY

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Singapore is facing a rapidly ageing population. In 2015, the band aged 65 years and above was about 13% of the total population, and this is likely increase to approximately 20% by 2030. There are policy and practice implications for an ageing and diverse workforce adopting new technology. Studies show that prior experience with information technology at work can boost literacy and self-efficacy in adapting to technological change. This paper uses mixed methods research design to examine the effects of social-cultural capital on technology adoption, as opposed to economic and bodily capital in Bourdieu's Practice Theory. Fourteen focus group discussions each consisting of 7–12 participants aged 55–75 years, were conducted to identify the issues relating to information technology. The findings are triangulated with a case study in a Singapore hospital focussed on E-portering smartphone application by 44 porters. The median age of the porter sample was 53 years and they had an average of 8 years basic education. This case study examines the experimental implementation practice of incremental adaptation to technology adoption. Starting with basic touch-screen smartphone for basic operational use; advancing to e-portering application for smart use; and eventually using smartphone torchlight and facetime applications for operational contingency use. The consolidated findings showed that support and learning at workplace and from social networks were critical factors motivating seniors to adopt technology experientially and incrementally. The paper concludes with implications and recommendations for policy implementation and practice of adopting and adapting information technology for seniors.

ACCEPTANCE OF WEARABLE TECHNOLOGIES BY OLDER PEOPLE: FINDINGS FROM A SYSTEMATIC REVIEW

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New digital media and wearable technology are gaining in importance in everyday life. Facing ageing societies there is a growing need to understand how those devices are accepted by older people. There are various models aiming to explain technology acceptance (e.g., TAM, UTAUT). Those models were developed in a time before digitization. It is therefore

unanswered how those models can be utilized to predict acceptance of wearable technologies and whether their application in the target group of older people is reasonable.

We conducted a systematic literature review to provide a comprehensive overview about research in the field of wearable technology acceptance by older adults. Our aim was to identify relevant factors in this context. Considering quantitative and qualitative research, Web of Science, MEDLINE, and Psycinfo were searched. Data extraction focused on the operationalization of outcome variables and determinants of acceptance.

28 out of 635 identified articles were judged as relevant. The majority either did not refer to a theoretical model or was based on the classic TAM. As a result, behavioral intention was the most commonly analyzed outcome variable. In the synthesis of data, we identified different clusters of determinants, including technology-, person-, and environment-related factors. A common research approach was to extend existing models of technology acceptance by adding other determinants of acceptance depending on research interest and context. As a result, the models often only apply to single use cases under specific conditions. Based on this we claim for new parsimonious models which rethink the conceptualization of acceptance.

TECHNOLOGY ADOPTION AMONG OLDER ADULTS: RESULTS FROM ENGLISH-AND SPANISH-SPEAKING FOCUS GROUPS

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There exist a number of technology applications with the potential to improve the quality of life of older adults (aged 65+) across numerous domains including transportation/mobility, health/wellness, socialization/communication, recreation, lifelong learning, and home support. However, despite the potential rewards use of technology applications can provide, older adults are less likely to adopt new and emerging technologies. We propose a model for technology adoption and investigate the potential factors associated with adoption specifically among older age groups. Our study is a two-phase study focusing on identifying factors associated with technology adoption among older adults (including the "oldest old") and understanding the decisions older adults make when choosing or not choosing to use a technology. This presentation summarizes and presents results from the first phase of the study which involved six focus groups. Focus groups were conducted where groups of 8–10 participants were introduced to a variety of new and emerging technologies (nine technologies total) through formal presentations. Participants were asked to rate the technologies on such factors as perceived value, effort to learn, need for and availability of assistance in learning, willingness to pay, and privacy concerns, among others; after the ratings were complete, participants then informally discussed the advantages and disadvantages of each technology. In this presentation we discuss factors identified in these focus groups as significant predictors of technology adoption and discuss differences among participants on variables such as age, language/culture, technology experience, and self-assessment of

abilities. We also present data on identified challenges and barriers to technology adoption.

THE QUANTITATIVE ANALYSIS OF MULTIMODAL COMPREHENSIVE CARE BASED ON VIDEO ANALYSIS TECHNOLOGY

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There is social concern about rapid increase of people with dementia. One of triggers of behavioral psychological symptoms of dementia (BPSD) is inappropriate care by caregivers. The development of adequate training system for professional caregivers is crucial. Previous study showed multimodal comprehensive care methodology Humanitude; which consists with verbal and non-verbal comprehensive structured communication skills, has shown significant improvement of BPSD in long-term care facilities in Japan. Following this result, a quantitative study of dementia care using video analysis was conducted. Informatics researchers created a tool of multimodal behavior analysis system, which supports 1) video annotations, 2) visualization of annotation data, 3) quantitative analysis, 4) create a query of expert's interpretation. Four professional caregivers enrolled the study. Two caregivers were trained for Humanitude as intervention arm, and others applied conventional care as control arm. Caregivers in both arms provided care to the same residents in a nursing home. While control arm failed all the care due to refusal by the residents, the care to the same residents by intervention arm were calmly accepted. The cares were video recorded and analyzed. The elements performed during the care was eye contact 0.0%, verbal communication 28.4%, and touch 0.2% in control and 12.5%, 54.8%, and 44.5% in intervention arm, respectively. The average of positive attitudes during care was 0 in control and 35 in intervention arm. In conclusion, this quantitative analysis system can be used as objective description of cares and contribute to educations for caregivers to improve the quality of care.

THE IMPACT OF SELECTIVE PARTICIPATION IN EHEALTH RESEARCH ON INEQUALITY AND EXCLUSION IN OLD AGE

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High expectations and large investments support research on innovative solutions for health delivered via information and communication technologies (ICTs). Several studies demonstrated promising results confirming the potentials of ICT-based tools for self-care in improving the quality of life of older people with long-term conditions and their family caregivers. However, a crucial gap between a tool tested as successful and its implementation exists. In this respect, little attention has been paid to the impact of selective participation on the development and evaluation of ICT-based tools and the subsequent consequences on their deployment. A transverse analysis on social selectivity has been conducted in four randomized controlled trial (RCT) studies in Sweden, testing different ICT-based tools for self-care addressing older people and family caregivers. The analysis is based on

multivariate quantitative modeling in a multi-step and -level perspective and aims at quantifying effects of selective sampling and study participation. Preliminary results suggested some social selectivity biases are possible in the research process between end-users involved in the studies and those who were excluded, particularly in relation to level of educational attainment, familiarity with technology and perception of usefulness of ICT-based tools, as well as level of dependency of older patients. Several challenges face research and the implementation of eHealth, among which is the risk of exacerbating disadvantages and social exclusion for some groups. In order to promote better outcomes of eHealth studies and contribute to successful implementations and equal provision of services, it is essential that research considers the diversity of individuals targeted.

FACTORS IMPACTING ON OLDER AND YOUNGER PEOPLES' PERCEPTIONS OF ELDERLY ROBOT USERS

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Elders have been reported to distance themselves from robot user groups when attributing negative age-related characteristics to these elderly users. The extent to which robots elicit such negative age-related user perceptions in elders might be due to robot design, whereas interindividual differences in elders' user perceptions could be due to differences in elders' general images of ageing (IoA). Moreover, as IoA are known to vary with age, older and younger people are likely to differ in their user perceptions. To investigate these assumptions, an online experiment was conducted, in which three emotional robots (Pleo, Paro, Zoomer) were introduced to $N = 93$ participants by film and text. Participants' perceptions of the prototypical elderly robot user were assessed regarding core dimensions of social perception, i.e., competence (e.g., health-related and psychosocial functioning) and warmth, followed by assessment of IoA. The results show a significant effect of robot design, indicating that excessive cuteness (i.e., in Paro) could negatively stereotype elderly robot users. Perceptions of elderly robot users also differ regarding positive IoA and age: Elders with low positive IoA attributed worst health-related and psychosocial functioning to robot users, whereas younger as opposed to older participants perceived elderly robot users as warmer, independent of IoA. No effect of negative IoA was observed. Consequentially, age differences, differences in positive IoA, and robot design could contribute to disagreement on robot use between caregivers or robot developers, and elders. Thus, elders' ageing stereotypes have to be considered thoroughly in order to successfully develop and implement robots in eldercare.

SOCIAL NETWORK AND GENERATIVITY: THE EXPERIENCE PROGRAM OF ELDERLY ONLINE

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The Elderly Online project is a digital inclusion space for seniors that allow the meeting intergenerational and generative actions. This study tried to identify the indicators in old age and the possible impact and repercussions generated by the network of social relations participants to participate in this workshop. Applied a Sociodemographic questionnaire,

a semi structured questionnaire on the use of computer and Generativity Scale. The Treatment and analysis were performed using the program use SPSS. The results show that most participants are women over 70, and with incomplete primary education. On the generative actions of twenty items Scale six statistically significant differences between the means of two surveys carried out (before and after the participation in Module III), 1. *I have developed actions that have had an impact on other people*; 2. *I think that will be remembered for a long time after death*; 3. *Seeking to share and teach others what I can do*; 4. *others say that I am very obliging*; 5. *People come to me for advice*; 6. *I feel I have done nothing that will survive my death*. Most of the participants (95%) have home computers with internet access and were interested in news, research and fun. It was found that these tools played an important role in the lives of older people as a source of communication, ease to rescue their life stories and establish new social support networks, virtual mode.

USING IPADS TO PROMOTE PATIENT SAFETY AND REDUCE STAFF INJURIES IN DEMENTIA CARE

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Background: The changes associated with dementia can lead to mood alterations and behavioral and psychological symptoms of dementia (BPSD). BPSD are common, affecting up to 90% of persons with dementia over the course of their illness. Not only do BPSD cause distress for the patients with dementia, but also place hospital staff at risk for injury. This project examines whether using an iPad to play a video purposively created for the patient by his or her family may contribute to preventing and reducing BPSD of patients with dementia.

Methods: We used a single case study design and mixed methods. With an ABAB withdrawal design, a patient was observed in four phases, A₁ (baseline, no intervention), B₁ (intervention), A₂ (withdrawal, no intervention) and B₂ (intervention again). Also, we conducted staff interviews and video analysis to investigate contextual factors and staff experiences.

Results: Our preliminary findings support positive effects of the intervention. Staff described the benefits and barriers of integrating iPad into everyday care activities on the hospital unit.

Conclusions: This research contributes to the knowledge base of using technology (iPad) as a non-pharmacological intervention in dementia care. The iPad has great potential to be a safe, easy and low cost solution for supporting patient safety and reduction of staff injuries in clinical settings.

SESSION 4570 (POSTER)

TECHNOLOGY AND ROBOTICS

MOBILE HEALTH INITIATIVES IN GERIATRICS: THE NEEDS, ATTITUDES AND EXPECTATIONS OF OLDER INDIANS

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mHealth is a novel and promising tool to improve and support effective care for the elderly. However significant challenges remain, primary of which are the older individuals resistance to and suspicion of modern technology. It is therefore imperative to modify and adopt mHealth technology after understanding the needs and attitudes at a local level. We carried out a study based on a specially designed questionnaire to assess the needs among 260 elderly individuals from both the outpatient department at AIIMS and the community settings in Delhi. The study is ongoing and preliminary analysis of 75 elderly individuals revealed certain trends. Around 90% of the individuals either owned a mobile phone or had accessibility to one. Nearly 70% of the individuals had a favorable attitude towards mHealth services. The mHealth services preferred were Health services (appointments etc), educational content and social isolation and security (in that order). Amongst the medical issues; Dementia, Cancer and visual loss were their greatest fears. The most preferred medium for service delivery were telephone calls followed by SMS and social media. Among the more important factors associated with support of mHealth services were lower education status, lower middle class, ownership of a mobile phone and regular users of mobile internet. To conclude, preliminary analysis has revealed a favorable trend in terms of both mobile phone usage and attitudes towards their use in healthcare. This can promote further "mAgeing" strategies in future.

IMPROVING USABILITY AND SAFETY OF WALKERS THROUGH THE DEVELOPMENT OF A SMART WALKER FOR OLDER ADULTS

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With an increasing percentage of our population entering the 65-and-over demographic in coming years, assistive technologies are more important than ever. Enhancing and promoting the autonomy of the elderly can be accomplished in part through the development of such product. We report on the development of a smart rolling mobility walker employing a user-centered design process whereby users and other potential stakeholders are integral in all stages of the creation of the product. During each stage of the design process, the researcher met with older adults, some of whom used walkers and some of whom did not, and a team of retirement community administrators, physical therapists, and occupational therapists. The overarching outcome of this research examines opportunities that exist for integrated smart devices for enhanced user mobility and safety. The smart elements of the walker, prototyped using programmable microcontrollers and sensor devices, include a gyroscope that detects declination angle and passive infrared (IR) and acoustic sensors that detect user position relative to the walker. The gyroscope controls application of friction to the rear wheels by way of stepper motors to aid in safe movement when going downhill, while the IR and acoustic sensors provide feedback for safe user position using auditory and visual cues. We also report on functional changes to our smart walker including retractable seating, changeable

handle positions, and multi-directional folding. We focus on integrated functionality such as wheel locking when the seat is deployed, eliminating the need for users to manually lock the loop breaks.

CONNECTING GENERATIONS THROUGH TECHNOLOGY: EVALUATING OLDER ADULT AND STUDENT MENTOR PROGRAM OUTCOMES

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Cyber-Seniors®: Connecting Generations is an international, intergenerational program that connects college students and/or high school students with older adults. The program helps older adults learn to use technological devices and programs while providing students valuable skills in teaching and communicating. Four programs implemented the program from January-May 2016 at various settings including a 4-year university, volunteer agency, boys and girls club, and a career technical center in Rhode Island, Florida, Washington DC, and Michigan, respectively. All student mentors and older adult participants completed pre- and post-surveys that included both quantitative and qualitative questions. University students also maintained in-depth observation logs of their sessions and completed reflection papers based on their experiences. This enabled the gathering of in-depth qualitative data about the program and the experiences of those involved. Preliminary quantitative (e.g., paired *t*-tests) results show that older adult participants reported higher social engagement scores ($t=-15.35$, $p<.001$) and improved social isolation scores ($t=-7.94$, $p<.001$) following program participation. Nearly all student mentors (between 85–93%) reported learning about helping others, gaining communication skills, and learning to be patient with others. Rich qualitative data shows that the program helped to break down negative generational stereotypes and reduced the generation gap, and that all involved particularly valued the personal bonds and relationships that develop. This program is sustainable and transferable, and it is currently being implemented in locations across North America. It is particularly beneficial for educating future health and human services professionals who will increasingly be serving and interacting with older adults.

TECHNOLOGY DEVELOPMENT FOR THE WAY THAT WE ARE: COMMUNITY BASED HOLISTIC INDIGENOUS ELDER ENGAGEMENT

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AGE-WELL NCE is a Canadian centre of excellence dedicated to improving quality of life for older adults. The Rural/Remote and Indigenous Technology Needs Exploration (RRITE) is a multisite AGE-WELL project with research sites in Saskatchewan and Ontario, Canada. The Indigenous research explores how older Indigenous adults with dementia might be supported, through technology, to age in place. Using a combination of Indigenous research methodologies and community-based participatory action research, the research teams work continually, from proposal to dissemination, with community advisory groups to develop, direct and refine the research process. Advisory groups are composed of health care providers and Indigenous people with lived experience, as well as Elders. This multisite study considers qualitative data from focus groups and interviews with older Indigenous adults, their family members, care providers, and natural helpers from First Nations communities in Ontario and Saskatchewan. This paper presents the results related to technology needs, the accessibility of assistive technology within Indigenous communities, and the role technology may have in fulfilling the health and social needs of older Indigenous adults in Ontario and Saskatchewan. Understanding the unique needs of Indigenous older adults and their communities can lead to the development of culturally safe and appropriate cognitively assistive technology, which can greatly add to the literature on prevalence and perceptions of assistive technology use by Indigenous people.

LIFE SITUATION TYPOLOGIES AS BASIS FOR PARTICIPATORY DIGITAL NEIGHBORHOOD PLATFORM DEVELOPMENT

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The neighborhood people live in as well as the existence of neighborhood networks can have a crucial impact on their quality of life. These neighborhood networks can be complemented and strengthened by digital neighborhood platforms, which additionally can enable people with mobility limitations to participate in social life and live self-determinedly. Therefore, the trans-disciplinary research project "QuartiersNETZ" ("Neighborhood NET") aims to develop networks and digital platforms in four urban neighborhoods in the Ruhr area in Germany. User participation in technology development processes has become more important. However, these involved users are often not representative of the heterogeneous potential user groups so that the actual circumstances and requirements are not met. To overcome this problem the project has explored different life situation types. On the basis of a representative survey within the case study neighborhoods with a random sample of in total 4,000 residents aged 50 years and older (response rate 29.7%, N=1,186) a hierarchical cluster analysis was conducted. Eight life situation types were identified based on the following characteristics: socioeconomic status, health, social relationships and housing conditions. In a next step, local actors selected three to four representatives for each cluster who were willing to participate in the digital platform development process. Qualitative interviews were

performed in order to get to know their challenges and thus generate authentic requirements. Furthermore, the participants are involved in the iterative platform evaluation process. The significant differences between the life situation types with respective specific demands emphasize that current technology development approaches need modification.

ROBOTS FOR THE ELDERLY? RESULTS FROM THE BERLIN AGING STUDY II WITH PERSONS OLDER THAN 60 YEARS

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Our research focuses on the question of whether robotics could pose a promising strategy to support the independent living of elderly people whilst relieving relatives from their anxiety. Such a strategy could be the integration of robots into smart home environments.

The question arises of how elderly people perceive the potential of robotics. As part of the Berlin Aging Study BASE-II (Bertram, Lars et al., *International Journal of Epidemiology*, 2014) we have investigated elderly people's acceptance of robotics using a sample of participants aged older than 60 years (n=1463), as well as a comparative group of 20 - 30 year old participants (n= 241).

The complexity of the data gathered, encompassing detailed socio-economic background characteristics as well as personality traits (such as the personal attitude to risk, the locus of control and the Big Five), proves as highly valuable and beneficial. Results show that participants' expressions of resentment against robots are comparatively low considering, that participants' personality traits statistically have a significant impact on the acceptance of robots in the household.

Only 15 percent of participants encounter robots in the household with great scepticism. Participants aged older than 70 years, express greatest rejection of a robotic assistant, however the effect sizes account for only a few percentage points. Overall, a surprisingly great openness with regards to the usefulness of robots can be observed.

ROBOT COMPANIONS FOR STROKE THERAPY-THE ACCEPTANCE OF ASSISTIVE ROBOTICS AMONG 80 PATIENTS

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In Europe 1 Mio persons suffer from stroke annually (Germany: ca. 262,000), strokes make up a total of 2-5% of health care expenditure. Current forecasts predict that the number of patients will continue to increase due to demographic changes. The need for innovative, effective and sustainable therapies, is growing enormously. The German ROREAS project aims to develop a self-directed training for stroke patients based on an autonomous robot companion who guides an independent gait-training program, encourage cognitive abilities and motivate self-paced exercise.

A number of thirty patients (N=30) tested the autonomously navigating robot-companion on the clinic floors; another fifty (N=50) had the opportunity to encounter

the robot in the context of group discussions. The project results show that both patients and fellow patients accepted the developed robotic trainer. The results show the acceptability of the use of robotic companions in rehabilitation clinics, about patient-specific fears vis-à-vis robots as well as about the factors that support the later introduction of robotic assistants on the patient's side. According to informants, the robot motivates patients to train independently and to leave their room, despite orientational difficulties, as well as encouraging patients to engage with robotic company and expanding their movement around the clinic. The robot seems to bridge the gap between therapeutically assisted training, independent training in the clinic and additional training at home.

A video presentation of this project is presented here: <https://www.youtube.com/watch?v=D7OpgPaLXC8>

PERCEPTION AND UTILIZATION OF TELEHEALTH SERVICES AMONG HOME HEALTH CARE AGENCIES: A NATIONAL SURVEY

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Despite the widely known effectiveness of telehealth services in screening and treating both chronic disease and depression in older adults, their adoption among home health care agencies has been slow. This study examined home health care staff perceptions and use of telehealth for chronic disease and depression care among older patients. Five hundred and sixteen staff from member home health care agencies of the National Association for Homecare and Hospice (NAHC) completed an online survey. The survey comprised of 33 questions and was informed by the Unified Theory of Acceptance and Use of Technology Model. HHC agencies that reported using telehealth, telephone (63%) and remote-monitoring devices (56%) were the most utilized technology. Telehealth services included monitoring of health services (64%), chronic disease management (58%), and patient health education (43%). Overall, there was a positive perception towards telehealth for patient care. However, telehealth was perceived more positively for chronic disease management (90.7%) than for depression care (53%). A majority of participants (74%) reported having the knowledge necessary to use telehealth for chronically ill patients while only 32% did for depressed patients. Results suggest that although there is a positive perception towards telehealth for patient care, however, there are other factors (e.g. lack of resources and reimbursement, training and buy-in) that affect agencies' adoption of telehealth. Therefore, further education and training is needed to support telehealth use for depression care. Future studies may consider comparing existing telehealth programs and identifying policies and regulations that are supportive of such programs.

APPLYING KNOWLEDGE TRANSFER STRATEGIES IN THE DEVELOPMENT OF RESOURCES FOR OPTIMAL AGING

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Effective knowledge transfer (KT) of research findings into practical applications may allow users to make informed health decisions (Boström et al., 2012). Increasingly, KT strategies are utilizing technology and the digitization of health-related resources. Currently, little is known about KT within aging populations, specifically those that are in digital format. Using the *Conceptual Model of Knowledge Exchange* (Meagher et al., 2008) as a guiding framework, a multi-phase KT initiative was implemented to promote and evaluate paper and digital resources developed by the National Initiative for the Care of the Elderly (NICE). Results from the initiative's first phase indicate that ideas/recommendations from the tools were adopted by users (40%), the tools improved users' knowledge and understanding on the topic (42%), and information presented in the tools is often favoured over other resources providing similar content (60%). Results on the KT format indicate that both professionals/clinicians and older adults prefer the paper-based format of the resources. These findings suggest that the challenge for effective KT is to ensure that the digitization of KT resources does not outpace their adoption by end-users and key stakeholders. For KT to be successful, the process must include the development of evidence-based resources, include the perspectives of stakeholders, and be easy to apply in various settings. Given that little is known about KT with aging populations, the described initiative provides stakeholders serving this population with practical approaches for assessing the impact of their own digital KT initiatives.

ONLINE ACTIVITIES AND DETERMINANTS OF INTERNET USE AMONG ELDERLY PEOPLE

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The Internet can be used as a source of information or support under highly demanding circumstances like those encountered in providing informal care. Informal caregivers are usually elderly people, and in order to provide tailored web-based support for this at-risk group a nuanced understanding of Internet usage among elderly people needs to be obtained.

We used data of the Dutch LISS panel from 2014 which includes people aged 65 and older ($M=72.0$ $SD=5.89$, $n=1565$). The panel is based on a true probability sample of Dutch households. First, with regard to 16 different Internet activities, it was assessed whether any difference could be observed in Internet usage among elderly people with and without caregiver obligations. Second, regression analysis was used to determine whether sociodemographic characteristics, satisfaction and amount of social contacts, and having caregivers' obligations determine Internet use.

Among participants aged 65+ we found significant differences with regard to information seeking, reading news, and playing online games between informal caregivers ($n=407$) and people without caregiving tasks. The regression analysis revealed that being younger, and being married are significantly positively related to Internet use, while having a lower level of education and providing informal care are negatively associated with Internet use.

As caregivers make less use of the Internet, further research must try to identify impeding and beneficial factors for Internet use in order to enable usage of online based information and interventions for informal caregivers with greater need of information and support

GOOGLE GLASS FOR OLDER ADULTS-A FIELD TEST EVALUATION

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Google Glass is a wearable device, placed in eyeglass frames, operated by voice or touch. Therefore, an intuitive, hand-free operation of the device should be possible. Several reminder, fitness or health apps can be integrated in the device. Thus, especially older adults can benefit from the new technology as Google Glass can for instance remind them to take the medication or post reminders for important appointments. Furthermore, the device facilitates communication with other persons, for example adult children or distant relatives and can therefore be a useful assistant in everyday life.

In a three year project we developed an app with assistive functions for older adults. In a field test with adults aged 65 years and over, the subjects had to solve different everyday tasks, e.g. start a phone call, navigate to a specific place in Berlin or follow the instructions for a cooking recipe. Additionally, the participants were asked to rate the device regarding usability and acceptance.

The results of the study show, that the operation of Google Glass is not as intuitive as the developers promise. The gestures and voice commands have to be learned repeatedly by older adults. Therefore, an intensive training and continuous support is necessary. However, after the first testing, the older adults showed a strong disposition and acceptance towards the new technology. To address older adults' needs Google Glass should be adapted to their specific requirements, especially regarding usability and training concepts. To increase the acceptance of older adults, particular requirements, such as the integration of Google Glass in their own glasses, must be met.

SESSION 4575 (POSTER)

TRANSPORTATION ISSUES IN LATER LIFE

BEHAVIORAL DIFFERENCES BETWEEN OLDER AND YOUNGER DRIVERS ASSOCIATED WITH AUTOMATED VEHICLES

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Motor vehicle crashes represent a significant public health problem, with elevated rates for both older and young drivers. Advances in automated vehicle technology hold promise for increasing vehicle safety. However, at least in the early stages, vehicle automation may lead to new or yet unstudied risks or errors, especially for vulnerable groups such as older drivers. The purpose of this study was to examine differences in how older and younger drivers react to the transfer of control between automated and manual driving. A total of 72 participants are being recruited from three age groups (16–19, 65–75, and 25–45). Participants are presented with

a simulated driving environment containing manual driving modes with multiple transition scenarios. They also complete a questionnaire on their experience/comfort with various technologies, as well as a structured interview to explore perceptions about the drive (e.g., expectations, acceptance, and trust in the automation). To date, 26 participants have been enrolled: 52% are age 65–75 and 48% age 25–45. All are active drivers (65% drive every day and 87% at least 5 days per week). Most report using various technologies for communication (email, 100%; smart phones, 96%; social networks, 91%; online chatting/instant messaging). In addition, most are very satisfied with these technologies (87%), report that they save time and give more flexibility (96%), and were easy to learn how to use (91%). Fuller detail on results from the questionnaires, simulated drives, and structured interviews are reported in this presentation as well as differences identified between older and younger drivers.

RELATIONSHIP BETWEEN OBJECTIVELY MEASURED TRANSPORTATION BEHAVIOR AND HEALTH VARIABLES IN OLDER ADULTS

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This study used objective Global Positioning Systems (GPS) to investigate the relationship between pedestrian and vehicle trips to physical, cognitive, and psychological functioning in older adults living in retirement communities. Older adults (N=279; mean age=83±6 years) wore a GPS and accelerometer for 6 days. Participants completed standard health measures. The Personal Activity and Location Measurement System (PALMS) was used to calculate the average daily number of trips, distance, and minutes traveled for pedestrian and vehicle trips from the combined GPS and accelerometer data. Linear mixed effects models explored relationships between these transportation variables and *physical, psychological and cognitive functioning*. Number, distance, and minutes of pedestrian trips were positively associated with physical and psychological functioning but not cognitive functioning. Number of vehicle trips was negatively associated with fear of falls; there were no other associations between the vehicle trip variables and functioning. Vehicle travel did not appear to be related to functioning in older adults in retirement communities except for fear of falling and number of vehicle trips. Pedestrian trips had moderate associations with multiple physical and psychological functioning measures, suggesting that supporting walking could benefit many aspects of health in older adults.

PERFORMANCE AT INTERSECTIONS: ASSOCIATION WITH NEUROPSYCHOLOGICAL DOMAINS IN DRIVERS WITH DEMENTIA

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Driving is considered as one of the most complex daily activities. In some driving situations, such as at intersections, it has been clearly demonstrated that cognitive load is elevated, which could explain the higher incidence of crash

among older drivers when left turns are executed. Individuals with dementia, specifically, Alzheimer's disease (AD), may have the most difficulty negotiating intersections due to their specific cognitive impairments, including impairments in attention. In this study, the performance at specific intersections of 17 older drivers with mild AD tested in a simulator was compared with the performance of healthy older adults. Driving reactions at intersections were scored using an evaluation scheme capturing different types of errors that could occur during preparation (i.e., prior to the intersection), execution (i.e., during the intersection), and recovery (i.e., after the intersection) phases. In addition, both groups were assessed using neuropsychological measures examining attention, visuospatial/perceptual functioning, and global cognition. Drivers with mild AD exhibited the greatest number of errors, and those errors were most prominent during the preparation phase leading up to the intersection. Crashes were significantly more frequent in the AD group. Measures of attention and global cognition, but not visuospatial/perceptual abilities, correlated significantly with the errors committed.

PATTERNS OF DRIVING IN OLDER AMERICANS OVER 14 YEARS: FINDINGS FROM THE HEALTH AND RETIREMENT STUDY

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The US population is aging and there are increasing numbers of older adults driving. Driving cessation has been associated with negative outcomes (e.g., depression, isolation, death). Qualitative research suggests driving status may change abruptly after an acute health event, change slowly over time, or not at all. In this study we analyzed 8 waves of data (1998–2012) from the Health and Retirement Study to determine patterns of driving status observed in older drivers (e.g., drive with no limits, limited driving, ceased driving, not driving due to death). First, we examined a sample aged 65–74 ($N=11,114$) and who drove with no limits at baseline ($n=2,981$). These respondents provide 2,981 unique raw sequences of driving status that changed over the eight waves without any gap in driving status (nonresponse or missing). Next, optimal matching and cluster analysis were conducted and seven patterns emerged. From these MNL results, the biggest differences were between those who continue to drive (cluster 1) vs. those cease driving sometime after the baseline (cluster 2–7). For example, those who were older, less educated, had lower net worth, had more cognitive deficit/emotional problems, or poor health were more likely to fall into any of the clusters that represent driving cessation. A deeper, empirical understanding of the complex process of driving, limiting driving, or ceasing driving will suggest interventions that may promote safe mobility. Research is underway to explore what other processes (instead of baseline characteristics) may be more important for people to limit driving or to gradually cease driving.

DRIVING-RELATED RISKS AND MOBILITY IN ELDERLY DRIVERS WITH MCI.

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The impact of cognitive decline on driving safety and mobility in drivers with mild cognitive impairment (MCI) remains unclear. Therefore a cross-sectional study was carried out, to clarify the risk of elderly drivers with MCI compared to controls and to clarify whether MCI affects personal mobility on elderly drivers. 133 community-dwelling elderly drivers applied to baseline survey, 8 were excluded following exclusion criteria: (1) general cognitive impairment (MMSE < 21: $n=1$), and (2) driving cessation at baseline ($n=7$). And 125 participants were divided into control group ($n=93$) or MCI group ($n=32$). At baseline, participants were assessed individually cognitive and psychiatric state, driving-related risks based on performances of driving simulator (DS) and self-reported driving event (crashes, traffic citations, and unrecorded mistakes), driving behavior, and mobility. The frequency of traffic citation is larger in the control group compared to the MCI group, whereas there were no statistically significant differences between groups in a frequency of crashes and unrecorded driving mistakes. Both the number of miles driven/week and travel distance/week showed no different between groups, but the area of driving and travelling were reduced slightly in elderly drivers with MCI. Moreover, there were no statistically significant differences of DS performance between groups. These results support the finding from other studies showing that cognitive decline is associated with scale-down of personal mobility in elderly people. The current study could not demonstrate pronounced decline of driving ability in drivers with MCI. Prospective studies will need to clear driving-related risks in elderly drivers with MCI.

FRAMEWORK FOR DEVELOPING A MOBILITY MANAGEMENT PROGRAM FOR AGING DRIVERS; A CONSENSUS STUDY

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Determining the most effective means to help older people maintain their mobility and social participation once they cease driving has garnered increased attention due to the known health and social consequences of losing one's license in later life. Our aim was to convene an international expert consensus panel to establish a conceptual framework for a Mobility Management Program. Eighty-five experts from six countries were invited to participate of which fourteen scientists and eight occupational therapists contributed. Using a secure, web-based portal, participants' comments were entered anonymously then reviewed and summarized by four independent researchers. These summaries were taken forward to the next round for further consideration. The study ended once the majority of participants ($n=16/22$) indicated an additional round would not improve the framework, which occurred after four rounds.

The consensus group agreed upon two core goals of a Mobility Management Program: facilitating a person's transition from driver to using alternative means of transport and guiding persons through associated lifestyle adjustments. This program is to ensure mental and physical well-being, social and community participation, road safety, and maintain meaningful engagements. The theoretical models relevant to the construction of the program are: Trans-theoretical Model of Behavior Change, Health Action Process Approach (self-efficacy), Transactional Model, and Client-Centered Goal Setting Approach. The consensus group agreed on a person-centered approach that respects individual attitudes towards driving retirement through four critical phases: consideration, acceptance, action, and autonomy. A successful transition is achieved when emerging needs are met and managed by the individual/caregiver involved.

DISTRACTED DRIVING IN OLDER ADULTS: PRACTICES AND ATTITUDES

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Distracted driving is a prevalent problem in the US, with estimates of 30–90% varying by definition and demographics. Yet drivers have been shown to be four times as likely to be involved in a car crash while using a cell phone. Studies have shown distraction mitigation strategies can be effective in middle-aged and older populations, but more data is needed to understand which behaviors present the greatest danger to adult drivers and what methods would most effectively reduce the dangers. The UCSD Older Adult Distracted Driving Survey is the third survey to assess distracted driving attitudes and behaviors. This anonymous survey of drivers 65 years and older collected data using in-person (paper) survey methodology, as well as online (through Survey Monkey). Variables included health data, knowledge, practices, and attitudes. As in the previous surveys of younger and middle aged drivers, older drivers are using both hands free and hand held options, though with less texting than their younger counterparts. Strategies for deterring distracted driving thought to be effective by the participants have been identified, including technology, laws, and education.

OLDER ADULTS USING DRIVING SIMULATORS: WHAT IS THE LEARNING CURVE FOR THIS TECHNOLOGY?

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Driving simulators are generating interest for their use in driver evaluation and rehabilitation in older adults. Evidence is necessary before a more widespread adoption of driving simulators in clinical practice. Issues include: No standardization for the adaptation process; Outputs of the simulator is often used as the sole measures - which may be faulty since studies have found that expert observation is more important; and simulator or observational measures are not standardized. This study was designed to examine the performance of current older drivers on the simulator, especially in terms of the "learning curve" with this technology. Older drivers (N=49, ages 60–79 years) were tested on the simulator with some returning after one week. There are

three outcome measures: data extracted from the simulator report (e.g., reaction time, speed, crashes, lane maintenance) and skilled observation scores (e.g., overall, scores for critical incidents). The data was analyzed to examine differences between the groups in terms of age, gender, or technology. To examine the learning curve, scores from one scenario were compared against the same scenario. Preliminary results show that although there are some specific differences in performance, overall performance is likely not based on age, gender or familiarity with technology. Evidence supports using the driving simulator as a tool to assess older adults' fitness to drive and intervention. However, even healthy older adults made significant errors, including crashes. For the repeaters, performance improved with familiarization/practice, illustrating that use of the simulator as a final determine of fitness to drive may be unwarranted.

VARIABILITY IN THE DISTRACTED DRIVING BEHAVIORS OF OLDER ADULTS

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Naturalistic driving technologies are increasingly utilized to objectively assess driving in a real-world setting. However, use of such technologies often requires extensive data reduction efforts which may limit important information about how one's driving behaviors differ from trip to trip. This study aimed to describe driving behaviors (i.e., distracted driving behaviors) in a sample of older adults, as well as the variability of these behaviors within a person. We analyzed data from 72 healthy community-dwelling older adults (55% female, mean age=72.3 years, range 65–85 years) from the Senior and Adolescent Naturalistic Driving Study (SANDS). Information on participant distracted driving behaviors was collected from driving trips taken over a two-week period via photos taken of the vehicle interior. Distracted driving behaviors included cell phone use, talking with a passenger, reaching, eating, drinking, and grooming. Results from intra-class correlation coefficients obtained from multilevel models indicated that a large proportion of the variance in distracted driving behaviors was related to differences within driving trips, compared to differences between participants. The amount of variance attributable to within-person differences varied depending on behavior, ranging from 1% (talking on cell phone) to 19% (eating). Future work in older adult driving should consider within-person variability of distracted driving behaviors and examine how context and timing, such as time of day, weather, or physical function, may influence the likelihood of a person performing a certain behavior in the moment. Further implications and future directions will be discussed.

APPLYING LOCATION QUOTIENT TO ANALYZE DISTRICT ELDERLY ACCIDENT CHARACTERISTICS IN METROPOLITAN AREAS

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A location quotient (LQ) is an analytical statistic that measures a district's or region's industrial specialization relative to a larger geographic unit (usually the nation) in economic base analysis. While an LQ over 1.0 means that the area has a higher concentration for specific industry than the nation. In Taiwan, the population over the age of 65 of total population was 12.51% in the end of 2015. And from 2009 to 2015, the elderly population death rate of the total population in traffic accidents are 27.20%, 25.89%, 25.27%, 26.62%, 28.73%, 30.02% and 31.43% respectively. As the result of high elderly death rate, the traffic safety of seniors has become an important issue in Taiwan. Because the area accident characteristics are different by the local socio-economic conditions and resources and the area countermeasures must depend on local accident characteristics, this study applies the LQ index to analyze the accident characteristics by area. The LQ index were calculated by the district accidents share divided the metropolitan accidents share by different category such as accident severity, traffic mode, gender, occurrence time, occurrence location and causes of accident. The data of Taoyuan metropolis in Taiwan which are divided into 13 districts and with spatial and regional characteristics including urban, suburban and rural areas were used. The results showed that the application of LQ could easily identify the elderly safety issues of each districts. Moreover, this study developed the educational propaganda strategies for different districts to reduce the traffic accident rate and severity in seniors based on the traffic accident characteristic analysis.

SESSION 4580 (POSTER)

WORK AND VOLUNTEER ROLES IN LATER LIFE

EXPLORING AND DEVELOPING THE MAINSTAY VOLUNTARY ELDERLY IN THE COMMUNITY

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Thailand is becoming an aging society and needs to encourage the elderly to show their potential to help society and to be proud of their life through voluntary activities. This study explored the characteristics of senior volunteers living in Saensuk Municipality, Chonburi, Thailand. We also created a sustainable model of senior volunteer mainstay development. Our sample comprised 16 elderly people, aged over 60, who have had experience in voluntary work for at least three months. We used a phenomenological research methodology by conducting in-depth interviews and focus group discussions. Then, we analyzed the raw data with a content analysis. The results revealed that most of the senior volunteers were persuaded to volunteer by their peers and also a family model. Their missions included acting as an information provider, demonstrator, coordinator and donator. Their important qualities were integrity, flexibility, energy, reliability and responsibility. As volunteers, they felt happy, valued, and healthy, with increasing friendships and

self-empowerment. A sustainable model of senior volunteer leader development was proposed, consisting of a qualified senior volunteer, the support of a local organization and effective communication.

THE ROLE OF PARA-COUNSELLOR IN THE PROVISION OF INTEGRATED PSYCHO-EMOTIONAL CARE FOR OLDER PERSONS

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Background: Loneliness, boredom and helplessness caused by social isolation often affect the emotional well-being of older persons in the community. Besides professional psychological intervention, trained volunteers can be an important resource to enhance meaningful interaction and emotional support for older clients. The use of 'para-counselors' saves cost and promotes volunteerism. This presentation describes the experience of, and lessons learned from, establishing a para-counselor team in a context where volunteerism is under-experimented. **Intervention:** an approximately 57 para-counselors were recruited and trained over a period of 3 years. Majority of para-counselors were seniors themselves. This facilitated more effective rapport and relationship building, because of shared values and common languages spoken. The latter was especially critical in a context where fewer younger generations were able to speak local dialects and/or non-English languages. Training was conducted by professional gero-counselors. After training, para-counselors were able to provide emotional support to older persons through active listening, individual life review session and engagement in meaningful activities, which helps them to review, reflect, explore, appreciate their life experiences and have greater sense of meaning of life.

Lessons learned: Key success factors for establishing a para-counselor programme include the setting up of: a volunteer management system; strategic recruitment and screening; age-friendly training methods; continuous guidance and supervision; and various options for development paths. **Conclusion:** Senior volunteerism can be activated to fill in the human resource gaps in psycho-emotional care for older persons. Sustainable para-counselor programmes can be established by integrating such programmes into existing professional and organisational framework.

VOLUNTEERING AND HEALTH AMONG OLDER KOREANS: A LONGITUDINAL ANALYSIS

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Purpose: This study examined whether volunteering activity has the positive effects on the health of Korean older persons which is defined as physical health(self-rated health) and mental health(depression and self-respect). Also, the study determined the threshold effects of volunteering on physical and mental health of older volunteers, as role strain theory predicted. Additionally, we investigated if the moderating effects of social contexts on the relationships between volunteering and health among older people exists. **Background:** As the Korean baby boomers have entered retirement era, the volunteer participation rate has gradually increased every year. The importance of a study about benefits of volunteer participation for aging individuals has been

much stressed recently. Method: The study used the three waves(2006–2008) of panel data from the Korean Welfare Panel Study, and the samples were composed of 5,768 older volunteers who were aged 55 years over in the base year of 2006 and completed it during three-year periods of the panel survey. The Generalized Estimating Equations(GEEs) were employed to estimate the regression coefficients of explanatory variables, and to control autocorrelations. Results: Volunteering among the elderly came to be positively related to physical health($\beta=.204$, $p<.05$), to be negatively related to depression($\beta=-1.786$, $p<.001$), and to be positively related to the self-respect($\beta=.140$, $p<.001$). The regression coefficients of threshold effects were statistically significant only for the mental health($\beta=-1.255E-5$, $p<.001$). However, the moderators of social contexts were not associated with the effects of volunteering on health among Korean older adults. Implications: These findings suggest that volunteering increased the health of older volunteers, but excessive volunteering activities could worsen the mental health. Also, the results indicate that social contexts did not affect volunteering effects especially in this study. We need to use more lengthy panel data set in the future to examine clearly the threshold and social contexts effects.

GOVERNANCE, LABOR FORCE PARTICIPATION RATES AND LIFE SATISFACTION FOR THE ELDERLY

H. Weng, T. Ho, Y. Zhu, S. Huang, L. Lu, *Institute of Gerontology, National Cheng Kung University, Tainan City, Tainan, Taiwan*

Given promotion of the concept of “productive ageing”, most studies indicate that having job in later years is associated with better health and well-being for the elderly. This study examine how gender differences on effects of governance, labor force participation rates on life satisfaction through national and individual level variables, respectively. The total sample of this study is 6,498 people of the age of 65 from 28 countries. The individual attributes are obtained from the World Values Survey. National level variables are from the World Bank, International Labor Organization, Organization for Economic Cooperation and Development, and Legatum Prosperity Index. Hierarchical Linear Modeling method of analysis was used for statistical analyses. We found that those who are men over 65 years of age who are of a higher age, have a married status, belong to a higher social class, have better health and attitudes toward aging are positively correlated with higher life satisfaction. Women who sees more importance in work is also shown to be positively correlated with life satisfaction. Moreover, with regards to the national level, we found that governance correlates positively with a higher score of life satisfaction. And labor force participation rate correlates positively with a higher score of female's life satisfaction. Lastly, for women only, the national labor force participation rate weakens the impact of social class on personal life satisfaction.

EXPLORING THE FACTORS OF DIFFERENT COPING BEHAVIORS OF PSYCHOSOCIAL HAZARDS AMONG HOME-CARE WORKERS.

L. Chen, *Hungkuang University, Taichung City, Shalu District, Taiwan*

The purpose of this study is to explore the factors of different coping behaviors of psychosocial hazards among home-care workers. This research applied the cross-sectional survey method. Samples were selected from 14 home care providers in Taichung City, and 450 (response rate 74.6%) valid samples were collected by a self-administered structured questionnaire, and analyzed by using SPSS 21.0 software. The results showed that, the top three of psychosocial hazards were work domination, workload and pace, workplace justice. Workers with higher work domination, home-work conflict were significantly more likely to take problem-focused and emotional-focused strategy. Workers with poor perceived health, higher level of target fatigue, were significantly more likely to not to take any coping behavior. The study suggests that should provide appropriate workload by worker's condition, given the opportunity to express their opinions and discretion, and providing on-job training about interaction, communication and management for supervisor, who can help home care workers.

EFFECTS OF JOB RESOURCES ON WORK ABILITY IN HIGH QUALIFIED MANAGEMENT POSITIONS

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The prolongation of work lives could attenuate the challenges of the demographic change. In order to maintain and improve the productiveness of the workforce, work ability is gaining increasing importance in both, research and practice. On average, age leads to a decline in work ability, and, consequently, work force participation. However, age also leads to an increase in work ability score variance, indicating the presence of moderating effects with an impact on the relationship of age and work ability. In line with the Job-Demands Resources Model and the Conservation of Resources Theory, we evaluated direct and possible moderating effects of job resources, i.e., characteristics of the supervisor, discrimination, respect, and autonomy on the relationship between age and work ability.

Data of 1,093 managers of the chemical industry in Germany were used. Managers not only are subject to factors of their work environment, but are also important role-models for their direct reports, and are therefore of twofold interest.

In hierarchical regression analyses, we found direct impact on work ability for all job resources. Additionally, the analyses indicated moderating effects of advancement discrimination, control of work, and skill usage on the age-related decline of work ability. The findings are discussed regarding relevant literature. Our research can help employers facing demographic challenges to effectively employ interventions to improve health and work ability of their aging work forces, especially when mere individual-focusing interventions fail to do so.

WORK LIMITING HEALTH AND DIVORCE BEHAVIOR: A RETROSPECTIVE ANALYSIS WITH SIPP DATA

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In this paper, we consider the role of all work limiting health conditions on divorce behavior but we distinguish between less (exogenous) predictable versus more (endogenous) predictable shocks. We divide the reported health conditions in the 2004 Survey of Income and Program Participation (SIPP) into those that appear to arrive randomly conditional on age for married men and women versus those that appear to be more predictable. The six work limiting health conditions that appear to arrive largely exogenously are cancer, carpal tunnel syndrome, deafness or serious trouble hearing, paralysis, thyroid trouble and tumor cyst or growth. How the onset of work limiting conditions then affects divorce is studied across different demographic groups. The primary result of the study is that the onset of health problems that are unpredictable generally does not increase the likelihood of divorce while the divorce behavior is closely related to the onset or evolution of a broader, arguably endogenous set of health conditions. However, the patterns of response are shown to vary by race and ethnicity. For example, the onset of health conditions that do appear to be statistically related to demographic factors known to correlate with poor health behaviors appear to be associated with a statistically significant increase in the probability of divorce particularly among minority (Black and Hispanic) groups. The data used in the study are drawn from the SIPP, particularly from the topical module on “work disability history”, and the retrospective histories are used to construct a panel over the individuals’ lives. The primary estimation method is a panel linear probability model with fixed-effects.

BLENDED WORK AMONG OLDER WORKERS: A MULTI-LEVEL PERSPECTIVE

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In the retirement literature, the concept of “blended work” has been introduced recently as a form of work that may enable older workers to prolong their working lives. Blended work refers to time- and location-independent working, which is made possible by the increasing reliance on ICTs in organizations. Empirical insights on this issue are still limited though, especially with regard to the question which older workers actually have the opportunity to blend work. This paper aims to fill this gap, by paying attention to the role that both organizational and individual level factors play for explaining perceived blended work opportunities. Multi-level data collected in 2015 among a sample of about 5000 older workers (age 60–65 years) employed in more than 400 organizations from the government, education, construction, care, and welfare sectors in the Netherlands were analyzed. The results show a large variety between sectors in blended work opportunities (as measured by four items). For instance, among employees working in government organizations almost 30 percent agrees with the statement “I can decide myself where I work,” and this is only the case among less than 10 percent of employees in educational and care sector organizations. Higher educated older workers have more opportunities to blend work as compared to the lower educated, and men report having more opportunities for blended work than women. The findings suggest that blended work

is only available to a select group of older workers, which raises questions about its potential effectiveness for prolonging working lives more generally.

GENDER AND EXTENDING WORKING LIFE FOR WORKERS IN LOW-PAID PRECARIOUS EMPLOYMENT IN THE US

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Concerns about pension sustainability means that many governments including the US are advocating longer working lives for all workers. Policy changes encouraging flexible work and increased social security age reflect this. However, there has been limited investigation to date of how these policy changes affect differentiated groups (by gender and occupation) of older workers. While longer working lives may be attractive and beneficial to workers in sedentary, well-paid jobs, those engaged in physically demanding low-paid occupations typically face health challenges earlier than other workers. There is a need to explore how this affects their ability to continue working past traditional retirement age and their financial security.

This presentation is based on analysis of evidence from Phase 1 of an EU-funded cross-national research project involving work-life history interviews conducted with twenty older workers in low-paid precarious employment in the US in 2015 – early 2016. A life-course approach is used to analyse interview data with ten women in a low-paid, physically demanding occupation – home health aides – and compare them with the accounts of ten men in a similar occupation – janitorial work. Participants discussed early influences, work-life history and health concerns. The paper analyses how gender, occupation and health across the life course affect options around late work and retirement.

It concludes that certain gender differences regarding norms of care-giving are important. Yet it appears that extending working life exacerbate existing financial and health disadvantages for both men and women in precarious employment. The implications for future research and policy are discussed.

PROTECTED OR DEFLECTED? IMPACT OF EMPLOYMENT PROTECTION LEGISLATION ON FORCED CAREER EXIT IN EUROPE

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Extended working lives are now becoming the norm in many Western countries. However, it is not always easy to do so. A substantial number of older adults are pushed out of the labor force at the end of their work careers. In this study, we explore whether older workers are forced to leave their careers through retirement routes or become unemployed or disabled prior to retirement. We take a cross-national perspective, using data from 14 European countries, to examine whether the national labor market context impacts on how individuals leave their careers, especially focusing on the strictness of employment protection legislation. We use

a country fixed effects approach to control for country-level heterogeneity. Our results show that there is wide variation in the rates of forced exit (between 20 and 50%). We have found that weak employment protection legislation results in an increased likelihood of forced exit through unemployment or disability, whereas in countries with strict employment protection, older workers are particularly likely to be forced out through retirement arrangements ($b=0.86$, $p<0.01$). This latter case could be seen as a form of hidden unemployment as people are forced to leave the labor market through retirement, while they might have been willing and able to extend their working lives up until higher ages. The results of this study imply that the choice to extend or leave work in later life is not always an individual one, but is also determined by country-level factors.

PREDICTORS OF RETURNS TO WORK FOLLOWING RETIREMENT IN GERMANY, RUSSIA AND THE UNITED KINGDOM

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Individuals may return to paid work following retirement, a phenomenon described as “unretirement”. By following recent retirees over time in Germany, Russia and the United Kingdom (UK), we examined whether unretirement is more common for people facing financial hardship. Data are drawn from four surveys: German Socio-Economic Panel Study (1991–2013), Russian Longitudinal Monitoring Survey (1994–2013) and, for the UK, British Household Panel Survey (1991–2008) and Understanding Society (2010–2014), harmonized *ex post*. Unretirement behaviour was examined using Cox regression in relation to demographic covariates, education, health, and financial adequacy. Unretirement was common, affecting around 42% of Russian retirees, 25% of British retirees, and 17% of German retirees. In each country, retirees with more education, higher income, and better health more often returned to work. While recently retired people may represent a pool of potential labour, there was little indication that those in financial need were unretiring.

DOES A SUPPORTIVE ORGANIZATIONAL CLIMATE MAKE OLDER WORKERS WANT TO RETIRE LATER?

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Retirement intentions are commonly studied and explained by job-related factors at the individual level, since measures of organizational factors that are measured through one employee are susceptible to bias. In this study, we apply a multilevel approach to study to what extent organizational climates are perceived as supportive for older workers, and whether a supportive organizational climate affects older workers' retirement intentions. The organizational climate towards older workers is measured through multiple employees from the same organization. The data stem from a survey, conducted in 2015, among 4410 older workers aged 60–65 from 409 Dutch organizations. Multilevel regression analysis is performed to account for variance in retirement intentions at the organizational and individual levels. The results show that when the organizational climate encourages working after retirement, when task accommodation for older workers is possible, when there is more attention for employees' health,

employees intend to retire later. Conversely, an organizations' support for gradual retirement leads to earlier retirement intentions. At the individual level, younger employees, those who started their career at a later age, those who have worked for their current organization shorter, and those who work more hours per week intend to retire later. We discuss how a supportive organizational climate for older workers can have contrasting effects on retirement intentions.

GENDER AND EDUCATIONAL DIFFERENCES IN HEALTHY WORKING LIFE EXPECTANCIES IN AUSTRALIA

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Current social policy and public discourse strongly encourages older adults to remain in the workforce. While there are health benefits associated with employment and productive ageing, poor health may also limit labour-force participation, particularly in low skill and labor intensive occupations. This study investigates ‘healthy-working life expectancies’ in Australia using the nationally representative HILDA survey. The sample comprised 6,164 respondents aged 45–100 at baseline (2001). One-fifth of respondents deceased over the 14-years of annual follow-up. Poor health was defined by long-term health conditions that restrict everyday activities. Multistate models estimated health transitions, employment transitions, and mortality rates. Life expectancies were partitioned into years: working in good health, working in poor health, retired in good health, and retired in poor health. At age 50 healthy-working life expectancies were 8.9 years (95%CL=8.6,9.2) for men, and 7.0 years (95%CL=6.7,7.2) for women; unhealthy-working life expectancies were 3.4 years (95%CL=3.2,3.6) for men, and 2.6 years (95%CL=2.4,2.7) for women; healthy-retirement expectancies were 6.1 years (95%CL=5.8,6.5) for men, and 9.4 years (95%CL=8.9,9.8) for women; unhealthy-retirement expectancies were 10.5 years (95%CL=10.1,11.0) for men, and 13.8 years (95%CL=13.2,14.3) for women. Lower education levels were associated with shorter healthy-working life, shorter healthy-retirement (but only among men), and longer retirement in poor health. Findings will be discussed in relation to the rising pension age in Australia, challenges faced by those who wish to remain in the workforce, as well as the moral imperative and social pressure felt by those who are unable to work or fulfil their ‘active ageing’ obligations.

AGE AND JOB SATISFACTION WITHIN A CANADIAN CONTEXT

M.P. Silver, M. Schafer, J. Settels, *University of Toronto, Toronto, Ontario, Canada*

This study examines the relationship between age and job satisfaction using data from the 2015 Canadian Work, Stress, and Health Study (CANWSH), a national sample of Canadian workers. The extent to which job satisfaction can be attributed to age versus factors such as more favorable job characteristics or enhanced general well-being remains relatively unexplored within the Canadian context. The theoretical basis for anticipating that with age individuals are more likely to experience positive emotions stems from socioemotional selectivity theory. Using multivariate logistic

regression models, we estimate the influence of measures of general life satisfaction on job satisfaction relative to other factors such as income and job characteristics at different age periods. Findings indicate that levels of job satisfaction are higher among older workers, overall life satisfaction increases the likelihood of higher job satisfaction among older women, and that job control is associated with increases the likelihood of higher job satisfaction for younger workers. Given that the gap between average retirement age and life expectancy has widened in Canada and worldwide, findings highlight the need to examine factors that may foreshortened the careers of more mature workers, particularly when levels of job satisfaction are relatively high.

RECRUITING VOLUNTEERS BY FOCUSING ON EMOTIONAL MEANING: THE ROLE OF FRAMING AND EXPERIENCE

Y. Shavit, L.L. Carstensen, *Psychology, Stanford University, Stanford, California*

Not only do societies benefit from volunteer efforts of its citizens, evidence is accruing that volunteering is beneficial to the health and well-being of older adults. To date older adults volunteer in similar rate to other age groups, but contribute more hours when they do volunteer. Although research on the effects of volunteering has grown in recent years, only limited attention has been paid to the factors that contribute to older adults' decision to volunteer.

Socioemotional selectivity theory (SST) posits that goals change with age. As time horizons grow increasingly limited – as they typically do with age – people prioritize emotionally meaningful goals. Reasoning from SST, we hypothesized that interest in volunteering may be heightened when volunteer activities were described in emotionally meaningful terms. We also reasoned that being able to make a real difference by expressing relevant experience would be motivating when time horizons are limited.

150 participants aged 18–82 answered an online survey in which they were presented with one of two advertisements for a hypothetical volunteer opportunity in a local children's library. One advertisement highlighted the ability to make a difference in a child's life. It was contrasted with another that framed the opportunity as a way to gain valuable skills. Participants also reported their prior experience working with children. Results from a linear regression analysis supported the hypotheses, suggesting that each of the two avenues contributed independently to the likelihood of volunteering among people who also report time horizons as limited.

SESSION LB4585 (POSTER)

LATE BREAKER POSTER SESSION 5

AGING AND THE SOCIAL CONTEXT OF FOOD INSECURITY IN AN URBAN MINORITY NEIGHBORHOOD

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Recent AARP (2015) and the USDA (2011) reports reveal increasing rates of “food insecurity” (lack of access and nutrition) among older adults in the U.S. In many urban minority communities, the existence of “food deserts” (lack of food infrastructure), increases the risks across the lifespan. Survey research (N=423) and asset-mapping in a documented “food desert in New York City, were used not only to see the challenges facing older adults in a predominantly African-American and Caribbean community (67.5%), but also to explore important differences in behavior, attitudes, and resources among older and younger residents (62.5% vs 37.5%, respectively). Preliminary findings suggest that while older adults are more likely to live alone (46% vs 31%), with higher rates of poverty (less than \$15,000/year) (40% vs. 34%), we see slightly higher rates of younger residents with larger households having “difficulty” paying rent and utilities each month (28% vs 25%) and buying preferred “healthier foods” (34.5% vs. 23%). While many older residents live somewhat closer to food stores, difficulty in walking (45%), using stairs (36%), and carrying bags (32%), make it harder to reach them. Other data on the extent of social isolation suggest that food insecurity is not just a matter of access to food, but access to social networks as well. This is part of a larger effort by the Aging in New York Fund, the State Society on Aging, and local service providers to identify unique issues of food insecurity across New York City.

INTERNET USE AND PREVENTIVE HEALTH BEHAVIORS AMONG COUPLES IN LATER LIFE

S. Nam¹, S. Han², 1. Iowa State University, Ames, Iowa, 2. UMass Boston, Boston, Massachusetts

The link between internet use and well-being in later life is gaining increasing support in the literature. One of the mechanisms in which internet use may exert influence on well-being is through an increased access to health-related information, which include information related to preventive health behaviors. The objective of this study was to examine whether internet use was associated with preventive health behaviors in later life. Especially, we focused on couples to examine whether there are cross-partner associations between internet use and preventive health behaviors. The study sample consisted of 1,765 pairs of coupled individuals drawn from the 2012 wave of the Health and Retirement Study. Preventive health behaviors included cancer screenings (mammogram, prostate tests & colonoscopies), cholesterol tests, and flu shots. Logistic multilevel actor-partner interdependence models were employed. Our findings indicated that internet use was associated with a higher likelihood of receiving a mammogram or cholesterol tests for women, and a prostate exam, cholesterol tests, and flu shots for men, net of sociodemographic and health characteristics, as well as insurance status. Also, we found that wives' internet use was associated with a higher likelihood of receiving a flu shot among husbands, over and beyond the effects of husbands' own internet use. Our findings demonstrate that health-promoting screenings and tests in later life are associated with internet use. Research linking internet use and preventive health behaviors is important because such behaviors are not only linked with health of the older population but also with substantial reductions in health care expenditures.

SOCIAL ISOLATION AMONG OLDER JAPANESE: DO REGIONAL ATTRIBUTES MATTER?

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Although social isolation (SI) has shown to impede health and well-being, there is little knowledge about regional factors affecting SI. While urban life may hinder close contact with neighbors, advance in public transportation can make contact with friends and relatives easier. This study examined how the two aspects of urbanization affect SI among older adults when ADL declines. Data came from the National Survey of Japanese Elderly, a nationwide longitudinal study of Japanese older adults aged 60 and older. We analyzed 3132 respondents who lived in 192 municipalities (regions) and responded to 2–5 waves' interviews between 1996 and 2012, through hierarchical generalized linear models (three-level model). SI was defined as having less contact than once a week with anyone outside the household. Regional level explanatory variables were "close-knit neighborhood" represented as median number of neighbors with whom one has close contact among respondents in the region, and availability of public transportation assessed by interviewers. Key individual time-varying or baseline attributes included gender, age, ADL/IADL, family/financial status, and number of close neighbors. Results showed that living in regions with close-knit neighborhood lowered probability of SI even after controlling for the individual characteristics, while availability of public transportation did not. Functional decline increased the probability of SI, but this negative impact was buffered by living in regions with higher availability of public transportation. Our findings indicate that urbanization does not necessarily promote SI, and that various resources are required to prevent SI according to phases of functional decline in later life.

FACTORS AFFECTING EARLY DETECTION OF MENTAL HEALTH PROBLEMS OF THE ELDERLY AND SERVICE USE IN KOREA

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Recently South Koreans over the age of 65 committed suicide at a highest rate among the OECD countries. Therefore, there is a growing interest in early detection of depressive symptoms and other mental health problems in community settings. In order to analyze the factors influencing the competency of care providers regarding mental health issues, 324 family caregivers and 291 service providers working in facilities for elderly were surveyed using a structured questionnaire in 2016 in three cities in Korea. The average score for understanding mental health of older people was 3.29 (5-point scale). Service providers had slightly higher score than the family caregivers. Family members were more reluctant

than service providers towards seeking professional help for mental issues. However, service providers had more negative perception about current mental health service delivery system. Implications for improving the accessibility to early detection and prevention of mental health problems are discussed.

USE OF PRIMARY CARE HOME VISITS FOR OLDER ADULTS IN MONGOLIA

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Older adults comprise 7% of the Mongolian population and it is projected that they will account for 25% by 2050. Health care for older adults was greatly impacted by Mongolia's transition from a centrally planned to a free market economy. In 1998, the government established universal health insurance centralized around primary health care. A key focus for older adults involved mandatory home visits by multidisciplinary teams of family doctors, nurses, and social workers. Although several studies have described the health status of Mongolian older adults, no work appears to have examined the utilization of home visits, even though this is a central component of health care. Therefore, we sought to describe the utilization of home visits among Mongolian older adults. We also examined whether use varied by socio-demographic or clinical factors. We analyzed 319 de-identified home visit questionnaires collected from all nine districts in Ulaanbaatar from older adults age 60 and above by multidisciplinary teams from the National Gerontology Center in 2016. We found that 23.9% of older adults utilized home care more than once a month, 48.1% once a month, and 28.0% less than once a month. Regression analyses indicated that those with lower incomes and those not hospitalized in the last year had the most home visits. Results imply that home visits are being accessed as intended by policy, but that older adults with low incomes have the greatest need for such visits. These trends could be explored in other health care services in Mongolia.

IMPACT OF GLUCOSE METABOLITES ON HISTONE MODIFICATIONS AND GLYOXALASE ACTIVITY IN TROPHOBLAST CELLS

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The relevance of Developmental Origins of Health and Disease (DOHaD) hypothesis, defining fetal origins for long-term health and risk of disease in adult life, has been well established. Particularly, the uterine environment and placental development encountered in fetal and neonatal life exerts a profound influence. In western society the first-birth age for women increases leading in part to higher risk of suffering from metabolic diseases like diabetes mellitus. Diabetes mellitus is characterized by high concentrations of glucose and metabolites like methylglyoxal (MGO) and glyoxal (GO).

The aim of this study was to analyze the influence of a diabetic environment associated with high levels of MGO and GO on histone protein modifications in placental cells and their cellular defense system towards glucose metabolites, the glyoxalase system.

Histone modifications were examined by LC-MS/MS. Therefore, the human trophoblast cell line AC-1M88 was cultured with 100 μ M MGO and GO for 72 hours. The exposition to MGO and GO changed the modifications on histone H3, especially on lysine 9. The functionality and regulation of glyoxalase system were examined by western blot and enzymatic assay. Trophoblast cells exposed with MGO and GO showed an increase in glyoxalase 1 protein amount and enzyme activity, indicating an active metabolic stress defense in placental cells.

Our data show that trophoblast cells challenged by aging factors (MGO and GO) changed epigenetic background to support survival through alterations in histone modifications. These changes may promote metabolic programming with consequences in later life.

ON YOUR SIDE: ONLINE SUPPORT AND EDUCATION FOR INDIVIDUALS WITH PRIMARY PROGRESSIVE APHASIA

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Primary Progressive Aphasia (PPA) is a clinical syndrome characterized by progressive loss of language affecting other cognitive domains over time. There are no approved drug treatments for PPA; however, psychoeducational support programs have been shown to improve quality of life and well-being for persons with neurodegenerative cognitive decline and their families. Persons with PPA and their families rarely have the opportunity to benefit from this type of intervention, largely due to difficulty recruiting enough members with PPA in one geographic region. A pilot online/videoconference psychoeducational support program was launched in Spring/Summer 2016 specifically for persons living with PPA to circumvent geographic limitations and improve healthcare access. Five couple dyads from the United States and Canada were recruited into the study including persons with PPA mild ($n=4$) to moderate ($n=1$) expressive and receptive language impairments and their spouse care-partners. Dyads met by videoconference for 8-weekly 2-hour sessions. Sessions included dyad education on PPA, communication strategies, psychosocial interventions followed by separate consecutive support groups for diagnosed persons and care-partners. Pre-post questionnaires measured confidence for communication abilities, life participation, mood, well-being and perceived stress. Pre-post interviews with dyads and care-partners were documented and all videoconference sessions were audio-recorded. Audio recordings and field notes were reviewed for emerging themes through inductive content analysis. Results suggest that an online videoconference psychoeducational support program for persons with mild PPA and their care partners is feasible and represents a novel solution to connect individuals with rare diseases such as PPA. Participants appreciated the opportunity to meet each other however, the variability among symptoms, age and disease knowledge impacted satisfaction, particularly for care partners. Further

research is needed to identify the ideal group composition and content.

C-REACTIVE PROTEIN PARTIALLY MEDIATES THE RELATIONSHIP BETWEEN MODERATE ALCOHOL USE AND DEPRESSION

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Moderate alcohol use has been broadly associated with health benefits among older adults, including cardiovascular benefits, reduced frailty risk, and improved mood. Reduced inflammation has been one identified mechanism by which these benefits are obtained. This study aims to: (1) evaluate the relationship between moderate alcohol use and depressive symptomatology over a period of eight years; and (2) examine inflammation, indicated by C-reactive protein, as one mechanism by which this relationship functions. The study sample included 3,177 community-dwelling respondents over the age of 65 in 2006 drawn from the Health and Retirement Study. Data from the 2006, 2008, 2012, and 2014 waves were used. Alcohol use was measured via self-report and was dichotomized as abstinent (0 drinks per week) and moderate (1–14 drinks per week); respondents who reported consuming 15 or more drinks per week were excluded. Inflammation was measured using C-reactive protein (CRP), which was collected and made available. Control variables included gender, age, body mass index, and medical burden. A latent growth curve model with full information maximum likelihood was used, with results revealing that moderate drinkers endorsed fewer depressive symptoms at baseline and a steeper rate of change over time. Abstinent respondents' depressive symptomatology was characterized by a more linear change rate. Further, moderate drinkers had lower CRP levels suggesting that inflammation partially mediates the relationship between moderate alcohol use and depressive symptomatology. Future research should identify additional mechanisms relating alcohol to positive health outcomes and less depressive symptomatology.

HOME HEALTH NURSES EXPERIENCES WITH FINANCIAL EXPLOITATION OF OLDER ADULTS WITH COGNITIVE IMPAIRMENT

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Older adult maltreatment often goes unrecognized and unreported in health care. Financial exploitation (FE), a type of older adult maltreatment, is increasing in prevalence as our population ages. Older adults diagnosed with cognitive impairment (CI) who live at home are uniquely at risk for FE due to dependency on caregivers and diminishing financial, cognitive capacities.

The purpose of this qualitative descriptive study was to explore how home health registered nurses' (HHRNs) manage the care and safety of financially exploited older adults with CI. Purposive, sequential, and snowball sampling was used to recruit 20 HHRNs who cared for older adults in the home setting in 44 out of 77 rural and urban Oklahoma counties. Qualitative 45–60 minute telephone interviews were recorded, transcribed, and analysed.

Conventional content analysis of the interviews identified five core themes: 1) Investigating FE: Compelled to Keep Looking 2) Familiar Offenders 3) FE Consequences for Older Adults with CI

4) Encountering Facilitators and Barriers and, 5) Frustrations with Systems Gaps. Overall, the HHRNs stressed that systems gaps among health care, law enforcement, and social services blocked communication and collaboration to facilitate the safety of this vulnerable group of exploited older adults with CI. This study showed that HHRNs have expert knowledge of detection, assessment, and reporting of FE of the older adult with CI. HHRNs are an untapped resource to help systems coordinate and improve detection and reporting FE of older adults with CI.

UNDERSTANDING THE ENROLLMENT TRENDS AMONG OLDER LEARNERS IN HIGHER EDUCATION IN OHIO

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Middle aged and older adults represent an increasingly important segment of the U.S. labor force. Lifelong learning is necessary to improve employment outcomes among these workers, who face rising demands for new and improved skills. Despite these trends, little is known about their patterns of enrollment at community colleges. We use data from Integrated Postsecondary Education Data System (IPEDS), which is collected by the National Center for Education Statistics. Higher education institutions provide information on enrollments, program completions, graduation rates, and other institutional data. We examine age-based enrollment trends of older learners by part-time and full-time enrollment status for students enrolled in Ohio baccalaureate colleges and community colleges from 2005 to 2015. Unlike previous research that considers all age 25+ students as a homogenous group, we divide older learners into three distinct age groups: 25–39, 40–64, and 65+. Our results show that, following the great recession, which ended in 2009, enrollments for working age older learners (age 25–39 and 40–64) increased substantially. At four-year institutions, this enrollment “bump” was largely the result of increased full-time enrollment within the age 25–39 group. At community colleges, much of this increased enrollment was driven by increases in part-time enrollment by the age 40–64 group. These increases appear to be temporary, as enrollment levels in both cases return to near pre-recession levels by 2015. Enrollment patterns for the age 65+ group generally remained consistent over this same period. We discuss the implications of these trends and their relevance to education, employment, and retirement.

AGING-IN-COMMUNITY: AGE-FRIENDLY BUSINESS BEST PRACTICES

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Age-friendly business practices are a vital part of an age-friendly city, especially in relation to the social participation, respect and social inclusion and civic participation and employment topic areas of the World Health Organization

Age-Friendly City model (Gonzales & Morrow-Howell, 2009). Age-friendly business practices represent a key way in which individuals can remain active and contributing members of society for as long as possible, which in turn strengthens the economic and social vitality of themselves and the larger community. This evidenced-based project will highlight age-friendly practices that enable older adults to fully access and engage with organizations as both customers and employees in the areas of built environment, visual/print/digital platforms, customer service, organizational culture, and employment practices. Beyond specific practices, however, this presentation will explore the importance of viewing aging-in-place at the level of community through the lens of age-friendly businesses and organizations. Just as we adapt our homes to accommodate our changing needs, so too must agencies adopt practices that support individuals' ability to participate as fully as possible. In leveraging this integration of the social and economic benefits of age-friendly business practices, age-friendly cities can prove to be sustainable and viable social constructs over the long-term.

Gonzales, E. & Morrow-Howell, N. (2009). Productive engagement in aging-friendly communities: A natural intersection. *Journal of American Society on Aging*, 33(2), 51 – 58.

BENEFITS OF A MULTICOMPONENT EXERCISE PROGRAM ON MULTIPLE DIMENSIONS OF FITNESS IN OLDER ADULTS

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There is strong evidence that regular participation in physical activity produces major health benefits in older adults. Unfortunately, current statistics show that the majority of older adults do not participate in sufficient physical activity and a large proportion (42%) are experiencing functional limitations that adversely affect the performance of everyday activities. The purpose of this study was to examine whether participation in a 12-month, twice weekly multicomponent exercise program resulted in improved functional fitness. Participants included 40 independent older adults (mean age = 67.7±5.4 yrs; 57.5% females) who were regularly participating in a twice weekly multicomponent exercise program. Functional fitness parameters were assessed at the beginning and end of participants' first year in the program using the Senior Fitness Test. This battery includes 6 tests that measure muscular strength and endurance (Chair Stand, Arm Curl), flexibility (Chair Sit and Reach, Back Scratch), dynamic balance and agility (8 Foot Up and Go), and aerobic endurance (2-Min Step Test). Paired samples t-tests or the Wilcoxon Signed Rank Test were used to analyze differences in SFT scores. Significant improvements in scores were found on the arm curl test (16.6%, p<.001), chair stand (11.9%, p<.01), up and go (7.2%, p<.05), and 2-min step test (6.6%, p=.05). There were no significant differences in flexibility scores across the 12-month period. Regular participation in a multicomponent exercise program led to positive improvements in multiple dimensions of fitness except flexibility. Positive changes in risk stratification were also evident for some measures of fitness.

IMPACT OF ADVANCED VEHICLE TECHNOLOGIES ON PERCEPTIONS OF DRIVING COMFORT AMONG OLDER DRIVERS

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There is a strong emphasis around the world for older drivers to maintain their independent mobility. Although drivers, as they grow older, more often report using self-regulatory strategies, such as not driving at night, on highways, or in bad weather, they continue to have one of the highest crash rates. Advanced Vehicle Technologies (AVTs) have much potential to improve safety, however, little is known about their impact among older drivers who actually own vehicles equipped with these systems. In this pilot study, fifteen participants (aged 50–89; 7 females, 8 males) who drove vehicles with certain AVTs were compared using the Driving Comfort Scales; a valid and reliable measure that tracks perceptions of safety in challenging driving situations. Non-parametric statistical analysis using Average Treatment Effects (ATE) showed that Adaptive Cruise Control (ACC; ATE=0.343, $p=.001$) and Blind Spot Monitoring (BSM) systems (ATE=0.272, $p=.033$) significantly impacted perceptions of driving comfort during bad weather, such as heavy rain. However, other AVTs such as Lane Departure Warning (LDW; ATE=0.222, $p=.113$) and Navigation Assistance (NA; ATE=0.158, $p=.427$) did not reach statistical significance. In terms of manoeuvres, having LDW was found to significantly influence perceptions of comfort in high pressure driving situations, such as being tailgated (ATE=0.382, $p<.001$) whereas other technologies (i.e., ACC, BSM, NA) were not found to be significant per se. These results will be discussed in the context of large cohort studies of older drivers where their comfort and self-regulatory practices in association with health and GPS patterns have been tracked across time.

POLYPHARMACY AND ASSOCIATED FACTORS IN OLDER ADULTS WITH NON-DIALYTIC CHRONIC KIDNEY DISEASE

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Introduction: Polypharmacy is an important problem to be considered in the care of the elderly. Older adults group presents greater risks to develop adverse effects of medication, considering they developed more chronic diseases, fragility and low functionality. The number of medications is the main risk factor for iatrogenesis and reactions in this population. **Objective:** To estimate the prevalence of polypharmacy and associated factors in a representative sample of older adults. **Method:** A cross-sectional study was conducted in 2014–2017 in 300 older adults residents in Belo Horizonte, Brazil. Polypharmacy was defined as the use of five or more medications. A multivariate regression logistics was used. **Results:** Of the 300 older adults, 66.3% were women, median age 71.0 years (IQ 65.0–79.0), 83.7% were hypertensive and 38.3% diabetics. The prevalence of polypharmacy was 48.3% (95% CI: 42.7%–54.0%), and increase with age ($p<.001$). Only 8.3% did not use medications, and 5.7%

used more than 11 medications. Hypertension (OR = 6.7; CI 95%: 2.7%–16.9%), dyslipidemia (OR = 5.5; CI 95%: 2.3%–12.9%), diabetes (OR = 2.7%; CI 95%: 1.6%–4.7%), caregiver presence (OR = 3.7%; CI 95%: 1.5%–8.7%) e serum creatinine level ≥ 1.3 and ≥ 1.2 mg/dL among men and women (OR = 3.2%; CI 95%: 1.1%–10.22%) were associated positively with polypharmacy. **Conclusion:** The results suggest a high rate of polypharmacy in the older adults. It is related to chronic health conditions, and identifying the groups of the elderly most vulnerable to polypharmacy can avoid complications arising from drug interactions.

DELAYED ULTRASOUND-GUIDED REGIONAL ANESTHESIA (USGRA) IN HIP FRACTURE PATIENTS

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Background: Delirium develop in 30–63% of hip fracture patients. Severe pain increases delirium nine fold. A recent meta-analysis showed patients who received Ultrasound-Guided Regional Anesthesia (USGRA) had a lower incidence, severity and duration of delirium. However, no studies describe the time to USGRA are effects of delays on outcomes in hip fracture patients. **Objectives:** To describe the time to administration of USGRA and any impact on delirium in hip fracture patients. **Methodology** This is a secondary data analysis of a clinical trial where ED MDs were randomized to training in use of USGRA vs. standard of care opioid analgesics. We reviewed medical charts for all hip fracture patients from January 2014 to October 2016 and collected the estimated time of injury. The primary outcome was the delay from triage to receiving USGRA. Secondary outcomes included ED length of stay, hospital length of stay, delays to surgery and delirium rates. **Results:** We enrolled 130 patients of which 97 were female (74%). The average age was 79 and 45 received USGRA. The average time to USGRA was 4:39 hours (h), with a range of 1:27h to 11:11h. Block time was not recorded. in 9 (20%) - 33 (64%) patients received the block in < 4:39h, and 2/33 (6.1%) developed delirium. Blocks occurred after 4:39h in 13 (34%), with delirium in 1/13 (7.7%). $\chi^2=0.035$, $df=1$, $p=0.85$). The average ED length of stay was 12:17h, the average time to OR from block was 35:00 hours, and the average hospital length of stay was 8.56 days. 88/130 patients waited > 24 hours before surgery (66.2%). Of the total 130 patients, 17 developed delirium overall. Of the 17, three received USGRA (18%) and fourteen did not (82%, $\chi^2=2.469$, $df=1$, $p=0.116$). **Conclusions:** The average time from triage to block of 4:39h represents a significant delay in the provision of analgesia in hip fracture patients, although this was not associated with increased delirium in our small sample. Given that delays to OR of > 24h occurred in 2/3rd of patients, ED USGRA would ideally be followed up by reassessment and potential top-up blocks by in-patient acute pain services. Future larger multi-center trials should test the impact of USGRA and time to block on delirium

THE ROLE OF MACROPHAGES IN NAD+ HOMEOSTASIS DURING AGING

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Nicotinamide adenine dinucleotide (NAD⁺) is a coenzyme for metabolic enzymes involved in glycolysis and mitochondrial respiration. Additionally, NAD⁺ is also an important co-enzyme for other NAD⁺ dependent enzymes (such as Sirtuin and PARP enzymes) which regulate multiple cellular processes including metabolism and stress adaptation that protects against aging. Chronic inflammation promotes and/or exacerbates aging-associated diseases such as type 2 diabetes, cognitive decline and arthritis, and may be linked to declines in NAD⁺ that have been observed during aging. In our study, we investigated the role of macrophages, key immune cells found in every tissue and organ in our body, and their link to the declining NAD⁺ levels that occur during aging. We found that treatment of macrophages with the pro-inflammatory endotoxin LPS leads to the high expression of the NAD⁺ consuming enzyme CD38 and enhanced consumption of NAD⁺. Furthermore, we found that macrophage polarization is highly sensitive to NAD⁺ levels and that blocking key pathways that regulate NAD⁺ homeostasis in macrophages has deleterious effects on macrophage activation and gene expression. Thus, we posit that in the aging process chronic inflammation is characterized by enhanced M1 macrophage activation, high expression of CD38 by inflammatory M1 macrophages and lower activation of the Sirtuin family of enzymes due to low NAD⁺ levels. We hope our project will provide important insight into how our bodies regulate important metabolites such as NAD⁺ and will provide a therapeutic approach ailments associated with aging.

SOCIAL SUPPORT, SOCIAL PARTICIPATION AND DEPRESSION AMONG CAREGIVERS AND NON-CAREGIVERS IN CANADA

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Caregiving is associated with negative health outcomes, including high depression rates. Depression is a major concern as it is a predictor of poor health status. Poor caregiver health results in an inability to provide care, affecting the care of the ill family member and increasing the risk of institutionalization. Social support and social participation have been shown to influence depressive symptoms in caregivers. Low social support and restriction in social activities are associated with higher depression scores. Previous studies used non-Canadian samples and had small sample sizes. The objective of this study was to use population-level data from the Canadian Longitudinal Study on Aging (CLSA) to investigate the relationships among social support (measured as affectionate support, emotional support, positive social interaction, and tangible support), social participation, and depression in caregivers and non-caregivers. Data from 6,674 CLSA participants was analyzed. Analysis of variance was used to assess differences in the means of social support, social participation, and depression. Path analysis was used to examine the relationships between the social variables and depression. Significant differences were found in the means of the social support domains of affectionate support, emotional support, positive social interaction, and social participation with caregivers reporting higher levels

than non-caregivers. Affectionate support and social participation were significant mediators of the relationship between caregiver status and depression. Higher levels of affectionate support and social participation were associated with lower depression scores. The study provides insight into the type of social support that is beneficial to caregivers.

SUPPRESSION OF SHC ADAPTOR PROTEIN AS A PHARMACOLOGICAL INTERVENTION TO AMELIORATE AGE-STRESS

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Advanced glycation end products have pathogenic implications towards diabetes, liver diseases and various other neurodegenerative diseases. In particular vascular complications that arise due to diabetes involves neuropathy, nephropathy, retinopathy and vitreopathy that lead to renal diseases and blindness. AGEs are endogenous products created by maillard reaction and several pathways including the glyoxalase I and aldo keto reductases are involved with detoxification of the AGEs. A recent study showed less circulating and tissue AGEs in p66Shc knockout mice compared to WT mice. A candidate genetic screen for worm orthologs of human genes associated with diabetic complications identified *C. elegans* SHC-1 as a strong modulator of pathogenic phenotypes in *glod-4* mutants (*C. elegans* model lacking a functional glyoxalase gene). These *glod-4* mutants maintain elevated AGEs, sensitivity to touch, and decreased lifespan. However RNAi against the *Caenorhabditis elegans* *shc-1* gene and Acarbose and Idebenone discovered as SHC protein binders increases the lifespan of these *glod-4* mutants. Thus we hypothesize that inhibition of SHC-1 may play an indispensable role in preventing AGE accumulation and AGE-stress. Thus in this study we propose to establish the mechanism by which *shc* modulates AGE accumulation and lifespan in *C. elegans*. Further we will study SHC inhibitors (and or diets that modulate SHC) as pharmacological intervention to ameliorate AGE-stress and increase healthspan and lifespan.

GAIT VARIABILITY AND LONGITUDINAL COGNITIVE CHANGE IN AGING

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Age-related brain changes affect timing and coordination of gait as well as cognition. Gait variability is strongly associated with cognitive function, particularly executive function, but longitudinal studies of associations between baseline gait variability and subsequent cognitive declines are rare. A sample of 141 older participants from the Baltimore Longitudinal Study of Aging (mean age=75.9±7.2; female 32.6%) underwent gait assessment including temporal (double support time, swing time, stance time, gait cycle time, step time) and spatial (step width, stride length) gait variability. They had cognitive assessments of memory, executive function, and attention concurrent with and subsequent to gait assessment. Longitudinal associations of gait variability with rate of change in cognitive function were examined using linear mixed effects models, adjusted for age, sex, education, and body mass index. To assess association independence

from gait speed, models were further adjusted for gait speed. Higher variability in all temporal gait characteristics and stride length variability were associated with a steeper rate of decline in memory (all $p < 0.05$). Higher double support time variability was also associated with a steeper rate of decline in executive function ($p < 0.05$). Longitudinal associations remained significant after further adjustment for gait speed (all $p < 0.05$). Step width variability was not associated with cognitive decline (all $p > 0.05$). Among community-dwelling older adults, temporal gait variability and stride length variability may predict memory decline independent of gait speed. Double support time variability may also predict executive function decline.

PHYSIOLOGICAL MEASURES OF FATIGUE TO QUANTIFY OLDER ADULTS' MUSCLE ACTIVITY DURING EVERYDAY TASKS

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Muscle atrophy associated with aging leads to a decline in physical abilities that adversely affects quality of life. Understanding muscle activity during everyday tasks could enable the design of more accommodating products and environments. Fatigue is defined as a reduction in a muscle's ability to exert force following repeated use such as during exercise. Electromyography (EMG) technique is used to measure a muscle's electrical activity and recent studies have demonstrated the use of EMG in measuring fatigue during more ecologically valid tasks involving healthy and young adults. We use EMG-based methods to derive a physiological measure of muscle fatigue experienced by older adults during an everyday task, namely dishwashing.

Sixty women aged 60 years and older with self-reported arthritis in the hands participated in this study. Surface EMG technique was used to collect electrical activity data from participants' Flexor and Extensor muscles in both forearms as they completed a standardized task of washing 15 dishes in a controlled environment. We analyzed EMG data using the Joint Assessment of Spectrum and Amplitude (JASA) method, which simultaneously considers changes in frequency spectrum and amplitude over time. This method allowed us to categorize participants' muscle activity into either fatigue-induced states of fatigue and recovery or force-induced states of force increase and force decrease. Results indicated that the muscle activity profiles of nearly 55% of the participants fell under one of the fatigue-induced states. Informative differences in grip strength, gait speed, and self-reported functional limitation were found between participants experiencing fatigue-induced and force-induced states.

FATIGABILITY: A WINDOW ON ANEMIA OF CHRONIC DISEASE?

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Fatigue is a hallmark symptom of anemia which in older adults typically signifies underlying disease processes and not iron-deficiency. Subjectively measured fatigue, however, may be an unreliable symptom as individuals typically equilibrate their activity levels to remain below their fatigue threshold.

Fatigability, in contrast, overcomes this limitation by providing context for fatigue and has been operationalized as the level of exertion experienced during a standardized task. Recent evidence shows that fatigability is superior to fatigue symptoms in predicting mobility decline; whether fatigability is a more sensitive indicator of prevalent and incident/persistent subclinical and clinical non-iron-deficient anemia is unknown. We evaluated the association between perceived fatigability (Borg rating of perceived exertion (RPE; range 6–20) following 5 minutes of treadmill walking at .67m/s) in 855 mobility-intact men (48%) and women aged 60–89 participating in the Baltimore Longitudinal Study of Aging. Adjusting for age, age-squared, sex, race and body mass index, each RPE increment was associated with 10% ($p = .02$) and 19% ($p < .001$) greater likelihood of prevalent age- and race-specific subclinical (24.8%) and clinical non-iron-deficient anemia (10.2%). Fatigue symptoms – tiredness and energy level – also predicted concurrent anemia status. After an average follow-up of 2.2 years, each RPE increment was associated with 9% ($p = .037$) greater likelihood of incident/persistent subclinical or clinical anemia (41.2%). No associations were found with tiredness or energy level (both $p > .4$). Fatigability appears superior to fatigue symptoms for identifying emerging or chronic non-iron-deficient anemia which may facilitate identification of persons with worsening health earlier in the disease trajectory.

OUTCOMES OF THE HEALTHY BRAIN, HEALTHY MIND PROGRAM FOR URBAN AND RURAL OLDER OKLAHOMANS

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The Oklahoma Healthy Aging Initiative (OHAI) developed the Healthy Brain, Healthy Mind (HBHM) program to improve mental and physical well-being of older adults living in rural and urban areas across the state of Oklahoma. HBHM is a four-week group intervention, with accompanying workbook containing 12 additional monthly lessons and exercises in health promotion. Based on accepted psychological principles of behavior change, HBHM addresses the impact of perceptions and mood on the desire to adopt and maintain health behaviors. The aim of this pilot project was to quantify the effect of HBHM on outcome variables such as mood, social support, sleep, and cognition as measured by the Patient Reported Outcomes Measurement Information System (PROMIS). We hypothesized mood, sleep, social support, and cognition will improve following participation in HBHM. A total of 31 community dwelling older adults across three OHAI sites in Oklahoma consented to participate in this pre post design. Post-participation change was assessed for each PROMIS measure in separate covariance structure models that accounted for correlated outcomes. All measures changed in a direction that supported our hypothesis. A significant improvement seen in scores for companionship ($p = .02$) after completion of HBHM. Regardless of demographic background, participants showed an increase in sense of companionship, suggestive of an increase in feelings

of social support. The role of demographic factors, including sex, ethnicity, and income, will be highlighted.

RESILIENCE AND SELF-ADVOCACY: AFRICAN AMERICAN AND LGBT PERCEPTIONS OF PROVIDER INTERACTIONS

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Despite differences in African American (AA) and lesbian, gay, bisexual, and transgender (LGBT) older adults, both vulnerable populations experience poorer health outcomes and barriers to care. This study's purpose is to examine resilience and self-advocacy as mediators of minority-specific sources of stress in AA and LGBT older adults. Participants self-identifying as AA (n=12) or LGBT (n=14) as older adults aged 60 or more were interviewed about their experiences in receiving care and interacting with the healthcare system for their chronic illnesses. Interviews were audio-recorded, transcribed, and deductively coded using Wagnild's definition of resilience. Per Wagnild, the elements of resilience have five essential characteristics: 1) Meaningfulness; 2) Perseverance; 3) Self-reliance; 4) Equanimity; 5) Existential aloneness. The determination to persevere was strongly evident in both the AA and LGBT older adults. Preliminary results indicate that there were examples of resilience that did not fit the definitions; in particular, the "self-reliance" and "existential aloneness" categories seemed ill-fitted to describing the family and community-oriented responses of AA and LGBT participants, and many of the examples of self-advocacy might be seen as challenging or negative behaviors by providers. While both AA and LGBT have traits of resilience signifying the ability to navigate stressful situations, the data suggests they take more actions consistent with the concept of self-advocacy. Both groups demonstrate that conventional definitions of resilience, such as Wagnild's, may not be well-aligned with their experiences. AA and LGBT older adults have learned ways of interacting with their healthcare providers that are protective, proactive, and healthy.

FACTORS ASSOCIATED WITH LONELINESS AMONG OLDER ADULTS LIVING IN LOW-INCOME INDEPENDENT HOUSING

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Among older adults the experience of loneliness can negatively influence physical health, mental health, and psychosocial functioning. Although considerable literature provides a foundation for understanding loneliness among diverse older population groups, limited work has focused on loneliness among older adults living in independent low-income housing. As part of a larger study examining health and social outcomes among residents in one urban setting, an interactionist theoretical lens was used to assess relationships between loneliness and emotional well-being, health and physical functioning, social connectedness, and sense of community among older adults in the sample (n =44). The primary aim of analysis was to identify promising points of intervention to address loneliness. Findings reveal high levels of loneliness with 48 percent endorsing frequent to severe loneliness per the UCLA Loneliness Scale. Multiple linear regression results

indicated that the four independent variables predict 28.2 percent of the variance in loneliness ($f = 5.142$; $p < .002$), but neither social connectedness, as measured by the Lubben Social Network Scale, or sense of community, as measured by the Sense of Community Index II, were associated with loneliness. However, lower quality of life due to dissatisfaction with health and physical functioning (via Ferrans and Powers Quality of Life Index) and low emotional well-being (via SF-36) were both associated with higher reported loneliness. Findings suggest that loneliness reduction interventions focused on expanding social network connections and community integration might achieve greater leverage if residents are also supported to better cope with health issues, functional limitations, and emotional distress.

CARING FOR ABUSIVE PARENT AND MENTAL HEALTH: THE MEDIATING ROLE OF SELF-ESTEEM

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Background and Objectives: This study aims to examine a sample of filial caregivers in order to investigate whether and how a history of childhood abuse affects caregivers' mental health (i.e., depressed affect, psychological well-being, and life satisfaction). This study also purports to examine the mediational role of self-esteem between caring for an abusive parent and mental health outcomes.

Research Design and Methods: Using the 2004–2006 National Survey of Midlife Development in the United States, data from 219 filial caregivers were analyzed. A series of ordinary least squares (OLS) regression and mediational analyses were conducted to estimate the direct and indirect effects of providing care for an abusive/non-abusive parent on negative affect, psychological well-being, and levels of life satisfaction.

Results: Key results showed that providing care to an abusive parent was associated with greater depressed affect and lower levels of life satisfaction. In addition, self-esteem served as a significant mediator: providing care to an abusive parent was associated with lower self-esteem, which was, in turn, ultimately associated with greater depressed affect, diminished psychological well-being, and lower levels of life satisfaction.

Discussion and Implications: Filial caregivers with a history of childhood abuse should be acknowledged as a high-risk group of caregivers so that they may gain attention and support for targeted interventions. Additionally, evidence-based intervention programs (e.g., improving self-esteem issues) should be designed and implemented to address this group's unique challenges and concerns.

SARCOSINE IS UNIQUELY MODULATED BY AGING AND DIETARY RESTRICTION IN RODENTS AND HUMANS

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A hallmark of aging is a decline in metabolic homeostasis, and these adverse changes can be attenuated by dietary

restriction (DR). However, the impact of aging, DR and their interaction on the metabolome, is not clear.

Fischer 344 x Brown Norway F1 rats were provided ad libitum (AL) or DR (60% AL) access to food from 3 to 6 months of age (YAL and YDR), or lifelong until 22 months (OAL and ODR, $n=8/\text{group}$). Additionally, serum was obtained from dwarf mice and a cohort of younger and older humans consuming a western or DR diet, and metabolomic analyses were performed.

In rat plasma and tissues, several metabolites changed with aging, particularly glycerophospholids and sphingolipids, which were markedly prevented with DR. Interestingly, a comparative screen of metabolite changes in rodents and humans identified circulating sarcosine as similarly reduced with aging, while DR prevented this age-related decline in both species ($P<0.05$). Furthermore, we identified sarcosine as markedly elevated in long-lived Ames dwarf mice ($P<0.05$). Finally, we show that sarcosine can directly and potentially activate macroautophagy in mouse fibroblasts in a dose-dependent fashion ($P<0.05$).

In summary, these data provide a unique perspective on the complexity of metabolomic changes with aging and DR in mammals, and the potent ability of DR to oppose age-related shifts to the metabolome. Furthermore, we have identified circulating sarcosine as uniquely elevated in rodents and humans by DR, as well as in dwarf mice. Finally, we confirm this biogenic amine may be an activator of macroautophagy by DR.

PREDICTORS OF END-OF-LIFE PLANNING: HEALTH AND RETIREMENT STUDY

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Previous end of life (EOL) research found that White elders were more likely than non-Whites to have advanced care plans, but generalizability of those findings may be limited by sampling characteristics. Goals were to replicate these findings using a large nationally representative sample of older adults. Sample included 1625 proxy-respondent dyads from the Health and Retirement Study (mean age=80.1 years; mean education=12.1 years). Dichotomized demographic variables included gender (52% female), race (82% White), ethnicity (7% Hispanic), and religion (95% religious). Other variables were relationship status, cancer diagnosis, and medical comorbidity as defined by the presence of one or more of the following: hypertension, heart disease, lung disease, diabetes, stroke and arthritis. The criterion variable was presence of EOL instructions. Results of a binary logistic regression were that respondents who were older ($b=0.004(0.001)$, $p<.001$), more educated ($b=0.28(0.04)$, $p<.001$), non-Hispanic ($b=-0.79(0.23)$, $p=.001$), non-religious ($b=-0.77(0.29)$, $p=.01$), less healthy ($b=0.10(0.04)$, $p=.01$), White ($b=-1.48(0.68)$, $p=.03$), or had a cancer diagnosis ($b=0.46(0.12)$, $p=.003$) were more likely to have provided EOL instructions. The main effects of gender ($b=0.07(0.12)$, $p=.53$) and relationship status ($b=-0.05(0.12)$, $p=.68$) as well as the interaction of race with religion ($b=0.54(0.70)$, $p=.44$) did not significantly predict whether the respondent had a living will. Primary findings that cultural and health-wise considerations are relevant for EOL planning support past work. Further studies need to

evaluate possible mediators that might influence the relation between multiple demographic variables resulting in different outcomes for EOL planning among different groups with diverse clinical presentations.

RESILIENCE AND SELF-ADVOCACY IN AFRICAN AMERICAN AND LGBT OLDER ADULTS CHRONIC ILLNESS CARE

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Despite differences in African American (AA) and lesbian, gay, bisexual, and transgender (LGBT) older adults, both vulnerable populations experience poorer health outcomes and barriers to care. This study's purpose is to examine resilience and self-advocacy as mediators of minority-specific sources of stress in AA and LGBT older adults. Participants self-identifying as AA ($n=12$) or LGBT ($n=14$) as older adults aged 60 or more were interviewed about their experiences in receiving care and interacting with the healthcare system for their chronic illnesses. Interviews were audio-recorded, transcribed, and deductively coded using Wagnild's definition of resilience. Per Wagnild, the elements of resilience have five essential characteristics: 1) Meaningfulness; 2) Perseverance; 3) Self-reliance; 4) Equanimity; 5) Existential aloneness. The determination to persevere was strongly evident in both the AA and LGBT older adults. Preliminary results indicate that there were examples of resilience that did not fit the definitions; in particular, the "self-reliance" and "existential aloneness" categories seemed ill-fitted to describing the family and community-oriented responses of AA and LGBT participants, and many of the examples of self-advocacy might be seen as challenging or negative behaviors by providers. While both AA and LGBT have traits of resilience signifying the ability to navigate stressful situations, the data suggests they take more actions consistent with the concept of self-advocacy. Both groups demonstrate that conventional definitions of resilience, such as Wagnild's, may not be well-aligned with their experiences. AA and LGBT older adults have learned ways of interacting with their healthcare providers that are protective, proactive, and healthy.

SEX DIFFERENCES IN HERITABILITY-BY-AGE INTERACTION ON DEMENTIA RISK IN THE SWEDISH TWIN REGISTRY

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Heritability estimates describe the proportion of variability in a trait attributed to genetic differences in a population in a given context. Secular improvements in environmental conditions across the 20th century may interact with genotype, thus leading to our hypothesis that genetic influences on dementia risk would be greater in recently born men and women versus earlier born men and women. We drew a sample of 5,970 complete sets of monozygotic (MZ) and dizygotic (DZ) twin pairs (MZ Male: 610; DZ Male: 971; MZ Female: 933; DZ 1,571, and DZ Opposite Sex: 1885) who met criteria for dementia or were cognitively intact in 4 aging studies of the Swedish Twin Registry. Dementia diagnosis was determined based on

in-person workup and medical records (using DSM-IV criteria for dementia, and NINCDS-ADRDA criteria for AD) or individual-level data from the Swedish National Patient Register and Cause of Death Register. Twin correlations were calculated using a modified twin-correlation model that allowed birth year to moderate MZ, same-sex DZ and opposite-sex DZ twin correlations to explore sex differences in underlying genetic and environmental influences on dementia risk. In women, heritability estimates ranged from .52 to .79 from earliest to recent birth years. In men, heritability estimates ranged from essentially 0 to .72 from earlier to more recent birth years. Overall, twin correlations were lower at earlier than at more recent birth years. Genetic influences on dementia risk appeared to be greatest in recently born men compared to all women and earlier born men.

IMPACT OF AGE GROUP AND PSYCHOSOCIAL FACTORS ON QUALITY OF LIFE AMONG PERSONS LIVING WITH HIV

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As persons living with HIV (PLWH) live longer, HIV care has transitioned to chronic disease management with an important objective of maintaining satisfactory quality of life (QOL). The goal of this study was to compare mental and physical QOL between older and younger PLWH, and to identify factors associated with improved QOL within each age group. This cross-sectional study was conducted in a sample of PLWH enrolled in a randomized clinical trial in Kaiser Permanente Northern California evaluating a behavioral intervention to reduce alcohol use (N=614) and used both medical record and survey data. QOL was assessed by the SF-12 and included physical health summary (PHS) and mental health summary (MHS) scores, both with values between 0–100, with higher values representing better QOL. Multivariable linear regression was used to investigate the association between QOL and demographic, clinical, and psychological factors by age (18–50 and 50+ years). Participants were predominantly male (97.1%), non-Hispanic white (62.7%), and included 304 participants age 50+ and 310 participants <50 years of age. For PLWH age 50+, significant predictors of physical QOL were employment status ($\beta=-6.3$, $p<0.0001$) and depression ($\beta=-6.0$, $p<0.001$), and significant predictors of mental QOL were alcohol or other substance use ($\beta=-6.5$, $p<0.0001$), depression ($\beta=-7.9$, $p<0.0001$), and anxiety ($\beta=-13.4$, $p<0.0001$). Depression was significantly related to QOL among PLWH in both age groups. Results highlight age group differences in predictors of QOL, as well as the importance of treating depression and substance use in order to maintain QOL for older PLWH.

HEALTH AND DISABILITY INSURANCE AMONG PERSONS WITH MULTIPLE SCLEROSIS

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Persons with Multiple Sclerosis (MS) have a life expectancy 6–7 years less than those without the disease, but disability increases with disease duration and often limits ability to work. Access to personal insurance, including health (HI), short- and long-term disability income (STD, LTD), long-term care (LTC), and life insurance (LI), is largely employer-based or purchased out of pocket from earnings. Maintaining or losing employment can cause concern regarding the cost and coverage of insurance, especially for those over 50 years of age, for whom keeping employment may be challenging at best.

US residents, diagnosed with MS (18–65) were surveyed through the North American Research Committee on MS (NARCOMS), iConquerMS, and the NMSS about current types and sources of insurances, employment status, and concern about maintaining insurance.

2507 eligible respondents completed an online survey regarding current insurance and demographic information: mean 53.5(8.5) years old, 82.9% female, 3.8% Hispanic/Latino, 91.2% Caucasian, 65.4% married, mean disease duration 16.4 years; 61% of those under 50 years old were employed (vs. 34% >50 years). Most (96.3%) had HI, 58.8% LI, 35.9% LTD. Those under 50 were more likely to have STD (27% vs. 14%) and attend a MS Center (41% v. 33.5%), and less likely to have LTC insurance (7.5 vs. 10.5%). Respondents (56%) reported concern over maintaining employment to keep insurance, with no difference by age group. The concern of maintaining employment in order to ensure continuing coverage of all insurance types may impact employment decisions and lead to stress within families of people with MS.

INVESTIGATING PROTEIN HOMEOSTASIS IN C. ELEGANS AND C. BRIGGSÆ STRAINS USING MASS SPECTROMETRY

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Protein homeostasis is highly relevant in the context of aging and several age-related diseases. We are interested in monitoring changes in the insoluble protein compositions, the insolubome, in worms at different stages of the adult worm starting from Day 2. We are analyzing samples from different *C. elegans* and *C. briggsæ* strains, including long-lived and 'wild'/non-laboratory strains. These include N2 and JU775 strains from *C. elegans* and AF16 and HK104 from *C. briggsæ*. We chose these strains as the median life span of these strains are very different with N2 having a median life span of 16 days and HK104 having a median life span of 30 days. Protein lysates are harvested from worms at days 2, 10 and at the day corresponding to the median life span (e.g. at 17 or 20 days etc.). Each time point is processed in multiple biological replicates. We analyze the 1% SDS insoluble fraction and prepare them for mass spectrometric analysis on a TripleTOF 6600. Our mass spectrometric workflow uses a combination of data-dependent acquisition (DDA) and data-independent acquisitions (DIA/SWATH), which allows for both protein identification and quantification. With these datasets many comparisons can be made, the insolubome pattern can be compared between different

days for each worm strain and in addition determining differences between strains.

CONTENT VALIDITY OF THE PROFESSIONAL GOOD PRACTICES SCALE IN NURSING HOMES

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There is a lack of research regarding institutional older people's abuse. The few studies developed to date have mainly focused on explicit forms of abuse, such as physical, financial and psychological. However, subtle forms of abuse have not received a suitable attention, especially in institutional settings.

The objective of this study was to develop a preliminary version of an innovative scale that evaluates professionals' good practices in Spain, since the lack of them can be considered as an indicator of abuse.

An extensive literature review of the instruments that assess older people's abuse was done. 58 items were developed, including reverse-scored and direct-scored items. The items were divided into 4 subscales, based on Kayser and Jones' (1990) types of violence: Personalization, Humanization, Not Infantilization, and Not Victimization.

The adequacy of the items to the instrument was assessed by a panel of 5 experts in gerontology. We used Rovinelli and Hambleton's index of item-objective congruence to analyze items' inclusiveness in the assigned category, and the paired comparison task to assess the level of item relevance and clarity. Values over .70 were considered adequate. The results showed that 91.37% items were clear, 93.19% were relevant and 98.28% fitted in the assigned category. Considering this, two items were deleted and six were re-written. As a result, the scale Not Infantilization contained 6 items, Personalization 12, Humanization 16, and Not Victimization 22 items. This scale will contribute to the detection and development of intervention programs that promote good practices in nursing homes.

ADVANCED GLYCATION ENDPRODUCTS (AGES) AT THE NEXUS OF AGING, DIABETES, AND NEURODEGENERATION

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Aging and hyperglycemia results in an accumulation of a series of reactive α -dicarbonyl compounds (α -DCs, e.g. glyoxal/GO, methylglyoxal/MGO, 3-deoxyglucosone/3DG) and α -DC-derived metabolites, called advanced glycation end products (AGEs). AGEs form due to the reaction of α -DCs with proteins, lipids, and DNA causing cellular stress linked with specific age-related processes, diabetic complications and neurodegeneration. Therefore, preventing α -DC and AGE buildup is of quintessential importance for slowing aging and limiting the progression of various age-related diseases. A major bottleneck in understanding the biochemistry behind the progression of these complications, and hence rapid drug development, is the lack of genetically tractable models that can recapitulate the

effects of α -DC and AGE accumulation in a short time frame. To that end, we have established a *Caenorhabditis elegans* model based on an impaired glyoxalase gene to study α -DC and AGE-related pathologies. These animals exhibit several phenotypes reminiscent of diabetic complications, such as accumulation of MGO and AGEs, and hyperesthesia (or hyper sensitivity to touch), within two weeks of adulthood. Most interestingly they demonstrate increased age-related neuronal damage and shortened lifespan. Using this model we have identified a critical role for TRPA-1, a transient receptor potential (TRP) channel in sensing MGO and activating Nrf2 (Nuclear factor erythroid-2 like 2, or NFE2L2) to counteract the effects of AGEs. A preliminary drug screen using this model has resulted in 2 promising compounds that can ameliorate AGE-related pathologies in *C. elegans* through TRPA-1/SKN-1 activation. We propose to use *C. elegans* as an invertebrate model to study the effects of AGE accumulation within two weeks which can take years to develop in humans, to allow rapid discovery of genetic and pharmacological targets relevant to aging and age-related diseases where AGEs play an important role.

FACTORS SHAPING CARIBBEAN NURSE MIGRATION AND THE IMPACT ON LONG-TERM CARE

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Current and projected shortages of nurses in long term care (LTC) settings in the United States, have resulted in increasing employment of foreign educated (FE) nurses (Redfoot & Houser, 2008); an estimated 31% (18,290) of FE RNs and 88% of FE LPNs (5,280), worked in LTC facilities (Smith & Crawford, 2004). The Caribbean is one of the top regions in Low and Middle Income Countries (LMIC) sending nurses to supply the U.S. LTC workforce (MacLean et al., 2014). To advance our understanding of factors shaping this migration, a systematic review was conducted. PubMed and CINAHL were searched between September-November, 2016, supplemented with the snowball method, and gray literature retrieved from key stakeholder organizations (e.g., ICN, WHO). Article reviews were conducted using the matrix method by Garrard (2014). Themes identified included push and pull factors, and economic impact of nurse migration. Pull factors were better remuneration, improved working conditions, and opportunities for professional advancement while push factors included poor remuneration, lack of professional development and stressful working conditions. Migration resulted in a loss of US\$ 15–20 million invested by Caribbean countries in training nurses. Evidence suggests that among foreign-born nurses, lapses in patient safety are linked to breakdowns in communication in destination countries. Nurse migration creates a chasm between health systems of developed and developing countries and failure to address this issue will result in growing health disparities and greater challenges in meeting the health needs of the growing elderly populations in both developed and developing countries.

DECISION-MAKING INVOLVEMENT AND CARE VALUES OF AFRICAN AMERICAN PERSONS WITH DEMENTIA

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Decision-making involvement of persons with dementia (PWD) has been associated with the PWD's quality of life, underlines personhood and can reduce ethical dilemmas for family caregivers (CG) and clinicians (Menne, Judge, & Whitlatch, 2009; Miller, Whitlatch, & Lyons, 2016). Previous research has found the CG's perception of the PWD's care values are significantly associated with how involved the PWD is in decision-making (Reamy, Kim, Zarit, & Whitlatch, 2011; Reamy, Kim, Zarit, & Whitlatch, 2013). Yet, no known study has examined the relationship of care values and the older adult within African American (AA) culture. Using multivariate linear regression, we examined cross-sectional data collected from 57 AA dementia dyads (PWD and CG). The PWDs, on average, were 77.4(7.7) years old and CGs were 60.4(13.2) years old. Twenty nine percent of the dementia dyads were spousal caregivers. Results indicate the PWD was significantly more likely to perceive themselves as having greater involvement in decision making when the CG reported that the PWD valued autonomy ($\beta = 0.38 \pm 0.16$, $t = 2.42$, $p = .19$) and when the PWD valued not being a burden ($\beta = 0.53 \pm 0.19$, $t = 2.76$, $p = .008$). Type of CG and living status were not significantly associated with the PWD's perception of decision-making involvement. Our findings suggest the importance of understanding the perception of both the PWD and CG. Future research is needed to examine decision-making within the context of the AA dementia dyad and the impact on the quality of life of both the PWD and CG.

LONGITUDINAL EFFECTS OF OWN AND PARTNER DEPRESSIVE SYMPTOMS ON MULTIMORBIDITY IN AGING COUPLES

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Multimorbidity (i.e., multiple chronic conditions) among middle-aged and older adults is an increasingly prevalent public health concern. Depressive symptoms are linked to a heightened risk of multimorbidity, yet little is known about mutual influences between depressive symptoms and chronic health conditions that may occur within aging couples. Utilizing a U.S. sample of 1,038 consistently married heterosexual couples ($M = 63.51$ years at baseline) drawn from five waves (1996 – 2014) of the nationally representative Health and Retirement Study (HRS), we examined the effects of wives' and husbands' baseline depressive symptoms (as assessed by the 8-item CES-D) on their own and their partner's number of chronic conditions across an 8-year period. We also considered whether these links varied by gender. Dyadic growth curve models controlled for baseline length of marriage and marital quality along with age, education, minority status, body mass index, disability status, alcohol use, smoking status, and physical activity. For wives and husbands, elevated depressive symptoms at baseline were

significantly linked to an overall higher number of chronic conditions. Beyond these associations, when wives had elevated depressive symptoms at baseline, husbands reported significant increases in their number of chronic conditions over time. This study demonstrates that depressive symptoms are linked to multimorbidity within aging couples, and that wives' depressive symptoms may have long-term negative health consequences for husbands. Findings highlight the value of considering the health effects of depressive symptoms in middle and later life from both individual and couple perspectives.

MIDLIFE BMI TRAJECTORIES AND RISK OF FRAILTY AMONG ELDERLY IN TAIWAN: A 8-YEAR COHORT STUDY

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In previous studies, the relationship of body weight and frailty was under debate. Obesity paradox was noted in some studies and most of them used traditional cohort study ignoring the weight change effect during the follow-up years. This is the first study in Asia using group-based model of trajectory to estimate body mass index trajectories among elderly and the association with frailty. Data were retrieved from the Taiwan Longitudinal Study on Aging. This study was conducted from 1999 to 2007. Analysis was restricted to respondents who were not frail in 1999 and still survived in 2007 ($n=1609$). Frailty was defined using Fried criteria. Four trajectory classes were identified and each remained no change across 8-year follow up. There were 316 participants (20.3%) in the low-normal weight group with mean final BMI=20.25kg/m², 737 participants (44.7%) in the high-normal weight group with mean final BMI=23.4kg/m², 449 participants (28.4%) were in the overweight group with mean final BMI=26.7kg/m² and 107 participants (6.6%) in the obesity group with mean final BMI=31.4kg/m². After adjustment of gender, age, level of education, income, social participation, self-rated health, health behaviors and major comorbidities, consistent low-normal weight group [Odds ratio (OR) = 1.839; 95% confidence interval (CI) = 1.072–3.155] and obesity group [Odds ratio (OR) = 2.038; 95% confidence interval (CI) = 1.023–4.058] were associated with increased frailty compared to high-normal weight group. Our results showed that consistent low-normal weight group and obesity group are associated with risk of frailty.

SOCIAL CARE-RELATED QUALITY OF LIFE IN OLDER PEOPLE WITH MULTIMORBIDITY

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Many instruments are available to evaluate outcomes of care and support services for older people living in the community. These instruments focus predominantly on health-related quality of life (e.g. Short Form 12 Health Survey). Recently, alternative perspectives on measuring outcomes of care and support services have gained more attention. An example is the Adult Social Care Outcomes Toolkit (ASCOT) assessing social care-related quality of life (SCRQoL). With this tool, SCRQoL is measured across eight domains considered relevant to older people, such as control over daily life, personal safety, social participation and dignity. So far, insight in the impact of socio-demographic and lifestyle factors on SCRQoL in older people is still limited. To increase our knowledge, we used cross-sectional data from the Dutch study 'National Monitor Pioneer sites', consisting of 2,724 older people with multimorbidity living at home, of whom 2,221 completed the ASCOT. The study participants were on average 81.4 years old, and 42.9% of them were male. They had an average SCRQoL score of 0.793 (scores between -0.171 and 1.00, with higher scores reflecting better SCRQoL). Multiple regression analyses demonstrated an effect of physical activity ($\beta = 0.318$, $p < 0.001$), age ($\beta = -0.143$, $p < 0.001$) and education ($\beta = -0.046$, $p = 0.039$) on the SCRQoL score, with less active, older and lower educated participants reporting lower scores. These findings may help professionals and policy-makers to tailor interventions to specific groups of older people based on their socio-demographic and lifestyle characteristics, in order to optimize their SCRQoL.

FOOD INSECURITY, DEPRESSION, AND DIABETES AMONG U.S. OLDER ADULTS

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Food insecurity is a global problem. Access to sufficient nutrition is essential components of physical and emotional health. Those who are experiencing food insecurity are at high risk for poor blood glucose control and diabetes. Food insecurity is also a risk factor for depression. Additionally, a body of research has shown strong associations between depression and diabetes. Unfortunately, limited data is available to conclude how food insecurity may impact the association between diabetes and depression.

Using a nationally representative sample of U.S. older adults (age 65 and greater) from the 1999–2014 National Health and Nutrition Examination Survey ($n = 71,916$), we examined the association between food insecurity, depression, and diabetes among the U.S. older adults. Experiencing food insecurity was strongly associated with increased odds for diabetes (OR 1.41; 95% CI: 1.11–2.24), and elevated risk for depression (OR 1.20; 95% CI: 1.10 – 4.43). Having food insecurity increased the likelihood of having both depression and diabetes by 2-fold (OR 2.34, 95% CI: 1.35–4.42). Considering the negative impact of food insecurity on diabetes and depression, identifying older adults who experience

food insecurity may be an important step to managing diabetes and depression better.

PRESENCE OF ELDER INJURY IN CRIME: FINDINGS FROM 2014 NIBRS DATA

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Emergent research in elder abuse has sought to understand the occurrence of physical injury among older victims of abuse, specifically focusing on categorization of abuse and comparison of injuries in intentionally injured versus accidentally injured older adults. Driven by a focus on forensic markers and justice system outcomes, these findings have been pushing forward the understanding of abusive injuries in older adults by justice and law enforcement practitioners. This growing body of knowledge has revealed one important missing piece: the frequency with which injuries surface in older adults who have been victimized. This study uses 2014 NIBRS data ($N = 1,070,147$) to evaluate how frequently crimes reported to law enforcement in the United States have resulted in visible, physical injury to victims aged 60 years and older. The data used in this study are based on law enforcement reports from 33 states, and have been modified to include crimes that are likely to result in injury: rape/sexual assault, robbery, aggravated assault, simple assault, burglary, purse-snatching. Preliminary results indicate that 4.34% of all criminal incidents reported had older adult victims. Among older victims ($n = 530,574$), injuries were reported in 44.32% of cases as opposed to 51.54% of cases involving adults less than 60 ($p < .0001$). Although the field has experienced progress in terms of categorizing injuries when they appear as a result of abuse, there is dire need to understand the prevalence of these injuries. This has the potential to improve criminal justice practice and improve outcomes for older victims of elder abuse.

COMPARISON OF SURVIVAL AMONG OLDER ADULTS TREATED VERSUS NOT TREATED WITH CHRONIC DIALYSIS

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Background: Treatment options for older adults with kidney failure generally include chronic dialysis or non-dialysis (conservative) care. Previous comparisons of survival for dialysis and non-dialysis care patients have been limited to those referred to nephrology, with considerable differences in characteristics between those treated and not treated with dialysis.

Objective: To compare time to all-cause mortality among older adults with kidney failure treated versus not treated with chronic dialysis.

Methods: We conducted a population-based retrospective cohort study, using administrative and laboratory data to identify adults aged ≥ 65 in Alberta who experienced kidney failure from 2002 to 2012. Kidney failure was defined by ≥ 2 consecutive outpatient estimated glomerular filtration rate (eGFR) of $< 10 \text{ ml/min/1.73m}^2$ spanning a period of ≥ 90 days. The index date was the first eGFR that met

the 90-day criteria. The exposure-outcome relationship was examined using Cox regression modelling with propensity score matching to account for baseline differences in demographics and comorbidities between treatment groups.

Results: 838 patients met cohort inclusion criteria. 386 (46.1%) were included in the final propensity score matched cohort (mean age 80.2, 44.8% male, mean eGFR 7.8ml/min/1.73m²). 78.2% of adults in the non-dialysis group and 67.9% in the dialysis group died. The hazard ratio within 3 years of follow-up was 0.62 (95% CI 0.45–0.84), suggesting a potential survival benefit among those treated with dialysis.

Conclusions: Among older adults with similar characteristics treated and not treated with chronic dialysis, dialysis may confer a survival benefit. These findings have important implications for informing clinical decision-making.

THE ROLE OF SOCIAL CONTACT IN THE ASSOCIATION OF AGE AND WELL-BEING

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Social network structure has been found to change across the lifespan. Particularly in later life, emotional well-being could benefit from smaller social networks comprised of familiar and close social partners, as suggested by socioemotional selectivity theory. This study examined the potential role of social contact in psychological well-being in different age groups. Data were collected in 2016 in a suburb of Tokyo's metropolitan area in Japan via mail surveys. The sample consisted of 3,852 Japanese adults (55% female) ranging in age from 18 to 93 ($M = 54.5$, $SD = 17.7$). Participants in four age groups (under 40, 40–64, 65–74, and 75 plus) were used as comparisons. The potential interaction of social contact with age and psychological well-being was tested using PROCESS macro for SPSS. Among three age groups (under 40, 40–64, and 75 plus), age was associated with a significant decrease in the frequency of social contact with friends or neighbors. However, only among older age groups (65–74 and 75 plus), age was associated with a significant decrease in the frequency of social contacts with family members who are not living together. Interestingly, despite the decreases in the frequency of contact, among all four age groups, social contact with friends or neighbors was a stronger predictor of psychological well-being than social contact with family members. Our findings suggest that fewer social contacts with familiar social partners, such as friends and neighbors, can still contribute to maintaining psychological well-being, particularly in older age.

THE FEMALE SURVIVAL ADVANTAGE DIMINISHES PROGRESSIVELY WITH AGE IN GENETICALLY HETEROGENEOUS MICE

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The female survival advantage is one of the most robust characteristics of human longevity, but the underlying biological mechanisms are unknown. Inbred mice are overwhelmingly used in biogerontological research, but their susceptibility to strain-specific diseases and lack of a consistent female survival advantage limit their usefulness to

understand sex differences in aging. Genetically heterogeneous mice can be used to overcome the limitations of strain-specific pathology and other traits. Our objective was to determine whether genetically heterogeneous mice exhibit a female survival advantage similar to that of humans. We therefore examined mortality in >3000 male and female UMHET3 mice -- a 4-way cross of genetically divergent inbred strains: Balb/cByJ, C57BL/6J, C3H/HeJ, and DBA/2J. These mice were the control populations for testing potential lifespan extending drugs in the NIA Intervention Testing Program. Median lifespan was greater in female mice in every cohort (6) examined. Moreover, the decreased mortality risk of females was not uniform across age groups; it peaked around 400 days and diminished progressively thereafter--becoming negligible after attainment of median lifespan. This progressive diminishment of the female survival advantage parallels that of humans. Of note, age-specific mortality of males differed significantly across the 3 sites of drug testing, whereas that of females did not. These results indicate that genetically heterogeneous UMHET3 mice have sex differences in mortality that parallel those in humans and that this model can be used to probe the mechanisms for sex differences in aging and responses to interventions. (Supported by NIA and Glenn Foundation Fellowship (CJC)).

THE RELATIONSHIP OF AGE, LONGEVITY AND COMORBIDITY IN OLDER ADULTS

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The number of older adults living with multiple disease conditions is increasing. The purpose of this study was to investigate the relationship of age, longevity, and comorbidity in 319 participants (103 men and 216 women), 60 to 107 years of age ($M = 85.27$), from the Georgia Centenarian Study. Of those participants, 232 were White, 87 were Black. Of the 319 participants, this study has 295 confirmed death dates. A comorbidity index was calculated for each participant based on the Charlson Comorbidity Index (Charlson, 1987). Two blocked multiple regression analyses were computed to first examine the relationship of comorbidity as the dependent variable and age, gender and race/ethnicity as independent variables. Second, the relationship of comorbidity as the dependent variable and age at death as a longevity index, gender and race/ethnicity as independent variables was assessed. In the first regression, age ($\beta = .73$, $p < .001$) was positively associated with comorbidity, whereas gender and race/ethnicity were not significant. In the second regression, age at death as a measure of longevity was positively associated with comorbidity ($\beta = .40$, $p < .001$) suggesting that comorbidity is a consequence of longevity. Once again, gender and race/ethnicity were not significant. These findings are important in our understanding of comorbidity in older adults. As age-specific mortality rates decline and the average life expectancy nears 80 years, understanding the influence of chronic conditions is more imperative than ever before.

OLDER WORKERS: CHANGES IN EMPLOYMENT ARRANGEMENTS, JOB CHARACTERISTICS, AND HEALTH

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The aging of the workforce in the U.S. and many other countries is having a profound impact on how we conceptualize and approach occupational safety and health. The purpose of this study was to examine how work arrangements, job characteristics, and health vary across the working life. Data came from the 2014 General Social Survey (GSS) which is conducted as a face-to-face interview and provides a representative sample of the U.S. adult population. In 2014, a 76-item quality of work life module was administered to a sample of 1,240 workers in order to examine a broad range of working conditions and health measures. Analyses compared 5 age groups (18–34, 35–44, 45–54, 55–64, 65+), controlling for other demographic factors. Older workers (i.e., 55+ years) were more likely to be part-time employees, independent contractors, work mainly from home, or in small businesses. They were less likely to be permanent employees or in jobs that required mandatory overtime. In terms of perceived job characteristics, older workers reported less job stress, higher levels of job satisfaction, greater autonomy, and more supervisor support than young or middle-age workers. For health measures, older workers were less likely to be injured at work and reported fewer days missed because of mental health issues. However, they were more likely to miss work because of physical health issues. No consistent pattern emerged for back or arm pain. Results are discussed in terms of implications for the field of occupational health and the goal of designing “age-friendly” workplaces.

ASSOCIATIONS BETWEEN THE NOVEL JUMP TEST, GRIP STRENGTH AND PHYSICAL PERFORMANCE: THE MROS STUDY

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Novel task-based and body-weight bearing jump tests assess maximum muscle power capacity and may differentially relate to physical performance vs. standard muscle function tests, though these are not well-studied. We evaluated these relationships in the Osteoporotic Fractures in Men (MrOS) Study. Muscle function tests included hand-held dynamometry grip strength (kg) and jump peak power (Watts/kg body weight), force (Newton/kg body weight) and velocity (m/s) at peak power. Physical performance included 400m walk completion (seconds), 6m usual walk (m/s), and 5 repeat chair stands (seconds). Of men attending clinic visits (N=1,841; aged 85.0 ± 4.5 years; 10% minorities), 68% had valid jumps (N=1,242). In age, race, site and height adjusted Pearson correlations, jump power/kg was moderately correlated with all performance measures (range: r=0.42–0.48). Jump velocity was moderately correlated with 400m walk time (r=0.43). All other correlations were weak including grip strength with all jump and performance measures (r<0.40; all p<0.001). In linear regression with standardized β coefficients adjusted for age, race, site, height, falls history, hip/joint pain, cognition and comorbidities, 1 SD lower jump power/kg was associated with worse: 400m walk ($\beta=0.48$), 6m walk ($\beta=0.43$), and chair stands ($\beta=0.41$) (all p<0.001).

Lower jump velocity results were similar (400m walk: $\beta=0.45$; 6m walk: $\beta=0.40$; chair stands: $\beta=0.37$), whereas lower jump force/kg and grip strength were more weakly associated with performance (range: $\beta=0.21$ –0.25) (all p<0.001). Compared to grip strength and force/kg, stronger associations with performance for jump power/kg and velocity may indicate these are more sensitive predictors for functional loss in the oldest men.

MOBILITY AND NEUROMUSCULAR ATTRIBUTES AMONG OLDER ADULTS WITH OBESITY, DIABETES, AND HYPERTENSION

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Metabolic syndrome (MetS) is an independent risk factor for mobility decline among older adults. However, the mechanism by which MetS causes mobility disability remains unclear. We aimed to (1) investigate the association between the absence/presence of two MetS conditions (diabetes, hypertension) and obesity and mobility measures (i.e., gait speed, Short Physical Performance Battery [SPPB] and Late Life Function and Disability Instrument [LLFDI]), and (2) determine whether this potential association is mediated by neuromuscular attributes (i.e., strength, velocity, trunk extensor endurance, knee and ankle range of motion [ROM] impairment and sensory loss). Participants from the Boston RISE study (n=430) were assessed for neuromuscular attributes and mobility measures at baseline. We further classified participants as having none, one, two, or three of the following conditions: diabetes, hypertension, and/or obesity. Regression models revealed those with a greater number of conditions had worse performance on the SPPB (p=0.01), slower gait speed (p=0.0003) and lower LLFDI basic and advanced lower limb function (p<0.003). These associations were independent of age, race, sex, depression, and cognition scores. Additionally, the number of conditions were found to be independently associated with lower limb strength (p=0.0002) and knee ROM (p<0.0001). Mediation analysis revealed that lower limb strength and knee ROM partially mediated the association between the number of conditions and mobility outcomes. These results indicate that prevention of mobility disability among older adults with MetS and/or obesity may need to integrate rehabilitative interventions to improve leg strength and knee ROM.

THE SUSTAINABILITY OF SENIORS' EXERCISE BEHAVIOR THROUGH FAMILY SUPPORT

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The purpose of this study was to investigate the sustainability of seniors exercise behavior through family support applying the theory of planned behavior (TPB). More specifically, family support was incorporated in the TPB to better comprehend seniors' exercise behavior and provide practical implications for older adults to participate in the exercise consistently. Convenience sampling was employed to collect data from seniors (N = 214) who are over 65 years old. The researchers collected data using the convenience sampling

method. The on-site survey was carried with seniors aged over 65 years old who live in Seoul, Ilsan, Cheonan, Daejeon, and Jeonju, South Korea. Total 250 questionnaires were distributed, and 214 valid questionnaires were collected after eliminating 36 respondents with missing and dual information. Based on the result of CFA, it found that the model fit did not fulfil the scientific criteria: $\chi^2(260) = 521.04$, $\chi^2/df = 2.21$, CFI = .91, TLI = .89, RMSEA = .07 (Hair, Black, Babin, & Anderson, 2010). The results found that attitude, subjective norm, and perceived behavioral control had positive influences on seniors' exercise intention, which is, in turn, positively affected their exercise behavior. Moreover, perceived behavioral control had a positive effect on seniors' exercise behavior. Also, perceived behavioral control positively predicted exercise behavior. Finally, family support had a positive influence on seniors' attitude, yet had no direct effect on their exercise intention.

FACTOR STRUCTURE OF THE SHORT-FORM HEALTH SURVEY (SF-36) IN A SAMPLE OF OLDER ADULTS IN COSTA RICA

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The Short-Form Health Survey (SF-36) is a self-administered questionnaire that consists of physical health component cluster and a mental health component cluster (Ware and Kosinski, 2001). Research using a Spanish version of the SF-36 instrument have been conducted in Spanish-speaking countries (Augustovski et al., 2008), however, the applicability of the SF-36 has not been examined in Costa Ricans. Given the heterogeneity of sociocultural differences among in Latin America, we aim to examine perception of health-related quality of life using the SF-36 in a sample of neurotypical older adults residing in Costa Rica. 254 participants (Male=611; Female=193) completed the spanish-version of the SF-36 questionnaire. Participants were older adults residing in San Jose (n = 176) and Guanacaste (n = 78). Participants were neurotypically healthy. Those with history of neurological conditions and major psychiatric disorders were excluded. Results showed a statistically significant correlation ($r=0.938$; $p<.001$) between the Physical Composite Summary (PCS) and Emotional Composite Summary (ECS). Confirmatory Factor Analysis (CFA) indicated that using lower level constructs had an acceptable fit (RMSEA = 0.039) which suggests that a single factor model is a feasible representation of the SF-36 in this sample. These data suggest that older adults in Costa Rica did not differentiate between physical and emotional well-being. Our findings indicate that in the CR sample the two-factor model (mental and physical composite health) does not hold up, instead, it appears that individuals in CR perceive health as a single construct. Exploring the role of cultural factors is essential in understanding the results.

CLINICIAN INSIGHT ON INJURY CHARACTERISTICS SUGGESTIVE OF PHYSICAL ELDER MISTREATMENT

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INTRODUCTION: Physical elder abuse can be difficult to identify and substantiate, particularly if victims are physically or cognitively unable to report the abuse. Although recent work has progressed the field, the field remains underdeveloped compared to other family violence (FV) fields. The purpose of this study is draw upon the expertise of FV experts to identify injury characteristics suggestive of physical elder mistreatment.

METHODS: Data were collected from physically-abused Adult Protective Services (APS) clients (n=52) and a comparison group of non-abused elders (n=97). Physical exams were conducted to identify injuries and collect data on their diagnosis, location, and characteristics. FV reviewed data and commented on whether they believed injuries were attributable to abuse. Content analysis was used to analyze clinician comments to identify injury characteristics suggestive of abuse.

RESULTS: Injury location was commonly cited in clinician abuse determinations with those occurring in protected areas being deemed highly suggestive of abuse, as were injuries to the ear, torso, and neck. Defensive injuries were often attributed to the upper extremities. Among individuals with multiple injuries, clinicians also considered injury planes and healing stages, such that those on multiple planes and in multiple stages of healing were suggestive of abuse.

CONCLUSION/IMPLICATIONS: Study implications are applicable to all aging service providers. Elders presenting with injuries to protected or defensive areas, over multiple planes, and in multiple stages of healing may be victims of physical elder mistreatment. If abuse is suspected, providers may contact local APS or law enforcement for assistance with intervention and investigation.

AGE DIFFERENCES IN SOCIAL INTERACTIONS AND SOMATIC SYMPTOMS IN DAILY LIFE

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Social interactions exert influences on health in daily life. Less is known, however, about age differences in the associations between different aspects of social interactions and daily health. This study examines how daily within-person fluctuations in the quality and quantity of social interactions relate to fluctuations in somatic symptoms for adults from different age groups. For seven consecutive days, participants (n=179; aged 20–79) reported on their most recent social interaction at five random times throughout the day and completed a checklist of somatic symptoms at the end of the day. Data were analyzed using multilevel models, controlling for demographics, overall health and perceived social support, as well as the momentary physical health and affect. The results suggested that social interaction quality was associated with fewer health symptoms for older and middle-aged adults but not for younger adults. That is, for older and middle-aged adults, on days when they experienced more pleasant or less unpleasant social interactions than usual, they also reported fewer health symptoms at the end of that day. In addition, when people did report one or

more symptoms (as opposite to no symptom), the quantity of social interactions (frequency) was associated with reduced severity and frequency of symptoms that day, albeit only for younger adults and not for middle-aged and older adults. Together, these results highlight the influence of different aspects of social interactions on daily health for adults from distinct age groups: for younger, it's the quantity; for older, it's the quality.

FAMILY CAREGIVING AND CHANGE OF RETIREMENT PLAN AMONG CANADIAN FAMILY CAREGIVERS

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As one critical consequence of family caregiving for aging people, the literature of its impact on retirement is growing. Evidence has shown that considerable number of family caregivers changes their retirement plan to better perform caregiving tasks, but more work is needed to explore this relationship. Current study, based on the General Social Survey 2012 (Cycle-26)- Caregiving and Care Receiving, tries to build more knowledge of the effect of family caregiving on retirement planning. As a result, about 11% family caregivers change their retirement time due to caregiving responsibilities. The result of binary logistic regression (with standardized weight) shows that, when controlling the demographic information of both caregiver and care recipients, family caregivers with higher level of life accommodation (e.g. less time with children and spouse, adjustment in leisure activities and social participation, etc.), work accommodation (e.g. reduce working hours, take extra un-paid leave, etc.) and caregiving intensity are more likely to make change of retirement plan. Among those caregivers who change their retirement plan, about 57% retire earlier than their expectation, and 43% retire later. Results of binary logistic regression (with standardized weight) indicate that family caregivers who are female, with lower level of education and personal income, less workplace support are more likely to retire earlier than expectation. The findings of current study emphasize the importance to support the family caregivers with risk of retiring earlier, since retire earlier may increase their life burden in the aspects of financial competency and social activity.

EVALUATIONS OF TRAFFIC-RELATED COGNITIVE FUNCTION OF JAPANESE OLDER ADULTS BY VIRTUAL REALITY SYSTEM

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The purpose of this study was to examine whether there is a reduction in traffic-accident-related cognitive function of older Japanese adults compared to that of young people. We developed a traffic simulator for the CAVE-type virtual reality system. The simulator enables its user to feel immersed in 3D CG by tracking sensors and multiple screens surrounding him/her, and thus we are able to safely investigate people's behaviors in various traffic situations. The participants

were 20 older adults (14 males and 6 females) and 20 young adults (18 males and 2 females). The average age of the older adults was 70.6y (sd=3.4y), and that of the young adults was 23.1y (sd=1.8). We measured the minimum safe distances (MSD) between the participants and an approaching vehicle when they crossed a street. Student t-test was used to determine any significant differences between two groups. The results of this study were: (1) Regardless of the color (white or blue), size of vehicle (average-sized or truck) or time (daytime or evening), there are differences between the MSDs at the speed of 30km/h and 50km/h for young adults ($P<0.01$). (2) there were no differences between the MSDs at the speed of 30km/h and 50km/h for older adults except that of white average-sized vehicle in daytime ($P<0.01$). We conclude that there is a significant decline of the cognitive function of elderly adults compared to young adults.

UNSETTLING CHRONOMETRIC AGE AND DESERVINGNESS: TRACING OLDER REFUGEES' AGE DOCUMENTS INTO US SYSTEMS

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Chronometric definitions of old age in U.S. welfare policy govern access to resources. When applied to older refugees, such metrics obscure the losses of displacement and challenges of resettlement in later life. In this poster, I trace the trajectory of age documents of refugees from overseas into U.S. systems. My purpose is to unsettle the logic of using chronometric age in bureaucracy, which contributes to the problem of older refugees failing to meet US age norms of employability or deservingness. My findings are based on 20 months of ethnographic fieldwork at a program for refugee "seniors" (60+) in Chicago, Illinois. Refugees become categorized by birthdates found in their documents acquired in a variety of bureaucratic contexts. Despite its frequent use among bureaucracies, chronometric age references implicit local and national cultural norms. Thus, refugees arriving in the US become subject to a process of translation into understandings of later life that affect their economic conditions. Refugees with limited resources waiting to become eligible for Supplemental Security Income at age 65 demonstrate the violence of a "joyless and indifferent regime" by which in "a single tick of the clock, one finds oneself in another category" (Baars 2012:32). As scholars of critical gerontology have suggested, the institutionalization of the life course is a major dimension of social inequality (Kohli 2007:261). These issues apply acutely to older refugees and point to a need for more critical attention to the enrollment of chronometric age standards in processes of inequality.

MAINTENANCE OF THE LONGEVITY FACTOR, HSF1, IN LONG LIVED MICE

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Exceptional longevity in humans and other species appear to be linked to a vigorous cellular stress response that is otherwise suppressed with normal aging or frailty. Most studies thus far have evaluated serum and tissue levels of the heat shock proteins. Centenarians exhibit low levels of plasma hsp 70 whereas frail elderly manifest high hsp 70 plasma

levels. In addition to altered baseline heat shock protein levels with age, the transcriptional induction of the heat shock response is profoundly attenuated by age. Most notably, the transactivator of the heat shock response, HSF1, appears to decline in its DNA binding properties with normal aging.

To further understand the effect of age on HSF1 regulation, various tissues from normal and long-lived mice were analyzed for HSF1 protein levels, mRNA transcripts, and HSF1 - protein interactions. Through semi-quantitative Western blot analysis, different levels of HSF1 protein were expressed in various organs, with heart, kidney, and liver exhibiting the highest protein levels and muscle and brain the lowest. In liver and brain, Wild Type (normal) mice lost, on average, 20% more HSF1 protein with age in comparison to Ames Dwarf mice, indicating HSF1 levels were sustained in Dwarf mice. Unlike other rodent models, baseline HSF1-DNA binding complexes were not observed in either normal-aged or Dwarf mice, suggesting that neuro-endocrine stress during animal sacrifice does not influence HSF1 dynamics in the mouse model of exceptional longevity. To understand preservation of HSF1 levels in long lived mice, protein-protein interactions and post-translational modifications were assessed. These data indicate for the first time that healthy lifespans are linked to HSF1 levels, thus raising the question whether the rate of aging can be reduced by sustaining a critical threshold of functional HSF1.

PREDICT - PREDICTING EMERGENCY DEPARTMENT INCIDENT DELIRIUM WITH AN INTERACTIVE COMPUTER TABLET

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Background: Delirium is common and potentially lethal. Unfortunately, delirium recognition is poor- 75% of Emergency Department (ED) cases are missed.

Objectives: We previously developed a “serious game” using participants’ game performance to evaluate delirium risk. Our goal is to validate this algorithm against the delirium severity index (DSI).

Methods: This is multi-center prospective observational trial included an English and French version. We included patients ≥ 65 years of age and excluded those with critically illness, pain $\geq 6/10$, or communication difficulties. Consenting participants played the serious game and then had DSI and Montreal Cognitive Assessment (MOCA) assessed by trained research assistants. We used logistic regression to assess the relationship between a game score based on > 800 data points and DSI ≥ 4 , controlling for age and sex.

Results: We enrolled 306 participants from 3 Canada provinces -92.3% of completed the game. Their average age was 75.9 and 48.7% were women. Their median MOCA score was 23. There were 24/306 patients with a DSI ≥ 4 out of a possible 21 points. Their mean game score was 0.70 (95% CI 0.63–0.78) vs. 0.61 (95% CI 0.60–0.63) for participants with a DSI < 4 . The odds of having a DSI ≥ 4 increased 1.89 for

each 0.1 increase in game score (95% CI for OR = 1.4–2.7, $p < 0.001$).

Conclusions: The odds of having a DSI ≥ 4 significantly increased with game scores. The vast majority of older ED patients could use our game. Given current poor clinical delirium recognition, our “serious game” may help improve delirium recognition.

HOSPITALIZATION COSTS OF FAILURE TO THRIVE PATIENTS

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Failure to Thrive (FTT) has been referred to as a general diagnosis that can pre-emptively end efforts to treat what may be modifiable conditions. Manifestations of FTT can include weight loss, poor nutrition, physical inactivity, and decreased appetite. There is currently a shortage of literature examining the costs of acute hospitalizations for FTT. To better understand the hospitalization costs of FTT as a primary diagnosis versus as a secondary diagnosis, we compared patients 50 years and older with FTT using the Healthcare Cost and Utilization Project’s National Inpatient Sample (NIS) data from the Agency for Healthcare Research and Quality. NIS represents all-payer, encounter-level hospital care data and is weighted to yield national estimates of hospital inpatient stays. A total of 10,000 patients were coded as having a primary diagnosis of FTT and 278,900 with a secondary diagnosis of FTT. The mean hospital stay costs were \$8,515.08 for patients with a primary diagnosis of FTT and \$13,344.00 for those with FTT as a secondary diagnosis. Among all patients diagnosed with FTT, males had higher total mean cost of hospital stay than females; Asian/Pacific Islanders had the highest costs between races; costs increased as estimated median household income of residents in the patient’s zip code increased. Study results have health policy implications and may help inform hospital practices related to the care of FTT patients.

AGEING, IMMUNE SYSTEM AND LIFE SATISFACTION

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Immunosenescence is characterized by functional and cell components restructuring, whereas the T cells are the most harmed. To understand the connection of peripheral inflammatory markers to brain health and neuroinflammation may help in the comprehension of the inflammatory markers’ role in brain ageing process decay or brain health decay. In this study, we analyzed immune function markers, cognitive performance and life satisfaction on 87 community elderly, age $M = 75.62$ (11,63), schooling $M = 7.92$ (4,05). The cognitive performance was tested by a battery (MMSE, CDR, Clock Drawing, Semantic and Phonetic Fluency, CERAD’s Word List, evocation and recognition, WAIS-III Digit Span, Trail Making B, Boston Naming-Reduced), depressive symptoms were measured by GDS-15, and life satisfaction, by the SWLS scale. Mononuclear cells of peripheral blood were isolated and the lymphocytic subtypes, CD3+, CD4+, CD8+, CD45+ and CD4/CD8, assessed by flow cytometry. There was negative correlation of T cells CD4/CD8 relation with

age ($r = -0.445$; $p < 0.05$), i.e., the older the lesser immune system activity. Participants' age increase is associated with CD4 ($r = -0.473$; $p < 0.01$); CD3 ($r = -0.401$; $p < 0.01$); CD45 ($r = -0.399$; $p < 0.01$) activity decrease. Life satisfaction correlated positively with age ($r = 0.266$; $p < 0.05$), the same occurred to the CDR scale ($r = 0.530$; $p < 0.01$). It was not observed direct correlation between life satisfaction and CDR with lymphocytic activity. This small sample's findings evidenced that age alters the immune system's lymphocytic subtypes activity. The age increase related to immune activity decrease and better life satisfaction, but there was no relation between life satisfaction and lymphocytic activity or cognitive status.

NEUROIMAGING OF FACE PROCESSING IN CLINICALLY DIAGNOSED EARLY STAGE DEMENTIA OF THE ALZHEIMER TYPE

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In Alzheimer's disease (AD), non-verbal skills often remain intact for far longer than verbally mediated processes. Four (1 female, 3 male) participants with early-stage Clinically Diagnosed Dementia of the Alzheimer Type (CDDAT) and eight neuro typicals (NT) (4 females, 4 males) completed the emotional valence determination test (EVDT) while undergoing bold BOLD fMRI. We expected CDDAT participants to perform just as well as NTs on the EVDT, and to display increased activity within the bilateral amygdala and right anterior cingulate cortex (r -ACC). We hypothesized that such activity would reflect an increased reliance on the structures to compensate for ongoing neuronal loss in the frontoparietal regions due to the disease. We used DTI to determine if white matter damage had occurred in frontoparietal regions as well. CDDAT participants had similar behavioral performance and no differences were observed in brain activity or conductivity patterns within the amygdala or r -ACC. Decreased fractional anisotropy values were noted, however, for the bilateral superior longitudinal fasciculi and posterior cingulate cortex. We interpret these findings to suggest that emotional valence determination and nonverbal skill sets are largely intact at this stage of the disease, but signs foreshadowing future decline were revealed by possible white matter deterioration. Understanding how nonverbal skill sets are altered, while remaining largely intact, offers new insights into how nonverbal communication may be more successfully implemented in the care of AD patients and highlights the potential role of DTI as a presynaptic biomarker.

BRIDGING COMMUNITY AND CLINICS TO STRENGTHEN LATE-LIFE DEPRESSION COLLABORATIVE CARE

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Background: Late-life depression is common and comes at a high cost to patients and their families. While collaborative care is effective in reducing depression among older adults, much remains to be learned about how to reach and engage this population in depression care. This study examines an innovative approach (Care Partners) that partners primary care clinics, community-based organizations, and family when implementing collaborative care. Methods: In-depth

interviews were conducted with 33 key informants (e.g. care managers, physicians, project leads) from seven Care Partners sites in California. Additionally, focus groups were held at annual meetings and documents from sites (e.g., quarterly and annual progress reports) were reviewed. The goal was to understand the challenges and successes associated with implementing the innovative collaborative care model while focusing on how care delivery occurs within and vary across sites. Data Analysis: Researchers identified preset and emergent codes using NVivo qualitative software. Using qualitative thematic analysis, major themes relating to collaborative care implementation and delivery were developed. Results: Data from year one of a two-year study found that successful implementation and care delivery are contingent upon a variety of factors including: depression care as an organization's core value, buy-in from key stakeholders, existing infrastructure. Additionally, ongoing communication, role negotiation and flexibility of key staff and integration of services are essential components of successful collaborative partnerships. Implications: Recommendations on best practices for building collaborative partnerships across primary care clinics and community organizations will be presented to stakeholders potentially shaping the future direction of mental healthcare.

PSYCHOLOGICAL WELL-BEING IN ELDERLY AFRICAN AMERICAN WOMEN VOLUNTEERS

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One of the goals of a community-based participatory research project, "Engagement and quality of life in underrepresented older adults" involving the Senior Companion Program (SCP) and IU School of Medicine, was to assess the psychological wellbeing of the senior companions (SC). We used the NIH Toolbox measurement of psychological wellbeing because of the comprehensive nature of the questionnaire consisting of 3 subdomains--positive affect, general life satisfaction and meaning and purpose as well as allowing comparison with age and gender matched cohort from the NIH Norming Study.

Questions from the psychological domain were tested for acceptability with a small group African American SC. Of the original 33 items, SC recommended 14 as most useful. 60 SC participated ($n=1$ male), therefore, only women were included in this comparison. Mean age was 70.1 (SD.7.6 years), 48 were African American.

Results from the SC responses to the 14-item questionnaire were compared to a cohort of 261 women >60 years (mean=71.5) from the NIH Norming Study. Scores on psychological wellbeing and all subdomains from the SC group were significantly higher ($p < .0001$) than those from the Toolbox cohort. When the responses of the 48 African American SC were compared to a subsample ($n=24$) of Toolbox African American women >60 years, the SC had higher scores in all domains but reached significance for the meaning and purpose subdomain only ($p < 0.0005$).

Volunteering in SCP appears to have beneficial effects on elderly African American women. We invite discussion of the implications of our results.

FREQUENCY OF FOOD GROUPS CONSUMPTION IS RELATED WITH FRAILTY IN ELDERLY: FROM KASHIWA STUDY

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Inadequate nutrition intake is considered as an important factor for developing frailty which lead to poor health outcomes in elderly. Recently whole diet approach and food diversity studies were conducted instead of focusing on a single nutrient since food and meals contain interacting elements. However, it is still unknown what kind of food consumption pattern is influential to frailty. Thus, the purpose of this study is to assess the relationship between food groups consumption and frailty in community-dwelling elderly. We used baseline data from a cohort study in Kashiwa city, Chiba prefecture, Japan. The participants were randomly selected from elderly aged 65 years old and over who were non-eligible for long-term care. We assessed frequency of each food group consumption by self-administered questionnaire. Food was divided into 10 groups: meat, fish, eggs, dairy products, soy beans, vegetables, fruits, seaweed, potatoes and fried foods. Frailty was defined using Kihon checklist (a Japanese Frailty Index). Binary logistic regression analysis was run to examine the association between food groups and frailty. Among 2,003 participants (mean age was 73.0 ± 5.6), 186 (9.3%) participants were classified as frail group. In logistic regression model, low consumption of meat (OR 1.46, 95%CI 1.05–2.04), fish (OR 1.46, 95%CI 1.06–2.01) and soy beans (OR 1.52, 95%CI 1.05–2.22) were positively associated with frailty. Frail elderly tended to eat less meat, fish and soybean which are among protein foods group, suggesting that increasing frequency of regular protein foods group intake might be essential in prevention of frailty progression.

IMPROVING CHRONIC DISEASE MANAGEMENT FOR LOW INCOME ELDERS VIA FEDERAL INTERAGENCY COLLABORATION

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While “livable communities,” also called “communities for a lifetime,” have expanded recently, they have not focused on low-income populations. This project, started during a Health and Aging Policy Fellowship, encouraged collaboration among federal agencies providing health, housing, transportation, and social services to improve chronic disease self-management education (CDSME) programs serving low-income under-served communities. Based at the Administration for Community Living, the project team partnered with the Departments of Housing and Urban Development and Transportation, and Health

Resources and Services Administration (via Federally Qualified Health Centers [FQHCs] and Health Workforce Development). All of these agencies serve vulnerable populations and have an opportunity to expand service to elders. Each agency serves people with chronic diseases (e.g. diabetes, heart disease, asthma, depression, anxiety), who would benefit from chronic disease self-management education (CDSME) programs. The project focused on evidence-based CDSME programs serving affordable housing residents, and aimed to expand the capacity of federal agencies to deliver these programs to elders and adults with disabilities. Steps included: reviewing literature on inter-agency partnerships, conducting stakeholder discussions, developing a webinar to highlight exemplary CDSME partnerships, as well as identifying facilitators and barriers to successful partnerships. The webinar highlighted exemplary evidence-based CDSME programs serving affordable housing residents in partnership with FQHCs, transportation, and social services. Approximately 1,360 people from multiple disciplines registered for the webinar, indicating significant interest in this current topic. The webinar included audience polling questions about facilitators and barriers to successful collaboration. The poster will present polling data as well as policy and practice recommendations.

ASSISTIVE TECHNOLOGY NEEDS AND EXPERIENCES OF FAMILY CAREGIVERS

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Family caregivers provide 75% of care needed for individuals with disabilities to remain in their communities. Many family caregivers in Canada experience negative health, social and financial outcomes. Innovative solutions (or interventions) are needed that can ameliorate the deleterious aspects of caregiving and foster positive ones. Therefore, we conducted a study with the following objectives: (i) to identify the specific needs of family caregivers, especially aspects of caregiving situations that caregivers find most difficult to manage or would like improved; and (ii) to identify preferences and priorities of caregivers for the development of technological solutions to address these areas. We conducted qualitative interviews with a purposive sample of 47 family caregivers of older adults or older adults who are family caregivers. Participant age ranged from 43 to 76, with a mean age of 63, and 75% were women. Our analysis identified three main themes: i) caregiver responsibilities explored their day-to-day caregiving activities; ii) strategies to address identified technologies that could potentially help caregiver needs; and iii) caregiver challenges revealed the physical and psychological struggles associated with caregiving. These findings emphasize the complexity of care provision, problems identifying and accessing solutions, and the need to develop effective and innovative approaches. This study offers a framework for future user-centred design research that involves

caregivers as active partners. Our findings will inform the development of novel interventions and support policy changes to make care provision easier.

P49/STRAP TARGETS PGC-1 GENE AND MODULATES MITOCHONDRIAL FUNCTION IN AGING

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Introduction: p49/STRAP (SRFBP1) is a serum response factor (SRF) binding protein, which regulates many genes. p49/STRAP has a SRF binding domain and a BUD22 domain (which modulates growth and cell size). In addition, p49/STRAP alters the intracellular NAD/NADH ratio and induces protein deacetylation.

Hypothesis: Alteration of NAD/NADH ratio by p49/STRAP might affect acetylation and deacetylation of histone proteins, which may impact the transcription of a number of genes that are involved in energy metabolism and mitochondrial respiration, thereby affecting cardiac function in aging.

Methods and Results: p49/STRAP overexpression or knockdown was performed using plasmid or siRNA. Seahorse XF96 Flux Analyzer was used to measure mitochondrial respiration and glycolysis.

p49 overexpression caused deacetylation of histone H4 on lysine 16 (H4K16); knockdown of p49/STRAP increased H4K16 acetylation. PPAR gamma (PPAR γ) Coactivator-1 (PGC-1) is an important regulator of mitochondrial genes. P49 repressed PGC-1 α expression, while P49 siRNA increased the PGC-1 α expression. p49/STRAP also repressed mitofusin 1 and 2 genes. Knockdown of p49/STRAP increased the expression of mitofusin 1 and 2 genes. MitoTracker staining revealed that p49/STRAP reduced the mitochondrial membrane potential and the mitochondrial size. Furthermore, p49/STRAP repressed mitochondrial basal respiration, maximal respiration and spare respiration capacity.

Conclusion: p49/STRAP caused the deacetylation of histone H4K16 and repressed the expression of multiple genes related to mitochondrial structure and function, including the PGC-1 α gene. Repression of PGC-1 α could affect PGC-1 transcriptional networks in the cardiac muscles. The age-associated increased cardiac expression of p49/STRAP may contribute to mitochondrial functional decline in the heart during senescence.

LEFT VENTRICULAR FUNCTION IN CENTENARIANS: FINDINGS FROM THE DANISH 1915-WEST BIRTH COHORT STUDY

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Heart failure (HF) is prevalent in old age and associated with functional declines. Data from echocardiographic centenarian studies are scarce. A previous centenarian study found that approximately 20% and 70% had impaired systolic and diastolic functions, respectively. Studies of 85+ year olds

using in-home echocardiography found similar frequency of diastolic dysfunction. However, different settings and classification methods were applied in the studies.

With the demographic shift towards an increasing proportion of oldest-old, the prevalence of HF is forecasted to increase further, leading to a rise in morbidity, mortality, and societal costs.

The 1915-West Birth Cohort study is population-based with no exclusion criteria: Eligible were all persons turning 100 years old from January to December, 2015 and living in the western part of Denmark. In-home, including nursing home visits were carried out. Out of 185 eligible to in-home echocardiography, 125 (68%) participated, of whom 94% (n=117) had normal left ventricular ejection fraction. Diastolic function was defined as in current guidelines (2016) and persons with atrial fibrillation/flutter were excluded. Among persons with sinus rhythm (n=105, 84%), diastolic dysfunction was present in 60%.

Our study confirms earlier findings that diastolic dysfunction is highly prevalent in the oldest-old. Furthermore, this study extends these findings, as it reflects a population-based representative sample of centenarians. The current treatment of diastolic dysfunction is symptomatic. Cardiac assessment in the very old is important to improve our understanding of cardiac function during ageing and to initiate preventive treatment, which can be beneficial even initiated at old age.

ELECTROCARDIOGRAPHIC ABNORMALITIES AND ALL-CAUSE MORTALITY IN CENTENARIANS

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Data on electrocardiographic (ECG) characteristics in centenarians are scarce. Our aim was to examine ECG and its clinical relevance in a cohort of centenarians. The Tokyo Centenarians Study took place from 2000 to 2002, and 304 centenarians living in the Tokyo metropolitan area were recruited based on the basic resident registry. All participants were assessed to determine their socioeconomic status, previous medical histories and present medical conditions by trained geriatricians. Among them, a total of 171 centenarians (43 male, 128 female), who were performed standard 12-lead ECG was included in the analysis. Non-fasting venous blood sample was obtained and N-terminal pro-brain natriuretic peptide (NT-proBNP) and asymmetric dimethylarginine (ADMA) were measured with standard procedures. We followed them for all-cause mortality by annual telephone contact or mail survey by December 2016. As a result, 22.2% of centenarians had major ECG abnormalities, which included old myocardial infarction (1.2%), left-ventricular hypertrophy (11.7%), pacemaker rhythm (1.8%), atrial fibrillation (8.2%), and second degree AV block (1.2%). In contrast, 23.4% of centenarians had normal ECG. Those who had major ECG abnormality had significantly higher levels of NT-proBNP and non-significant higher levels of ADMA compared to their counterparts. By using Kaplan-Meier survival curve analysis, centenarians with major ECG abnormality had higher all-cause mortality

(the log-rank $p=0.047$), while those who had normal ECG had a significantly lower mortality (the log-rank $p=0.003$). In conclusion, centenarians who have major ECG abnormality had higher levels of NT-proBNP and higher mortality, while those who exhibited normal ECG had survival advantage.

BEHAVIORAL THERAPIES FOR INSOMNIA IMPROVE NOCTURIA IN OLDER WOMEN VETERANS

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Background: Nocturia is common in older women with chronic insomnia disorder. Few studies have examined nocturia symptoms and treatments in older women veterans. This study assessed changes in nocturia frequency associated with behavioral interventions for insomnia in older women veterans. **Methods:** In the context of an ongoing comparative effectiveness trial of two behavioral interventions for insomnia conducted at a VA medical center among women veterans, data from baseline, post-intervention, and 3-month follow up for participants aged ≥ 55 years were analyzed. Measures included self-reported nocturia frequency in the past month (0–5+/night) and degree of bother from nocturia (4-point scale; 0=not at all, 3= a lot). Nocturia frequency responses were categorized as nocturia (≥ 2 times/night) versus no nocturia (< 2 times/night). Differences in the proportion of participants with nocturia and degree of bother (post-intervention vs. baseline; 3-month follow-up vs. baseline) were examined with two-sample test of proportions and t-tests, respectively. **Results:** 36 participants (mean age 63, range 55–91 years) completed all or part of their assigned intervention. At baseline, 23 (64%) participants had nocturia. Nocturia decreased post-intervention (11 [33%], $p=.011$) and at 3-month follow-up (7 [25%], $p=.002$ vs. baseline). Degree of bother mean scores decreased from baseline to post-intervention (1.43 vs. 0.75, $p=.014$) and 3-month follow-up (1.56 vs. 0.89, $p=.031$). **Conclusions:** Nocturia frequency and degree of bother improve with behavioral interventions for insomnia. These results suggest that a sleep-focused, non-pharmacological strategy for treating nocturia may be effective and indicate a need for a trial examining such a strategy.

MORTALITY AND ASSOCIATED RISK FACTORS IN COMMUNITY-DWELLING PERSONS WITH EARLY DEMENTIA

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This study examined mortality in relation to baseline characteristics amongst participants in a longitudinal study of persons diagnosed with early dementia ($N = 143$). Department of Veterans Affairs' health records were used to collect participant mortality outcomes, for a standardized

six-year observation period. Study measures assessed participant: demographics; functioning (Inventory of Activities of Daily Living; Tinetti Gait and Balance); cognitive- (Mini-Mental State Examination [MMSE], Trails-Making Test B) and dementia-related (Clinical Dementia Rating [CDR]) factors; as well as medication use (categorized into cholinesterase-inhibitors and confusion-related medications). Bivariate analyses examined associations with baseline characteristics and mortality. A series of Cox proportional hazard models were conducted examining associations with baseline variables, both in univariate as well as multivariable models (controlling for age and gender, where appropriate). Over the six years of study follow-up, 48.3% of participants died. The mean time to death was 2.98 years ($SD = 1.44$), with a minimum of 54 days and a maximum of 5.91 years. Across all univariate models, only the model including the MMSE was statistically significant. Multivariable model results indicated female gender and higher cognition (as measured by the MMSE) were associated with a reduced likelihood of death, controlling for other factors. This study examined mortality in persons with early dementia living in the community, and associations with baseline factors. Cognitive decline was significantly associated with mortality, even amongst persons early in the course of dementia. Findings underscore the terminal nature of dementia, frequently underappreciated by family and caregivers in the community.

HEALTHSPAN MEASURES IN A WESTERN DIET CONDITIONED, IRRADIATED RODENT MODEL OF ACCELERATED AGING

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Deteriorating metabolic and physical function play significant roles in declining healthspan, however most animal models of aging rely on single gene mutations and few demonstrate translationally relevant multi-system decline. This study is the first to compare healthspan measures (metabolic and physical function) in rodents on a high-fat diet exposed to sub-lethal doses of whole body irradiation (IR). Four week old male and female C57/BL6 mice consuming a western diet (17% protein, 35% fat, 48% carbohydrate) were randomized as IR or control (CTL). At 8 weeks, IR mice received 7 Gy total body irradiation (Cobalt60, divided as 2 fractions delivered at 357 rad/min), with metabolic assessments evaluated at early (4 weeks) and late (12–16 weeks) post-exposure time-points ($n=6$ /group/time-point). Delayed effects of irradiation included significantly higher fasting glucose at both time-points ($p\leq 0.01$) and worse insulin sensitivity (AUCITT; $p=0.10$) with comparable body weights between groups. Physical function outcomes were assessed late, with IR resulting in functional deficits that were 23% lower on average across 6 function tests ($n=8$ –12/group). IR mice scored significantly worse on the 4-limb hang time test measuring muscular endurance ($p=0.02$) and on a composite performance score ($p<0.05$). Measures were co-varied by body weight which was comparable between groups. As hypothesized, IR mice demonstrated poorer glucose metabolism and physical function relative to control non-irradiated mice. This work adds support to the use of IR mice as a model of accelerated aging.

MODULATION OF P300 FUNCTION IMPROVES HEALTHSPAN AND LIFESPAN IN C. ELEGANS

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Aging causes a gradual decline in normal physiological functions and represents a significant risk factor for several key diseases. Key environmental factors, including diet, play an important role along with genetic factors in determining lifespan. The sirtuins are a family of histone deacetylases that target histone and non-histone proteins for removal of acetyl groups from lysine residues. A gain of function of Sir2 (*S. Cerevisiae*), or its orthologs in other species, is associated with increased lifespan and healthspan. We asked whether the enzyme controlling the opposite reaction, the histone acetyltransferase p300/CBP might also influence lifespan. We indeed observed that a p300/CBP inhibitor and/or loss of p300/CBP function changes specific acetylation patterns and influence lifespan, muscle function, stress response and reproductive fitness in aged *C. elegans*. These findings highlight the potential regulatory role of p300/CBP on the aging process.

ATTITUDES TOWARDS BURDENSOME MEDICAL INTERVENTIONS IN NURSING HOME RESIDENTS WITH ADVANCED DEMENTIA

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Advanced dementia is a terminal condition. Foregoing burdensome interventions such as artificial nutrition or admission to hospital at the end of life is part of high-quality palliative care. In advanced, decisions regarding such interventions are made by health care proxies (HCPs). Different attitudes in HCPs and nurses regarding burdensome interventions might influence decision making and thus indirectly the resident's wellbeing.

We therefore investigated if HPC and nurses differ in their attitudes towards burdensome medical interventions in nursing home residents with advanced dementia. The Zurich Life and Death with Advanced Dementia (ZULIDAD) study addresses the last phase of life of nursing home residents in Switzerland by asking HCPs (N = 126) and primary nurses (N = 99) quarterly with comprehensive questionnaires about the resident's health, quality of life and current treatment during three years. At baseline, HCPs and nurses were asked whether antibiotics, artificial administration of fluids, artificial nutrition, artificial respiration, cardiopulmonary resuscitation and admissions to hospital should be foregone even though this can potentially shorten the resident's life expectancy. Overall, HCPs and nurses were found to favor foregoing burdensome interventions in residents with advanced dementia. However, a minority of participants supports their implementation. Interestingly, nurses were found to be significantly "less palliative" in their attitudes than HCPs except for the subcutaneous administration of fluids. Further research needs to elucidate why a minority of HCPs and nurses favor a more aggressive treatment approach and how this impacts decision making at the end of life in dementia.

TWO-MINUTE ONLINE ANIMATIONS SIGNIFICANTLY REDUCE FEARS OF MEMORY LOSS IN OLDER ADULTS

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Misinformation and lack of understanding of memory loss, dementia and brain health are barriers to dementia risk reduction and timely health seeking behaviour. Online video technology for health promotion has been popularised with the increase in online networks, improved access to technology, and the rise of online health seeking behaviour. However, an understanding of the efficacy of this technology in the context of brain health awareness in older adults is lacking. This research explored whether three short animated brain health videos could reduce worry, impart new knowledge, and promote behavioural change in older adults. Participants (8,179) completed a survey pre- and post-engagement with three animated films that we had developed. Participants' level of worry significantly decreased, and over half of the participants indicated that they intended to change their behaviour after watching the videos. The majority of participants indicated they had learned something new from the videos, and found the videos enjoyable. Regression analysis described how participants who reported learning from the videos were more likely to report behavioural change. In addition, enjoyment significantly predicted outcomes of learning and behaviour change. This research contributes a novel understanding of the use of online video technology to change perceptions of brain health in older adults.

VITAMIN D PROMOTES PROTEIN HOMEOSTASIS AND LONGEVITY VIA STRESS RESPONSE GENES SKN-1, IRE-1, AND XBP-1

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Vitamin D has multiple roles including the regulation of bone and calcium homeostasis. Deficiency of 25-hydroxyvitamin D, the major circulating form of vitamin D, is associated with an increased risk of age-related chronic diseases including Alzheimer's disease, Parkinson's disease, cognitive impairment, and cancer. In this study, we utilized *Caenorhabditis elegans* to examine the mechanism by which vitamin D influences aging. We found that Vitamin D3-induced lifespan extension requires the stress response pathway genes SKN-1, IRE-1, and XBP-1. Vitamin D3 (D3) induced expression of SKN-1 target genes, but not canonical targets of IRE-1/XBP-1. D3 suppressed an important molecular pathology of aging, that of widespread protein insolubility, and prevented toxicity caused by human β -amyloid. Our observation that D3 improves protein homeostasis and slows aging highlights the importance of maintaining appropriate vitamin D serum levels, and may explain why such a wide variety of human age-related diseases are associated with vitamin D deficiency.

ORALLY ADMINISTERED UROLITHIN A IS SAFE AND MODULATES MUSCLE AND MITOCHONDRIAL BIOMARKERS IN ELDERLY

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Background: Age associated muscle and physical decline that leads to frailty and sarcopenia has become a significant public health concern. This has fueled a growing interest to identify novel interventions that can mitigate the process of muscle aging. Urolithin A (UA), is a natural metabolite derived from ellagitannins, compounds found in pomegranates, nuts and berries. UA has been shown to improve mitochondrial function by stimulating mitophagy, resulting in enhanced exercise capacity that was observed in two separate models of age-related decline in muscle function (Nature Medicine 22, 879–888 (2016)). **Objective:** To investigate the safety of UA and its impact on biomarkers in a first-in-human Phase 1 clinical trial in elderly.

Methods: A single center, multi-part (single and 4-week multiple ascending doses) Phase I, double-blind, randomized, placebo controlled study in 60 healthy elderly subjects was conducted (NCT02655393). All of the subjects were between 61 to 85 years of age and sedentary with a BMI range of 18–32 kg/m². The subjects modified their diet to exclude pomegranates, berries and nuts as well as dietary supplements for the duration of the study. Plasma samples and muscle biopsies from the vastus lateralis muscle were collected to investigate the effects of UA on the plasma metabolomics profile and the skeletal muscle transcriptome..

Results: The primary endpoint of safety was successfully met as no serious or product related non-serious adverse effects were recorded. No clinically significant changes were observed in a battery of safety tests (vital signs, physical examination, ECG, serum biochemistry, haematology and urinalysis), indicating a favourable safety profile for UA in humans. The impact of UA on plasma and muscle biomarkers following a 4-week dosing were assessed, and this revealed that UA modulated both genes and metabolites linked to mitochondrial and muscle function.

Conclusion: UA is well tolerated and has an attractive safety profile when orally administered in single and multiple doses to elderly. Importantly, UA is bioavailable in both human plasma and muscle and modulated biomarkers of muscle and mitochondrial function. Our results hold promise for the use of advanced dietary interventions involving UA to manage mitochondrial and muscle health during aging.

ROLE OF PHARMACOLOGICALLY INDUCED-TFEB IN AGING AND AGE-RELATED NEURODEGENERATION
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An important characteristic feature of aging and many age-related neurodegenerative diseases is a loss of protein homeostasis (proteostasis), which is accompanied by increased accumulation of damaged, misfolded and aggregated proteins. One of the vital components of proteostasis, autophagy, mediates the breakdown and recycling of proteins and other cellular components within the lysosome. Our central hypothesis is that age-related dysfunction in autophagy establishes a prodromal process resulting in decreased protein homeostasis which causes neurodegeneration. Age-related failure in autophagy could result from down regulation of transcription factor EB (TFEB), the master regulator of lysosomal biogenesis. This in turn would impact the cell's ability

to process damaged proteins. Recent studies from our labs reported that up-regulation of TFEB by either rapamycin or trehalose prevented neurodegeneration. Encouraged by these results, we conducted a small molecule screen to identify novel candidates that could induce TFEB and its target genes to levels far exceeding than already existing inducers (e.g. rapamycin and trehalose). Since then, we have discovered new class of compounds that gratuitously induce TFEB and its targets and are protective in in vivo proteotoxic models of neurodegenerative diseases. I will be discussing findings related to this study and potential implication of TFEB in preventing aging and age-related neurodegenerative diseases.

A NOVEL INTEGRATED APPROACH TO AGE-RELATED GAIT CHANGE: PLANAR COVARIATION OF ELEVATION ANGLES

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While innumerable indicators of age-related gait change exist, almost none integrate or summarize segmental coordination during movement. Planar Covariation of Elevation Angles (PCEA) was developed to study gait changes during development, but may help characterize age-related changes. PCEA reflects coordination among leg segment angles relative to vertical (thigh, shank and foot), resulting in a loop that lie in a plane and rotate with increasing walking speed. We assessed PCEA features among Baltimore Longitudinal Study of Aging adults without diagnoses known to affect gait, comparing young (n=35, age 40.1 ± 6.8) and old (n=36, age 84.5 ± 3.0) at usual and fast walking speeds. Principle component analysis of EAs yields 3 eigenvectors (u1~3) with corresponding variance (v1~3) that describe the degree of planarity, the shape of the loop and the orientation/rotation of the plane. We also assessed the segmental phase differences underlying PCEA. Degree of planarity did not differ by age or speed. Age affected loop shape; older adults had wider loops than young at both speeds. In older adults compared to young, the plane rotated less during fast walking, with less tightly-coupled thigh-shank segments. Older adults showed greater variability in the thigh's contribution to the 1st eigenvector and in the shank-foot phase difference. PCEA provides a new integrated perspective on multi-segment coordination during gait and detects age effects. Decreased plane rotation with aging may indicate higher energy cost and less tightly coupled thigh-shank segments during walking. PCEA characteristics may help identify and profile age-related gait impairments and target intervention strategies.

EFFECTIVENESS OF INTERVENTIONS TO REDUCE ACUTE CARE TRANSFERS FROM NURSING HOMES: A META-ANALYSIS

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Transferring patients from the nursing home (NH) to the acute care setting is associated with increased mortality and morbidity. To date, several types of interventions seeking to reduce potentially avoidable hospital transfers have been proposed, yet there is a lack of systematic evidence regarding their effectiveness. In response to this knowledge gap, we conducted a systematic review to assess the effectiveness of interventions aimed at reducing emergency department (ED) transfers and hospital admissions (HA) from NH. MEDLINE, CINAHL, EMBASE, Social Work Abstracts, and other relevant scientific literature databases were searched from inception until July 2016 for primary studies using quantitative and mixed methods. Forward and backward citation tracking techniques and a grey literature review were also conducted. A random-effects model meta-analysis was conducted for each outcome (rate ratio reduction in ED and HA rates per 100 resident-days). In total, 17 unique studies provided 26 usable samples pertaining to ED and/or HA rates. For both outcome types there was a significant reduction in transfer rates across studies ($RR=0.82$; $95\%CI=0.68-0.99$; overall effect $Z=2.07$, $p=0.04$ for ED and $RR=0.73$; $95\%CI=0.65-0.83$; overall effect $Z=4.76$, $p<0.00001$ for HA) despite high statistical heterogeneity ($I^2>75\%$ in both cases). Although studies targeted a variety of transfer-related factors, interventions appeared more effective in reducing HA than ED transfers. This suggests that HA could be a better target for these interventions. Importantly, our systematic review has also revealed a lack of consistency across studies regarding outcome operationalization, measurement and data reporting.

STAKEHOLDER PERSPECTIVES ON FAMILY-CENTERED DEPRESSION TREATMENT FOR OLDER MEN

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Background: Family members often play important roles in the lives of depressed older men and frequently attend primary care visits with their loved ones, but surprisingly little is known about how to effectively engage and include such family members in depression treatment. **Objective:** To describe key considerations and challenges in engaging family members in older men's depression treatment and describe their implications for the development of family-centered depression interventions. **Methods:** A cross-sectional qualitative interview study conducted in a safety-net, federally qualified health center in California's central valley. Participants were 37 stakeholders, including 15 depressed older (i.e. age ≥ 60) men, 12 family members, and 10 clinic staff. Depressed men were identified through mail outreach, waiting room screening, and referral. Depressed men identified family members who were later approached to participate. We recruited a purposeful sample of clinic staff. Interviews were conducted using a semi-structured interview guide, tape-recorded, transcribed and translated (for Spanish language interviews). **Results:** Four themes were identified: engaging men at the right time; preserving men's sense of autonomy; managing privacy

concerns; and navigating family tensions. Stakeholders also provided practical suggestions on how each of these challenges might be addressed. **Conclusions:** Development of family centered depression interventions for older men in primary care might benefit from attention to specific barriers and how to address them.

DIAGNOSING METABOLIC SYNDROME IN INDIVIDUALS WITH MOTOR DISABILITIES

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People with disability are subject to increased Metabolic Syndrome (MetSyn). There is strong evidence supporting the adoption of the MetSyn criteria to capture cardiovascular disease (CVD) risk factors in the general population. However, there has been controversy about its definition and its utility, especially in populations that are younger and/or disable. The prevalence of MetSyn within individual cohorts varies with the definition used. The aim of this study was to compare the prevalence of MetSyn between IDF and revised NCEP ATP III definition in a group of individuals with Cerebral Palsy (CP). 72 participants (47.2% female, 52.8% male) were recruited. The prevalence of MetSyn was 26.5% and 23.5% by IDF and NCEP ATP III definitions, respectively. The IDF waist circumference criteria (>94 cm male, >80 cm female) identified 40% of the sample while the NCEP criteria (>102 cm male and >88 cm female) identified 23.5%. Abnormal levels of insulin were prevalent in 36% of the sample, lower HDL in 43%, and high BMI in 38.5%. There was a moderate association between insulin ($p=.03$), glucose ($p=.08$), WHR ($p=.02$), CHO ($p=.05$) and the level of motor function. Based on this study results, MetSyn was common in this cohort group regardless of the definition used, however the IDF definition was dominant. This study supports the notion that adults with CP are at higher risk for CVD. While these results are important findings, more studies are needed to determine the suitability of the currently used MetSyn cut-offs for waist circumference in individuals with disabilities.

VALIDATION OF THE ST. LUKE'S-SHORT GERIATRIC SCREENING TOOL FOR COMPREHENSIVE GERIATRIC ASSESSMENT

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The St. Luke's Medical Center recommends that patients 70 and above should undergo comprehensive geriatric assessment to improve clinical outcomes. However, not all older patients in the hospital need a comprehensive geriatric assessment (CGA). The St. Luke's - Short Geriatric Screening (SL-SGS) tool was developed as a pre-determined criteria in order to identify patients who will most likely benefit from the multi-disciplinary CGA.

The aim of the study is to validate the SL-SGS Scoring System using the Fried Frailty phenotype criteria as gold standard in recognizing frail and pre-frail patients who will need CGA.

Ninety-one patients aged 63–104 years old (48% males and 52% females) were included in a month long pilot

longitudinal study. The SL-SGS was performed upon admission by the bedside nurse, while the Fried Frailty Criteria based validation was done by a group of doctors on the second day of admission who were blinded to the results of the SL-SDS.

The prevalence of FFC- frailty was 45.1% among geriatric inpatients and as high as 80% among nonagenarians. Pre-frailty was found in 41.8% of patients. SL-SGS was found to have a 69.6% sensitivity and a 58.3% specificity in detecting frail and pre-frail patients. It has a 91.7% positive predictive value and a 77.4% negative predictive value.

The SL-SGS scoring system is an acceptable screening tool to determine older in-patients who will benefit from an extensive CGA. These patients should be referred to a mandatory consultative multidisciplinary CGA team headed by a geriatrician.

ANTIRETROVIRAL THERAPY DRIVES MITOCHONDRIAL DYSFUNCTION-ASSOCIATED SENESCENCE, PROMOTING LIPOATROPHY

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Patients infected with HIV have enjoyed greatly extended life spans in the years following the use of highly active antiretroviral therapy (HAART). However, as patients enter their second and third decades of infection and HAART, many are now afflicted with pathologies that collectively resemble premature aging. One such pathology is lipoatrophy – the loss of fat tissue from select (often subcutaneous) depots. Components of HAART, especially the early nucleotide reverse transcriptase inhibitors (NRTIs), inhibit mitochondrial DNA polymerase (polymerase gamma; PolG) and thereby deplete mitochondrial DNA, resulting in mitochondrial dysfunction. We recently showed that multiple inducers of mitochondrial dysfunction drive cellular senescence – a state of permanent cell cycle arrest that is accompanied by chromatin reorganization, morphological alterations, and the secretion of a myriad of biologically active molecules. This mitochondrial dysfunction-associated senescence (MiDAS) was accompanied by a distinct secretory phenotype that prevented adipogenesis. MiDAS occurred in a mouse model of mitochondrial dysfunction-induced premature aging, including lipoatrophy, caused by a PolG mutation. To determine whether NRTIs might drive lipoatrophy by inducing MiDAS, we cultured human fibroblasts in the presence of multiple NRTIs, several of which induced senescence as determined by expression of p21WAF1 and p16INK4a and senescence-associated beta-galactosidase. Importantly, NRTI-induced senescent cells expressed a secretome that matched the secretome observed during MiDAS. Thus, NRTIs may drive lipoatrophy and possibly other premature aging phenotypes by inducing MiDAS and its anti-adipogenic secretory phenotype. Our findings suggest that targeting the MiDAS secretome, or MiDAS cells, might provide a novel strategy for treating NRTI-based premature aging phenotypes.

RECOMMENDATIONS FOR POLICYMAKERS TO IMPROVE OLDER ADULTS' CLIMATE CHANGE PREPAREDNESS

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Age Friendly Initiatives (AFIs) including the World Health Organization/AARP Age Friendly Communities at the city- and county-levels support aging-in-place efforts. These AFIs represent a promising strategy for U.S. communities to build community resilience to mitigate the effects of climate change. However, few AFIs have wholly incorporated the critical element of emergency or public health preparedness for climate change-related events into their activities. We report the role that local health departments (LHDs) and AFIs play in improving emergency and public health preparedness for older adults, and provide guidance to LHDs for improving their engagement with AFIs. Qualitative analyses of nearly 40 interviews conducted with AFI and LHD staff found AFIs and LHDs perceive the greatest needs of older adults to prepare for climate change-related events to be tailored information sharing, increasing awareness of the need to prepare, developing emergency plans, and communication between older adults with supporting community organizations. Multi-agency structural processes that incentivize engagement from AFI staff can most comprehensively prepare older adults for future climate change-related events. Coordinated services from the AFI and LHD can include city/county alert systems, training for community emergency response teams, provision of emergency preparedness supplies, and delivering educational programs. We report the structural, economic, political, and social barriers and facilitators to engagement between AFIs and LHDs to inform stronger and more efficient alignment to meet the needs of aging adults in the face of climate change. The implications of lessons learned from U.S. communities are applied to other AFIs around the world.

DECLINE IN MEDICAID WAIVER SERVICES AFTER HURRICANE SANDY INCREASES RISK-ADJUSTED HOSPITALIZATION

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Medicaid 1915(c) waivers allow nursing home eligible older adults to avoid institutionalization by providing personal care services (PCS) in their homes. Prior studies have not determined how 1915(c) waiver recipients fare after a hurricane. We identified 26,015 New York (NY) Medicaid 1915(c) beneficiaries age 65 and older who received waiver services six months before Hurricane Sandy. We extracted demographics, chronic conditions, and hospital admissions in the year prior to, and three months after, the hurricane from Medicare data and amount of PCS in the three months prior to, and after, the hurricane PCS from NY Medicaid data. Seven percent of the sample were from high hurricane impact counties that experienced the greatest structural damage and where 20% of the population had power out for three or more days. High hurricane impact was associated with higher rates of hospital admissions after the hurricane (Incidence Ratio (IR))=0.17; 95%CI=0.004–0.344; p=0.042) and post-hurricane change in Personal Care services (p<0.001). A negative binomial model

that included demographics, chronic conditions, rural location, prior hospitalizations, and high vs. low hurricane impact revealed that post-hurricane change in personal care services was associated with hospital admissions in the three months after the hurricane. Compared to no change in personal care services, decrease in personal care services was associated with increased incidence of hospital admissions ($IR = 0.549$; $95\%CI=0.435,0.663$; $p<0.001$), whereas increase in personal care services was associated with decreased incidence of hospitalization ($IR=-0.61$; $95\%CI=-0.714,-0.508$; $p<0.001$). Disaster-related reduction in PCS increases vulnerable older adults' risk for hospital admissions.

HOW DO PATIENTS WITH MILD COGNITIVE IMPAIRMENT PERCEIVE THE POTENTIAL UTILITY OF AMYLOID IMAGING?

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Background: The proliferation of biomarker testing in Alzheimer's disease (AD) research has spurred questions about the clinical and/or personal utility of such tests. We explored how patients with mild cognitive impairment (MCI) and their family care partners view the potential personal utility of PET amyloid imaging (AI).

Methods

Participants included 20 patients with MCI and their respective care partners who were actively deciding whether to pursue AI. All participants underwent pre-testing counseling (PTC) including: overviews of MCI, AD, and AI, potential pros/cons of AI, and implications for AD risk. Following PTC, participants were encouraged to carefully consider whether to pursue AI. Within 2 weeks of PTC, qualitative interviews were conducted using a semi-structured interview guide with open-ended questions about the decision making process, including which factors were considered during the decision. Interview transcripts were coded and categorized using content analysis.

Results

Patients and care partners consistently reported the potential to gain more information about the underlying cause, or likely course, of their MCI as a major motivator for pursuing AI. Many were actively anticipating their emotional and behavioral reactions to AI results. Upon probing, most acknowledged the limitations and potential drawbacks of AI (e.g., "They aren't going to find something on the scan and give me a pill and I'll be better."). Yet, there were 11 instances of misunderstanding or overstating the potential value of AI (e.g., "It will tell me how far along I am.").

Conclusion

Even with PTC, some individuals may disproportionately emphasize potential benefits when considering AI.

COMPARISON OF TWO MODALITIES OF EXERCISE ON THE HEALTH PROFILE IN OLDER WOMEN WITH ABDOMINAL OBESITY

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The impact of high-intensity interval training (HIIT) compared to the current exercise recommendations (moderate intensity continuous aerobic exercise; CONT) has to be verified in obese older women before being used by health professionals. **Objective:** The purpose of this study is to compare the effect of HIIT to CONT on body composition, metabolic profile and affective responses in obese elderly. **Methods:** A total of 20 older and sedentary women (60–75 years) with abdominal obesity (waist circumference ≥ 88 cm) are currently recruited and randomized to one of the following group: 1) HIIT ($n=10$); 2) CONT ($n=10$). All variables are measured before and after 8 weeks of intervention: Anthropometry (weight, height, body mass index), body composition (fat mass [FM], lean body mass [LBM], visceral adipose tissue [VAT]; DXA), metabolic profile (fasting lipid profile, glucose and insulin) and physical capacity (senior fitness test). Affective responses are measured before and after each training session. **Preliminary Results:** VAT tend to decrease in HIIT group only ($p=0.07$) while total FM remained unchanged. Moreover, HDL-C tend to increase in HIIT only ($p=0.09$) while LDL-C decreased ($p=0.01$) in both groups. Finally, while HbA1c tend to increase, total cholesterol tend to decrease in HIIT and CONT (both, $p=0.08$). Finally, affective response before and after each training were similar between HIIT and CONT (both $p>0.48$) and remained unchanged. **Conclusion:** Our preliminary results suggest that HIIT could provide better improvements (VAT and HDL-C) compared to the current exercise recommendations in physically inactive older women.

GWAS REVEALS NOVEL GENETIC REGULATORS OF DIET-RELATED LONGEVITY OR HEALTH IN DROSOPHILA MELANOGASTER

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Aging is a root cause of many chronic diseases and associated morbidity and mortality. A number of interventions have been suggested to improve overall lifespan and health, with one of the most successful being dietary restriction. Despite the generally well-demonstrated health and longevity benefits of dietary restriction, cases remain in model organisms where some genotypes are not affected or are negatively impacted. With the use of the *Drosophila* Genetic Reference Panel, we have identified a new set of genes that regulate health or longevity either diet-dependently or diet-independently. Associated with longevity are the genes CG34351 and Fdxh. We have also revealed CG33690, a previously uncharacterized gene, as being a regulator of health in response to diet. Through alteration of the expression of these genes via RNAi and gene disruption, we have validated their roles in impacting on lifespan or climbing ability independently. In addition to ascribing novel functions to these genes, our results demonstrate that lifespan and healthspan depend on a complex set of inputs including genetic polymorphisms and diet.

THE ASSOCIATION BETWEEN CARDIOVASCULAR SYMPTOMS AND TCM USE AMONG GREATER CHICAGO AREA OLDER ADULTS

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Traditional Chinese Medicine (TCM) encompassing herbal medicine, acupuncture, massage therapy and tai chi, among others have been in use for thousands of years. Even with the advancement of modern medicine, it continues to be a popular choice owing to its suspected advantages. Half of the older population suffers from chronic conditions including cardiovascular specific types. The prevalent cardiovascular aging manifests with symptoms of chest pain, tightness, palpitations, dyspnea and edema. These symptoms are usually chronic and are likely to occur in multiples, signifying a community health burden. This study aims to examine the association of TCM use and the presence of cardiovascular symptoms leveraging the population-based PINE study. Participants included 3,157 Chinese older adults from the greater Chicago area age 60 and older. Clinical review of systems (ROS) was used to assess for presence of chest pain, edema, tightness, palpitations and shortness of breath in the past two years. The frequency of each TCM subtype use was also assessed. The association between them was analyzed using logistic regression. Results indicated that participants with cardiovascular symptoms were more likely to use any one type of TCM (OR: 1.38 (1.14–1.66)), herbal medicine (OR: 1.74 (1.47–2.05)), acupuncture (OR: 1.78 (1.42–2.24)) and massage therapy (OR: 1.88 (1.50–2.36)). The significant results corroborate with previous research the wide practical uses of TCM. It also provides evidence the importance of TCM among older adults with cardiovascular symptoms. Future research may further investigate the causal relationship between them.

IMPACT OF SOCIAL NETWORK TYPE ON DEMENTIA RISK IN THE CONTEXT OF COGNITIVE RESERVE

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Social isolation and lack of social support come with a high risk for mortality, cardiovascular disease, and apparently also for dementia. The aim of the study was to investigate to what extent social network type increases the risk to develop dementia. As education - in sense of a cognitive reserve - is an important protector against dementia, we also explored whether the impact of social network type on dementia risk could be overcome by higher education. Data analyses are based on the Leipzig Longitudinal Study of the Aged (LEILA75+, n=1,265), a representative population-based cohort study examining individuals aged 75+ years. Social networks were assessed using the practitioner assessment of network type instrument (PANT). Time-series regression modeling adjusted for age, gender, cardiovascular risk factors and history of depression revealed individuals with restricted network types had a significantly greater risk to develop dementia than individuals with socially integrated network types. The probability to develop dementia over the follow-up period was almost twice as high for individuals with low education than for individuals with high education. Our findings imply that social integration is an important

protective factors against dementia in the elderly population. Particularly, individuals with low education, and hence a low cognitive reserve, may benefit from community interventions that foster social integration of older population groups.

CULTIVATION OF SOCIAL NETWORKS AND DIURNAL CORTISOL PROFILES IN HEALTHY CHINESE ELDERS

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Psychobiological research on aging in humans is confounded by individual differences that have not been precisely characterized. Examining the impact of a proactive social behavior, network cultivation on diurnal cortisol profiles in healthy Chinese elders, Lai et al. (2012) showed that elders who invested more time and efforts in cultivating their social ties exhibited a more salient cortisol awakening response and a faster diurnal decline of salivary cortisol. However, as waking and saliva sampling times were not monitored objectively by appropriate electronic devices, the impact of the aforementioned findings is delimited. The present study re-examined the relationship between network cultivation and diurnal cortisol rhythms more precisely by a secondary analysis of the data reported by Lai et al. (2012) using multilevel modeling, focusing on the diurnal decline in cortisol from 3 to 12 hours post-awakening. This involved data from 82 healthy elders, with an equal number of men and women (mean age = 73.09 yrs.). Results show that socially less proactive elders exhibited a higher diurnal cortisol level than their peers with either average or high scores on network cultivation. This suggests that a low motivation in cultivating social ties in the elders accentuates cortisol secretion, which may increase susceptibility to age-related diseases. These findings are consistent with recent evidence showing the health benefits of a lower cortisol output over the day. Further research is warranted to explore possible psychophysiological mechanisms translating social network cultivation to altered functioning of the hypothalamic-pituitary-adrenocortical axis.

ARE SOCIETAL FACTORS INFLUENCING CANADIAN POLICIES FOR INFORMAL CARE PROVISION?

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BACKGROUND AND AIM: Examining the policies for informal caregiving is relevant as the global community faces the challenges of an aging population due to lower fertility rates and rising life expectancies. Canada's universal health-care ensures free access only to clinical care. It does not include support with activities of daily living which means family is expected to play a key role in providing care for older adults. This demonstrates there has been a lack of national response to providing their care. The aim of this analysis was to assess Canadian Federal, Provincial and Territorial informal care policies to reveal whether they align with demographic changes affecting the provision of informal care.

METHODS: Canadian policies regarding informal care providers were evaluated using the following criteria: exclusivity of caregiver tax credit programs, limits of care leave

compensation, and the availability of direct financial support for informal caregiving. This was examined alongside societal trends to see if the restraints in the policies align with the prominent trends of informal caregiving.

RESULTS: Canadian policy surrounding informal care does not take into account the last fifty years of sociodemographic changes that have altered family trajectories and ability to provide high-levels of care.

DISCUSSION: The results demonstrate a discrepancy between informal care policies and societal trends. If policies are not altered there is potential that the care of older adults will be negatively impacted. Thus there is an urgent need to proactively address these policy gaps to ensure the wellbeing of the rapidly aging population.

COGNITIVE STATUS AND OUTCOME IN ELDERLY PATIENTS WITH HIP FRACTURE IN AN ORTHOGERIATRIC CARE PATHWAY

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Dementia is associated with a worse prognosis of hip fracture, but the impact of a dedicated geriatric care pathway on the prognosis of these patients has not been evaluated.

According to the cognitive status before surgery, our main objective was to compare mortality rate at 6 months; secondary outcomes were to compare in-hospital complications, the risk of new institutionalization and the ability to walk at 6 months.

Between 2009 and 2015, all patients (> 70 years) admitted after hip fracture surgery into a dedicated unit of peri-operative geriatric care were included: patients with dementia (DP), without dementia (NDP) and with cognitive status not determined (CSND). Data are expressed as Hazard Ratio (HR) for multivariate cox analysis or Odds Ratio (OR) for multivariate logistic regression analysis and their 95% confidence interval (CI).

We included 650 patients (86 ± 6 years): 168 DP, 400 NDP and 82 CSND. After adjustment for age, sex, comorbidities, polypharmacy, pre-fracture autonomy, time-to-surgery and delirium, there were no significant differences for 6-month mortality (DP vs NDP: HR=0.7[0.4 – 1.2], DP vs CSND: HR=0.6[0.3 – 1.4], CSND vs NDP: HR=0.8[0.4 – 1.7]); but DP and CSND were more likely to be newly institutionalized after 6 months compared to NDP (OR DP=2.6[1.4 – 4.9], p=0.003, OR CSND=2.9[1.4 – 6.1], p=0.004). 92% of population was walking after 6 months (63% with assistance): no difference was found between the 3 groups.

In a dedicated geriatric care pathway, DP and CSND undergoing hip surgery have the same 6-month mortality and walking ability as NDP.

PREOPERATIVE ASSESSMENT IN OLDER CANCER PATIENTS: EVALUATION OF A NEW TOOL

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Background: Comprehensive geriatric assessment prior to oncologic surgery can help predict surgical outcomes. We tested whether an abbreviated geriatric assessment, the Vulnerable Elderly Surgical Pathways and Outcomes Assessment (VESPA) would also predict post-operative surgical, geriatric, functional, and discharge complications among older adults undergoing oncologic procedures.

Methods: From 2008 to 2011, geriatric assessment was completed using VESPA for patients age ≥70 years in an university pre-operative clinic. The VESPA assessed functional status, mood, cognition, and mobility, and can be completed in <10 minutes. We selected the subset of patients who underwent oncological procedures and evaluated association of the VESPA score with post-hospital functional status needs, surgical complications, geriatric complication, and complicate discharge planning. We used t-test, χ^2 , or fisher's exact test to compare the complication rates between high and low VESPA score (≥vs.<9) and tested the full VESPA score in a multivariable, multinomial outcome model.

Results: A total of 476 patients who underwent oncologic procedures received the assessment using VESPA, which included and controlled for surgical complexity. Compared to patients with low VESPA score, patients with high VESPA score had longer length of stay (mean 6.6 vs. 2.0 days; p<0.001), more geriatric (39.5% vs. 3.7%; p<0.001), surgical (29.5% vs. 11.8%; p<0.001), and functional complications (76.0% vs. 31.7%; p<0.001). Each additional point on the VESPA scale was associated with surgical/geriatric complication or complex discharge planning. (OR=1.3 [95%CI: 1.3–1.4])

Conclusions: The VESPA identifies patients who need peri-operative surveillance for surgical and geriatric complications, as well as discharge planning for post-hospitalization rehabilitation and nursing needs.

COGTEL: A NOVEL TOOL TO ASSESS INDIVIDUAL DIFFERENCES IN COGNITIVE FUNCTIONING IN HEALTHY AGING

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The Cognitive Telephone Screening Instrument (COGTEL) is a novel test battery that allows the assessment of performance in six cognitive domains (prospective, short-term, long-term, and working memory, verbal fluency, and reasoning). It can be applied in a face-to-face session, but also over the phone and takes only about 15 minutes. The COGTEL has been optimized to be a detailed measure of cognitive functioning that can be included in large-scale epidemiological and aging studies. The present study set out to evaluate the psychometric properties of the COGTEL in two different samples of older adults. We assessed COGTEL in 116 older adults (mean age = 68.3 years) from Apuí, Fonte Boa, Manaus, and Tonantis, Brazil, with retest after seven days to evaluate test-retest reliability. Moreover, we assessed COGTEL in 868 older adults (mean age = 70.1 years) from Apuí, Fonte Boa, Manaus, and Tonantis, Brazil, to evaluate convergent validity to the MMSE.

Results showed that test-retest reliability of the COGTEL score was good at .85 ($p < .001$). Latent variable analyses revealed that COGTEL and MMSE correlated by .84 ($p < .001$), indicating convergent validity of the COGTEL. In conclusion, the present analyses suggest COGTEL as an instrument for capturing interindividual differences in cognitive functioning in large-scale epidemiological and aging studies with the advantage of covering more cognitive domains than traditional screening tools such as the MMSE and differentiating also in the healthy older adults.

CORRELATION BETWEEN NUTRITIONAL STATUS AND SARCOPENIA IN ELDERLY FALLERS FROM PREVQUEDAS BRAZIL

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Introduction: Nutritional assessment determines the nutritional status, which results from the balance between food intake and caloric expenditure. Sarcopenia is the simultaneous decline of muscle strength and function, often seen in the aging process. This loss can lead to hospitalization, decreased functionality, fragility syndrome and consequently increases the risk of falls in the elderly. **Objective:** Examine prevalence of sarcopenia in elderly fallers through the Muscle Mass Index (MMI $\leq 8.87 \text{ kg/m}$). Secondly, examine the relationship among sarcopenia and gender, number of falls, MAN® (Mini Nutritional Assessment) scores, functional status. **Methods:** Transversal data from Prevquedas Brazil, a Multicenter parallel-group randomized controlled trial that evaluates the effectiveness of a multifactorial falls prevention program in reducing rate of falls in community-dwelling elderly. Sarcopenia were classified according to the MMI, people were classified in normal nutritional status MAN® (≥ 24), risk of malnutrition ($17 \leq \text{or} \geq 23.5$) and malnourished (< 17). Functional status was based on Lawton and Katz scales. **Statistical Analysis:** Data analyzed through Chi-Square test, Fisher's test, frequency chart, Box-and-Whisker plot, using Stata® and MedCalc®. **Results:** $n=62$, 77.4% female ($N=48$) and 54.9% of the total sample presented sarcopenia. The majority of the elderly with sarcopenia presented MAN without nutritional risk and without correlation with alteration of the functionality. Statistical homogeneity found between elderly with sarcopenia and non-sarcopenic ones, by fall event number. Statistical correlation found among sarcopenia, Body Mass Index and gender. Statistical significance found between the presence of sarcopenia, gender ($p=0.037$) and BMI ($p=0.004$). **Conclusion:** Sarcopenia prevalence confirmed in elderly fallers.

ISOPRENOID METABOLISM AS A TARGET IN TOCOTRIENOL-MEDIATED DOWNREGULATION OF AMYLOID B PROTEIN

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The lack of cure for Alzheimer's disease (AD) calls for novel intervention approaches. Amyloid β protein ($A\beta$)-containing neuritic plaques is one of the neuropathological

hallmarks in brains of AD patients. Prenylation of proteins regulating neuronal functions requires mevalonate-derived farnesyl pyrophosphate (FPP) and geranylgeranyl pyrophosphate (GGPP). GGPP stimulates γ -secretase and increases the production of $A\beta$. The observation that the levels of FPP and GGPP are elevated in AD patients is consistent with the finding that statins, competitive inhibitors of 3-hydroxy-3-methylglutaryl coenzyme A (HMG CoA) reductase, reduce FPP and GGPP levels and $A\beta$ production in preclinical studies. Epidemiological evidence suggests inverse correlation between the incidences of AD and mild cognitive impairment and plasma tocotrienols; the latter inhibit the transcription of HMG CoA reductase and accelerate its degradation. We hypothesized that d- δ -tocotrienol reduces $A\beta$ via mevalonate pathway downregulation. Forty-eight male C57BL/6J mice were assigned to four groups ($n=12/\text{group}$): high fat diet (HFD) and HFD supplemented with 400 mg d- δ -tocotrienol/kg diet, 400 mg geranylgeraniol/kg diet, and a blend of the two agents for 14 weeks. Brain $A\beta$ levels were measured by ELISA. Dietary d- δ -tocotrienol reduced brain $A\beta_{40}$ and $A\beta_{42}$ ($P < 0.05$). Dietary geranylgeraniol reversed the effect of d- δ -tocotrienol on $A\beta_{40}$ and $A\beta_{42}$, suggesting that GGPP downregulation mediates the tocotrienol effect. Mevalonate pathway may offer a new target for tocotrienols and natural products without the dose-limiting toxicity of the statins.

GENETIC INFLUENCE ON AGE OF MENOPAUSE IN LONG-LIVED INDIVIDUALS

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Several studies have observed that women who are able to naturally have children later in life tend to live longer. We hypothesize that the evolutionary pressure to extend the period of time in which women can bear children and therefore have the opportunity to have more of them could be a mechanism for the selection of genetic variants that slow aging and decrease risk for age-related diseases. We performed a genome-wide association study (GWAS) for age of menopause (AOM) in 1,317 women in the Long Life Family Study (LLFS), using approximately 1.5M single nucleotide polymorphisms (SNP). We used Cox proportional hazard regression to model AOM accounting for censoring of 1,127 women, with a robust variance estimator to adjust for within familial relations. No SNP reached genome-wide significance, but SNPs rs10957156 ($p=0.00043$) in CHD7, rs4886238 ($p=0.00051$) in TDRD3, rs16991615 ($p=0.00080$) in MCM8, rs16858210 ($p=0.013$) in PARL/POLR2H, rs11668344 ($p=0.033$) in BRSK1, and rs8070740 ($p=0.036$) in RPAIN previously associated with AOM replicated in the LLFS GWAS. Several top SNPs in the LLFS ($p < 10^{-4}$) also replicated the results in a large meta-analysis of AOM published in 2015. Among these, rs10239340 is a significant expression quantitative loci (eQTL) of IRF5, a gene whose function is involved in promotion and inhibition of inflammation, in multiple tissue types. Additionally, rs10455038 is a significant eQTL of PPIC, which participates in many biological processes such as metabolism, apoptosis, redox, and inflammation. This study is the first GWAS of AOM in a sample enriched for longevity.

THE ASSOCIATION OF DIETARY PATTERN WITH OVERALL MORTALITY, AND OTHER LIFESTYLES IN JAPANESE ELDERLY

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Objectives: There was less evidence particularly focused on dietary patterns and subsequent overall mortality in the elderly and no data for the interaction between dietary patterns and other lifestyle factors. We examined the association between dietary pattern and all-cause mortality in the younger-elderly Japanese, and explored the modifiable effect of lifestyles on this association.

Methods: A total of 2949 community-dwelling residents aged 64 or 65 from the New Integrated Suburban Seniority Investigation Project, were included. Dietary patterns were derived by factor analysis based on validated food frequency questionnaires, and cox proportional hazard regression was used to estimate hazard ratios and 95% confidence interval. The confounders included survey year, gender, marital status, working status, education, smoking, drinking, daily walking time, sleeping duration, social participation, living arrangement, BMI, functional capacity, history of heart disease, cerebrovascular disease, cancer, hypertension, hyperlipidaemia, and diabetes mellitus.

Results: Meat-fat, healthy, and dairy-bread dietary pattern were identified. The significantly positive association between meat-fat pattern and mortality was observed in the subgroups of never smokers (HR, 2.90; 95% CI, 1.41–5.96); the same association between dairy-bread pattern was observed within never smokers (HR, 2.25; 95% CI, 1.22–4.13), heavier drinkers (HR, 1.62; 95% CI, 1.09–2.39). For healthy pattern, the inverse association was further observed within never smokers (HR, 0.43; 95% CI, 0.24–0.78), heavier drinkers (HR, 0.63; 95% CI, 0.42–0.93), and those who walked more than 1 hours/day (HR, 0.48; 95% CI, 0.29–0.80).

Conclusions: We found smoking and drinking status, and daily walking time could modify the association between three patterns and overall mortality.

DELAYED MOBILIZATION AND LENGTH OF STAY IN ELDERLY SURGICAL PATIENTS: PROSPECTIVE COHORT STUDY

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Surgical admissions are increasing in older and frailer patients, who are vulnerable to post-operative morbidity and mortality. Early post-operative mobilization may reduce adverse events and length of stay (LOS), but little is actually known about the impact of delayed mobility. Therefore, we assessed the independent association of delayed mobilization with LOS in elderly surgical patients. Overall, 306 consecutive survivors of emergent abdominal surgery aged ≥ 65 years who required help with < 3 activities of daily living were prospectively enrolled at 2 tertiary-care Canadian hospitals. Time until post-operative mobilization (out of bed) was attained from hospital records and a priori defined as 'delayed' (≥ 36 h) or 'early' (< 36 h) and analyzed with multivariable negative binomial regression. Mean age was 76 ± 7.7 years, 45% were women, and 22% were frail according to the Clinical Frailty Scale. Gallstones (23%), intestinal obstructions (21%), and herniae (17%) were the most performed surgeries. Median time to post-operative mobilization was 19h (interquartile range [IQR] 9–35) and median LOS was 9 days (IQR 6–14). One-quarter ($n=74$) of patients had delayed mobilization, which was associated with much longer median LOS vs early mobilization (14 days [IQR 10–28] vs 7 days [IQR 5–11] $p<0.001$). After multivariable adjustment, delayed mobilization was still independently associated with longer LOS (adjusted ratio 1.25, 95%CI 1.05–1.44, $p=0.03$). Additionally, delayed mobilization was associated with greater use of homecare ($p=0.1$) and discharge to higher levels of care ($p=0.02$). Potentially preventable delays in mobilization following surgery frequently occur in elderly patients and are associated with 25% longer LOS and more complex discharge transitions.

GLOBAL FORCES IN THE FUTURE OF LGBT AGING: DISCRIMINATION, IDENTITY, AND HEALTH OVER TIME

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Worldwide the population of older adults is growing in complexity and diversity, including by sexual orientation and gender identity. Based on an innovative life course equity framework, this study reveals new cutting-edge findings on the interplay between marginalization, identity, health behaviors, quality of life and health of lesbian, gay, bisexual, and transgender (LGBT) older adults, and assesses key differences by sex and age group. Based on three most recent waves of longitudinal data ($N = 2,450$) from Aging with Pride: National Health, Aging, and Sexuality/Gender Study (NHAS), this study applied fixed effect models examining within-subject changes in experiences of discrimination, identity stigma and affirmation, and health behaviors over time on quality of life and cognitive and functional impairment. Within-subject increases in day-to-day discrimination, identity stigma, and poor nutrition across time points predicted lower levels of physical, psychological, social, and environmental QOL. Within-subject increases in day-to-day discrimination and poor nutrition and decreases in physical activity predicted higher levels of cognitive and functional impairment, while an increase in microaggressions

and decrease in identity affirmation predicted higher levels of cognitive impairment. Gender and generational differences were found. Change in day-to-day discrimination had a greater impact on men; poor nutrition had a greater impact on the oldest old. As the population ages, it is imperative to identify groups at highest risk and those aging well to ascertain modifiable mechanisms so that global research, practices, and policies can be tailored to improve the health and well-being of our growing worldwide demographically diverse older adult population.

STRATEGIES USED BY PRIMARY CARE PRACTITIONERS TO SUPPORT PEOPLE WITH DEMENTIA WITH DRIVING CESSATION

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This research addresses dementia and driving cessation, a major life event, and an immense challenge in primary care. In Australia it is general practitioners (GPs) who identify changes in cognitive functioning and monitor driving issues with their patients. Doctors are advised not to base their fitness to drive decisions solely on disease duration, and without clear guidelines or tests, it is a complicated area of practice. We aimed to gain an understanding of the barriers and facilitators that primary care practitioners experience in managing driving cessation with their patients with dementia, and the strategies implemented to address these. A qualitative study was undertaken to understand how GPs transition a patient with dementia to non-driving status. Data were collected through five focus groups with GPs in practices across S.E. Queensland, Australia. Discussions were audio recorded, transcribed verbatim and thematically analyzed taking a phenomenological approach. Preparation and education were identified as key. Because loss of insight into declining driving abilities exacerbated the challenges of stopping, timing of the discussion was regarded as critically important. However, it was complicated with the difficulty of identifying early dementia; and concern for the negative impact that raising the driving issue had on the doctor-patient relationship. A number of in-room tests were reported as somewhat useful, however no single test satisfactorily predicted fitness to drive, and these lacked face validity with patients. GPs noted that involving supportive family members and providing strategies for accessing alternative transportation were helpful. The findings clarify a need for programs to support GPs and their patients to manage the complex issues around dementia and driving cessation.

OLDER ADULT GHANAIS AND HEALTH CARE ACCESS

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Health-seeking behavior studies have found that many older adult Ghanaians delay or do not seek health care services for their health symptoms. Self-rated health studies show that many of them experience poor health and functional disability. Morbidity data also indicate a high incidence of ill health among them. Currently numbered about one million,

older adult Ghanaians are expected to increase to almost six million by 2050. Their health situation may be compounded by their increasing numbers, hence the importance of understanding their utilization of health care services.

This study examined the factors that mitigate health care usage among older adults in Ghana. The study sample was drawn from the second wave of the Ghana national survey conducted as part of the World Health Organization's SAGE Project. The inclusion criteria for the study yielded an analytic sample of 3947. The analysis showed that older adults who have positive perception of their overall health status, reside in rural areas, and are members of Indigenous religion are less likely to use health care services. It also showed that the risk to health care affordability for older adults comes not from the size of their income, but from their exposure to income irregularity, high household debt, high number of dependents, and lack of health insurance. The projected increase in the Ghanaian older adult population underscores the importance of identifying those who are not using health care services when needed, and designing effective strategies and programs to better serve them.

A LONGITUDINAL STUDY OF SOCIAL CONNECTEDNESS AND HEALTH AMONG SEXUAL MINORITY OLDER ADULTS

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Guided by the Health Equity Promotion Model, Aging with Pride: National Health, Aging and Sexuality/Gender Study examined the influence of changes in social connectedness (structure, quality, and function) on cognitive and mental health over time among lesbian, gay, and bisexual (LGB) older Americans by race/ethnicity. We analyzed data collected in 2014, 2015, and 2016 from the first longitudinal study of LGB and transgender Americans born in 1964 or earlier (N=2,450), using fixed and random effect models. Compared with non-Hispanic Whites, Hispanics and Blacks showed lower social support ($b = -28, p < .01$; $b = -.20, p < .01$) and higher cognitive impairment ($b = 7.02, p < .001$; $b = 3.04, p < .01$) at baseline although they had stronger community engagement ($b = .29, p < .01$; $b = .22, p < .05$); Hispanics had a smaller network size ($b = -.98, p < .05$) and higher depressive symptomatology ($b = 1.65, p < .001$). Within-subject increase in social support and community engagement across time was significantly and negatively associated with cognitive impairment ($b = -.90, p < .01$; $b = -.53, p < .05$) and depressive symptomatology ($b = -.91, p < .001$; $b = -.25, p < .05$). Unexpectedly, for Blacks the increase in community engagement within subjects was positively associated with cognitive impairment ($b = 1.58, p < .05$). The findings have implications for translational intervention studies. Promoting social network quality and community engagement considering racial/ethnic heterogeneity is essential for improving cognitive and mental health among LGB older adults.

LONGITUDINAL EFFECTS OF OWN AND PARTNER PAIN INTENSITY AND DEPRESSIVE SYMPTOMS IN AGING COUPLES

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Chronic pain is widespread in later life and linked to depression among individuals and their partners. Nevertheless, little is understood about mutual influences between pain intensity and depressive symptoms within couples as they age. Utilizing a U.S. sample of 940 heterosexual married couples aged 50 years and older ($M = 64.45$, $SD = 7.72$) drawn from five waves (2006 – 2014) of the nationally representative Health and Retirement Study (HRS), we examined individual and cross-partner associations between pain intensity and depressive symptoms across an 8-year period. Dyadic growth curve models controlled for baseline length of marriage and marital quality, along with sociodemographics, self-rated health, chronic health conditions, and functional disability. For wives and husbands, their own greater baseline pain intensity was significantly linked to higher overall levels of depressive symptoms. Unexpectedly, however, wives with more intense baseline pain reported significant decreases in their own depressive symptoms over time. Finally, husbands' greater baseline pain intensity was significantly associated with increases in wives' depressive symptoms over time; but the reverse association was not found. Findings underscore the value of considering both individual and spousal links between pain intensity and depressive symptoms in middle and later life. Elucidating how individual and couple processes unfold over time may generate critical insights for the development of interventions to improve and maintain the mental health of older chronic pain patients and their spouses.

THE EFFECTS OF EMPLOYMENT ON DEPRESSION AMONG OLDER ADULTS: MEDIATING ROLE OF SELF-ESTEEM

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The purpose of this study was to examine the effects of employment on depression among Korean older adults, with the mediating role of self-esteem. Considering gender differences in the workplace, separate analyses were conducted according to gender. Using the 8th to 10th (2013–2015) waves of the Korea Welfare Panel Study with Mplus 7.4, the direct longitudinal pathways testing the effects of employment (wave 8) to depression (wave 10), and indirect longitudinal pathways which include the mediating effect of self-esteem (wave 9) were analyzed. The final sample included 5,340 older adults (male=2,049, female=3,291) aged 60 and over. The results indicated that the longitudinal indirect effects of employment on depression were negatively significant for both men ($\beta = -0.074$, $p < .01$) and women ($\beta = -0.109$, $p < .001$), which signify that employment contributes to lowering levels of depression through the positive effects it has on increasing levels of self-esteem. The results also showed that there was a significant direct effect of employment on subsequent levels of depression for older women, whereas it was not significantly relevant for older men. It suggests that employment itself may decrease depression levels, but that this may differ depending on gender. This study implies that employment may significantly contribute to lowering older adults' depression and that, it may be important to consider mediating mechanisms, as well as the effects of gender, when examining the relationship between the two. Therefore, it is

necessary to actively encourage the productive contribution of older adults because it not only increases self-esteem but also ultimately reduces depression levels.

GENDER DIFFERENCES AND SIMILARITIES AMONG OCTOGENARIANS AND CENTENARIANS

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Studies of longevity have a somewhat short history compared to many other areas of study within gerontology and even less research has been conducted on gendered similarities and differences in health and well-being in oldest-old populations. This study assessed gender similarities and differences among octogenarian and centenarian women ($n = 250$) and men ($n = 71$) from the Georgia Centenarian Study. We evaluated gender differences in resources (i.e., education and perceived economic status) and physical, functional, mental, and cognitive health. Results indicate gender similarities in education level, perceived economic status, physical health and levels of depression. But there were mean gender differences in functional health, $t = 2.25$, $p < .03$ and cognitive health, $t = 3.48$, $p < .001$ indicating that women have lower mean scores than men. For both women and men, education is a significant predictor of perceived economic status ($\beta = .271$, $p < .001$ and $\beta = .275$, $p < .05$, respectively). Perceived economic status marginally predicted physical health for both women and men ($\beta = .168$, $p < .06$ and $\beta = .253$, $p < .08$, respectively). Perceived economic status also predicted functional health but only for women, $\beta = .30$, $p < .001$. This research brings us closer to understanding the gendered similarities and differences among the oldest old.

PERCEPTIONS OF HEALTHY AGING: EXPLORING AGING WELL FOR HIV-INFECTED AND NON-INFECTED OLDER PEOPLE

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While living longer, older persons with HIV are prematurely experiencing many of the chronic conditions commonly seen in non-infected persons over the age of 70. Emerging data suggest that minorities are disproportionately affected by these premature chronic conditions, yet few studies have examined these chronic conditions for older adults who are HIV positive. This research examined older adults' views on behavioral and social factors that promote and/or hamper wellness as people with HIV age. We explore various barriers that older adults face, as well as the types of information and assistance that may aid aging adults, thus maximizing their health and well-being. Furthermore, we compare these perceptions between those who are HIV positive and HIV negative for older adults. Findings indicate the perceptions of healthy aging, for both HIV positive and negative participants include the reliance on a trusted social support system, the importance of self-care, access and utilization of healthcare resources, include the importance of spirituality, and maintaining an identity as someone who is aging well.

HIV positive participants did not perceive living with HIV as a barrier to aging well or as a limitation to healthy aging, but did report challenges associated with stigma. Additionally, we explore how these themes compare for minorities and non-minorities. This research addresses gaps in knowledge of older persons who HIV-infected. Implications for practice are considered.

FEASIBILITY OF A FAMILY-CENTERED PRIMARY CARE DEPRESSION INTERVENTION IN A SAFETY-NET CLINIC

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Background: Mobilizing family members to support depression treatment is a novel and promising approach to improve outcomes for older men, a group at higher risk for depression under-treatment and suicide. The goal of this study was to test the feasibility and acceptability of a family-centered depression intervention in primary care. **Methods:** A randomized controlled trial comparing enhanced usual care to a manualized family-centered depression intervention in a safety net, federally qualified health center in California's Central Valley. **Inclusion criteria:** male, age ≥ 50 , PHQ-9 score of ≥ 10 , speak Spanish or English, and willing to involve a family member in treatment. The intervention was delivered over 3–6 months by a bilingual social worker who engaged both men and family members in depression psychoeducation, behavioral activation, medication management, and supporting patients during primary care physician visits. **Results:** Of the 45 men referred for the study, 31 were eligible and 23 agreed to randomization (2:1 allocation to active intervention vs usual care). 57% of the enrolled men were Hispanic. Among the 23 men randomized, 2 dropped out prior to their first intervention session. Of the 13 men who completed 1 or more intervention sessions, 11 (85%) successfully engaged a family member, 7 (54%) had ≥ 4 joint family sessions, and 8 (62%) experienced a significant reduction in symptoms (i.e. PHQ-9 score ≤ 10). The mean number of intervention sessions was 6.8. **Conclusions:** Engaging family members to support depression treatment appears feasible in a sub-group of low-income, depressed, and predominantly Hispanic older men.

CONTRIBUTION OF OBESITY AND PERFORMANCE FACTORS TO 6 MINUTE WALK TEST IN OLDER ADULTS WITH DIABETES

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6-minute walk distance (6MWD) is widely used as a measure of walking endurance and cardiopulmonary impairment. Little is known about the influence of obesity and performance factors such as lap time and rate of perceived exertion (RPE) in providing more insight into walking endurance in older adults with Type 2 diabetes.

Sedentary older adults (n=144, mean age 69) who were recruited to participate in an exercise study underwent baseline exercise treadmill (mean peak oxygen uptake 18 mL/kg

min) and 6MW testing (mean 391 m) along a 40 foot corridor. Participants also reported fatigue and RPE at baseline and subsequent 2 minute intervals.

Mean lap time (the time to walk 40 feet and return 40 feet) increased in the first few laps, plateaued and then decreased for the last few laps ($p < 0.001$). More than half of the fatigue and RPE increase occurred in first 2 minutes and BMI was associated with RPE change only in the first 2 minutes ($p < 0.001$). 6MWD of the severely obese (SO, BMI > 40 kg/m²) was lower than the other BMI groups ($p < 0.02$). RPE change was most prominent among SO ($P < 0.001$) and peak RPE was most consistent with peak treadmill RPE in SO ($p < 0.001$).

In these older adults with Type 2 diabetes mellitus, aspects of 6MW performance such as first few lap performance and rate of perceived exertion provide additional insight on walking endurance beyond the distance measure, particularly among the most severely obese subgroup.

SATISFACTION WITH QUALITY OF LIFE IN NURSING HOMES WITH PERSON-CENTERED CARE

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A major goal of implementing person-centered care (PCC) practices in nursing homes is to improve residents' quality of life (QOL). However, to date no large-scale studies have evaluated the effects of adopting PCC practices on resident QOL. Existing studies that examined this relationship have had small sample sizes, lacked a standardized definition of PCC, and did not clearly differentiate between homes at varying levels of PCC adoption. Studies have also shown that objective measures of quality (e.g., clinical outcomes) can differ from residents' reported satisfaction with quality. This study filled these evidence gaps by evaluating a government sponsored program to promote PCC in nursing homes. Residents' satisfaction with their quality of life, care, and service was assessed in 281 facilities in Kansas spread across 5 objectively determined levels of PCC adoption, ranging from non-adoption to comprehensive adoption. Data from a custom-designed My InnerView survey of satisfaction with quality of life, care, and service were collected face-to-face from residents in participating and non-participating homes and aggregated to the home level. Beta mixed regression models were used to analyze the data, with propensity score adjustment to control for demographic differences among facilities at different levels of adoption. The findings showed that comprehensive, sustained adoption of PCC improved residents' satisfaction with quality of life and care, but that partial adoption brought relatively few gains over non-adoption. Policymakers and practitioners should consider replicating this program to promote the implementation of PCC practices in nursing homes.

EPISTATIC EFFECTS ON AGING TRAITS IN SETS OF GENES SELECTED WITH DIFFERENT BIOLOGICAL ASSUMPTIONS

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Several hundred genes have been associated with aging and longevity in various studies. There are also genes and

SNPs that do not show individual effects on aging-related traits; however, they may still influence such traits as result of genetic interactions (GxG), also referred to as epistasis. Proper selection of biologically justified candidate genes may help increase chances of capturing the GxG effects on aging and longevity traits and improve interpretation. In this study we estimated GxG effects on aging-related phenotypes in three sets of genes selected based on different assumptions about their biological connections, and compared results across these sets to see how they are influenced by prior biological knowledge. The three sets of genes were selected based on results of our own association studies with phenotypes of physical aging, and on current knowledge about gene functions and their involvement in aging and health, as follows: (i) 53 “aging” genes from the literature, including key genes from known interacting aging pathways (IGF-1/AKT, TP53 and mTOR mediated); (ii) 43 “disease” genes from the NHGRI GWAS Catalog, including genes located in genomic regions enriched for genome-wide significant effects on complex diseases, such as cancer, AD, CHD, diabetes; (iii) 12 genes corresponding to the top SNPs that influenced multiple phenotypes of physical aging in our own analyses of CHS, MESA, FHS and ARIC studies. We selected all SNPs in these three groups of genes available in data, and estimated the effect of pairwise SNPs epistasis on longevity (survival 85+) and phenotypes of physical aging, such as Rosow-Breslau physical ability (R-B), age at BMI maximum, age at menopause, eGFR and hematocrit. Then we compared results of analyses among the groups. No significant GxG effects were found for genes from group (ii) representing major diseases. We identified significant GxG effects on longevity and age at menopause for BCL2 and IGF1R from ‘aging’ group (i), and on longevity and R-B for NRG1 and NRG3 genes from group (iii). The latter genes are located on different chromosomes but both code for ligands of ERBB4, and are both involved in neurons recovery, so they are closely biologically related. These results support pre-selecting biologically relevant and interacting candidate genes for estimating statistical epistasis effects on aging and longevity.

MOTIVATION TO EXERCISE IN MID-AGE AND EARLY SENIORS: THE ROLE OF TEMPORAL WORLDVIEW

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Little research exists that explores attitudes and beliefs of middle-age adults in relation to motivation to continue physical activity into older adulthood. Evidence suggests inactivity increases with age; however, evidence shows active lifestyles persist into older adulthood. It is critical to identify new approaches to combat trends of decreased activity with age. Purpose: to explore motivations to exercise in middle-age and early senior adults. Method: Exploratory qualitative interview design: n=40 participants, 35–60 years old; 2 groups: organized fitness participant (n=15), self-identified non-exercisers (n=25). Four researchers conducted inductive analysis of transcripts, identifying convergent and divergent themes. Results: Exercisers and non-exercisers identified similar motivating factors, though frequency ranking differed between groups. Both identified physical limitations

and competing demands as top de-motivators, though rank order was opposite. Perception of aging was associated with motivation; majority of participants in both groups identified exercise as a positive influence on aging. Discussion: Successful exercise in middle age may reinforce intent to exercise in older age, and may improve beliefs regarding likelihood of a positive personal aging journey. A future-oriented approach, emphasizing relationships between exercise and positive aging, may be useful when working with middle-age and early senior adults. Such approach would focus on evidence-based improved health outcomes of regular exercise, vs. an immediate gratification approach emphasizing aesthetics or solely considering current health status. Future studies should examine motivation to exercise as a variable of a more global facet of personal and cultural worldview, such as future-orientation or preparation, as opposed to present-oriented constructs.

ROTAVIRUS VACCINATION OF INFANTS MAY REDUCE ACUTE GASTROENTERITIS RATES IN THE ELDERLY IN ENGLAND

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Rotavirus is the main cause of severe acute gastroenteritis (AGE) in children under 5 but has not been considered an important cause of AGE in the elderly. This study aims to evaluate the impact of rotavirus infant vaccination introduction in the UK on all cause AGE episodes in primary care across all age groups using the Clinical Practice Research Datalink (CPRD) database.

We included all persons registered in CPRD between 1st July 2010 and 30th June 2016. Cut-off date to define pre- and post-vaccination periods was 1st July 2013. AGE GP episodes were defined using AGE related Read codes. We calculated crude AGE episode rates, overall and stratified per age group and calendar time.

Overall, there were 29 AGE episodes per 1,000 person-years in the pre-vaccination period compared to 24 post-vaccination (18.3% reduction, 95% CI: 17.7–18.8). The largest decrease was observed in children < 5 years (27.4% reduction, 95% CI 26.4 – 28.4). However, a significant decrease was also observed among the elderly, particularly among 65 to 74 year olds: from 29 to 24 AGE episodes per 1,000, a 16.7% (95% CI: 14.9–18.4) decrease. AGE episode rates in this age group in the 3 years prior to vaccine introduction were stable between 28 and 29 AGE episodes per 1,000.

This ecological analysis suggests that the introduction of rotavirus vaccination in the UK may have resulted in a significant impact on all cause AGE episodes among the elderly, similar to what has been seen following the introduction of pneumococcal vaccination among infants.

PHARMACOLOGICALLY TARGETING AGING SLOWS AGE-RELATED BONE LOSS

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There is considerable interest in determining whether chemical compounds or interventions shown to significantly increase longevity in invertebrate models will also affect aging in mammals. To explore this concept, we tested three

compounds and one element for their ability to slow age-related bone micro-architecture and functional decline in older mice. We chronically treated mice from 19 months of age and used a repeated measures experimental design to evaluate a number of structural and functional indices over late life. We focused on the aging skeleton, particularly the femur, because it can be accurately observed by computed tomography (CT) in living animals. Findings in this tissue may provide important insights into a major health issue, age-related bone loss and fracture in humans. We observed that with age there was increased inter-animal variation in bone structure despite the genetically identical nature of the test population. We also discovered complex changes in femoral bone loss and architecture during late life; the latter, osteopenic changes being similar to those observed in humans. In addition, we were able to document that the incidence of spontaneous fractures in aged mice is similar to that for humans. Finally, we report that one of the four interventions tested reduced the rate of bone loss in mice to a level similar to that seen with anti-osteoporotic drugs in humans. Our results demonstrate that selecting interventions on the basis of lifespan extension in invertebrates may be predictive of positive healthspan effects in aging mammals.

RELIABILITY AND VALIDITY OF THE DEMENTIA HEALTH LITERACY SCALE: A PILOT STUDY

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Background

In spite of the high prevalence of dementia (9.19%) in South Korea (CRCD, 2017), little is known about Dementia Health Literacy (DHL) among Korean older adults. The current study aimed to develop a DHL scale culturally competent and tailors to Korean older adults. To develop this scale, this research adopted the Integrated Model of Health Literacy (Sørensen et al., 2012) as a theoretical framework with four dimensions: (1) Access; (2) Understand; (3) Appraisal; and (4) Apply.

Methods

The data is from the 2016 Dementia Literacy Survey (DLS) utilized a probability sampling method. From the DLS, 440 participants of the survey were used for the final analysis. This study used an exploratory factor analysis with a principal-components analysis and a confirmatory factor analysis to evaluate the factorial validity of the DHL's Apply dimension.

Results

In the exploratory factor analysis, the KMO and Bartlett's test of sphericity indicated that the DHL items are factorable. With an eigenvalue of 2.98, the extracted factor explained 74.5% of the variance in the four items (Cronbach's alpha = .886). In the confirmatory factor analysis, all of the factor loadings were statistically significant. All of the fit indices showed adequate fit to the data as well.

Conclusions

Our findings indicated that the Apply dimension showed a good construct validity and internal consistency. The results support the idea that Apply dimension in the DHL

scale adequately measures the construct of interest by applying dementia health information to seek and use health care services in dementia care settings.

PREVALENCE AND ASSOCIATED FACTORS OF MULTIMORBIDITY IN ADULTS WITH INTELLECTUAL DISABILITIES

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Older adults with intellectual disabilities (ID) are at higher risk of chronic multimorbidity (≥ 2 chronic health conditions) and there is need to improve their health and healthcare by gaining more knowledge on the complex relationships of intellectual disability, morbidity, and associated factors. This study aims to investigate the prevalence and associated factors of multimorbidity in older adults with ID (≥ 41 years). Data from a subset (N=630) of the Longitudinal Health and Intellectual Disability Study (LHIDS) were examined. Compared to those without multimorbidity, adults with ID with multimorbidity were more likely to be ≥ 51 years, live independently or in a foster/group home, unemployed, and have mobility limitation; and less likely to have a diagnosis of Down syndrome. There were no group differences in sex, level of ID, urban or rural status, health insurance status, general physical screening, and obesity. The findings show that living in a group home/foster home (OR = 2.37, 95% CI = 1.23 – 4.56) and having mobility limitation (OR = 2.54, 95% CI = 1.33 - 4.86) are associated with multimorbidity in this population after controlling for other factors, whereas living with family (OR = 0.41, 95% CI = 0.26– 0.64) is inversely associated with multimorbidity. The findings suggest that multimorbidity may result in mobility limitation and unemployment. Therefore, interventions should focus on comorbidity management to improve health and function. There is also a need for clearer understanding of the mechanisms explaining the relationship between multimorbidity and type of residence.

LIVING ALONE WITH ALZHEIMER DISEASE: DATA FROM SVEDEM, THE SWEDISH DEMENTIA REGISTRY

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Background: Many people with Alzheimer's disease (AD) live alone in their own homes. There is a lack of knowledge about whether these individuals receive the same quality of diagnostics and treatment for AD as patients who are cohabiting.

Objectives: To investigate the diagnostic work-up and treatment of community-dwelling AD patients who live alone.

Methods: We performed a cross-sectional cohort study based on data from the Swedish Dementia Registry (SveDem). We studied patients diagnosed with AD between 2007 and 2015 (n=26 163). Information about drugs and comorbidities was acquired from the Swedish Prescribed Drug Register and the Swedish Patient Register.

Results: 11 878 (46%) patients lived alone, primarily older women. After adjusting for confounders, living alone

was inversely associated with receiving computed tomography (OR 0.90; 95% CI 0.82–0.99), magnetic resonance imaging (OR 0.91; 95% CI 0.83–0.99) and lumbar puncture (OR 0.86; 95% CI 0.80–0.92). Living alone was also negatively associated with the use of cholinesterase inhibitors (OR 0.81; 95% CI 0.76; 0.87), memantine (OR 0.77; 95% CI 0.72; 0.83) and cardiovascular medication (OR 0.92; 0.86; 0.99). On the other hand, living alone was positively associated with the use of antidepressants (OR 1.15; 95% CI 1.08; 1.22), antipsychotics (OR 1.41; 95% CI 1.25; 1.58) as well as hypnotics and sedatives (OR 1.09; 95% CI 1.02; 1.17).

Conclusion: Solitary living AD patients do not receive the same extent of care as those who are cohabiting.

NORDIC WALKING TRAINING AND INDIVIDUALISED NUTRITIONAL SUPPLEMENTATION IN PRE-FRAIL OLDER INDIAN

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Identifying and treating people in the pre-frail state may be an effective way to prevent or delay frailty and preserve the reserve capacity.

Our objective was to assess the effect and compliance of 12 weeks of Individualized Nutritional Supplementation (INS) and Nordic walking (NW) in pre-frail elderly in India.

Primary output measurement was physical performance by Fried's Frailty scale and secondary output were cognition (by HMSE), mood (Geriatric Depression Scale) and nutrition by MNA.

Approval taken from Institute Ethics committee (ref no-IEC/NP-350/2012/RP-26/2012) at All India Institute of Medical Sciences, New Delhi.

It was an open-labeled experimental pre-test and post-test pilot study from October 2012 to December 2014, where of 66 Pre-frail elderly (>65) subjects were included and randomly allocated into three intervention arm group A NW, Group B INS, Group C NW and INS intervention.

The mean age was 76.381 ± 5.344 years; 95 percent of the subjects completed the study.

Frailty score decreased by 100 %, 52.4 % and 40% in Group C, A and B respectively ($P < 0.001$) from baseline. Gait speed increased by 50.63%, 51.24%, 22.6 % in group C, A and B respectively ($P < 0.05$). Grip strength decreased by 9.14 % and 5 % in group A and B respectively where as increased by 16.67 percent in group C from baseline ($P < 0.05$). There was no significant changes in cognition and mood in all three group ($P < 0.10$).

Nordic walking and nutritional supplementation in combination was simple, pragmatic intervention model to maintain the functionally vulnerable older adults (Pre-frail) independent.

Multicentre RCT with longer follow up is needed.

CITP: SCREENING CHEMICALS FOR REPRODUCIBLE AND ROBUST EFFECTS ACROSS DIVERSE GENETIC BACKGROUNDS

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The Caenorhabditis Intervention Testing Program is a multi-institutional effort to screen promising chemicals for pro-longevity effects across diverse genetic backgrounds. Chemicals that act robustly, across diverse genetic backgrounds, are likely to target conserved pathways and will be promising leads to test in higher organisms, including vertebrates. This project makes use of the short-lived and genetically diverse *Caenorhabditis* genus to rapidly assess the robustness of pro-longevity chemicals. The project further emphasizes reproducibility of results as a primary goal. Towards this end, all experiments are performed in parallel at each testing site. Additionally all research sites perform multiple replicates of each assay, with large cohorts. By utilizing this rigorous approach we expect to facilitate and expedite the identification of promising drug leads for eventual use in treating human age-related diseases. Here we describe lifespan results for the 22 *Caenorhabditis* strains utilized, as well as our results from the first set chemical assays. While many of these chemicals extended the lifespan of at least one strain, the amyloid dye ThioflavinT was the only chemical to promote longevity across all strains tested. The CITP has demonstrated the ability to identify chemicals that act robustly across diverse genetic backgrounds. Currently we are focused on screening more chemicals for similar robust effects, as well as testing the most promising chemicals for their efficacy in mitigating age-related declines in physiology. In parallel we are investing in and developing automated assays in an effort to increase the throughput of the CITP.

SESSION 4590 (SYMPOSIUM)

KEYNOTE: TECHNOLOGY AND AGING—PROMISING SOLUTIONS, GLOBAL CHALLENGES

Chair: D.A. Lindeman, *University of California, Berkeley*

Technology has become a driving force throughout the globe in improving the well-being and health of older adults, their family caregivers, and the long-term care work force, and holds the promise of innovative solutions to improve social engagement and maximize independence. This symposium will serve as a platform for discussion and exchange between diverse stakeholders who share an interest in technology solutions to support older adults, with the further intent of identifying frugal technology innovations that can meet the emerging, rapidly evolving needs of older people globally. The symposium will also address the disparity of technology solutions and the future needs of older adults in low- and middle-income countries as well as solutions proposed for global innovation. Ensuring that rapidly ageing populations remain healthy, productive, socially engaged and independent for as long as possible requires technology innovations that meet their greatest needs, and which are safe, effective, affordable, appropriate, accessible and available.

HOW DO WE MOVE FROM GADGETS TO ECOSYSTEMS?

S. Johnston, *Aging 2.0, San Francisco, California*

In the light of the increasing need to scale new tech-enabled care models, Stephen Johnston will talk about what it takes to build an innovation ecosystem for aging, using examples drawn from the Aging2.0 global chapter network. He will also highlight some examples of innovative technologies and show how to succeed they need to be paired with user-centric design, which puts the individual at the center of decision making, as well as innovative business models, many of which are introducing technology companies into the healthcare continuum.

AGING AND TECHNOLOGY—TURNING RESEARCH INTO REAL-WORLD IMPACT

A. Sixsmith, *Gerontology, Simon Fraser University, Vancouver, British Columbia, Canada*

AGE-WELL is a Canadian research network that aims to help older people to maintain their independence, health and social participation through accessible technologies. While these are compelling arguments for public and private investment in this area, there are still a number of key challenges in turning the research outputs into real world products and services. This talk will explore and evaluate some of these challenges and will discuss AGE-WELL's approach to strengthen efforts in this sector.

TRANSFORMING PARADIGMS FOR AGEING POPULATIONS: NEW ECOSYSTEMS FOR TECHNOLOGY AND INNOVATION

A. Ross, *Centre for Health Development, World Health Organization, Kobe, Hyogo, Japan*

Central to ensuring the continued functional capacities, social engagement, and independence of older persons, and meeting their specific needs, are diverse assistive health and information/communication technologies. Yet many obstacles can prevent equitable access to or use of the most basic of these technologies. A few include not including older persons in design, ignoring affordability and appropriateness (environment, culture) considerations, literacy levels, or not planning for how technology can be integrated into the home and health/social care systems. A new ecosystem must engage multiple stakeholders and disciplines. For example, innovators, producers, regulators, and financiers must work together to identify the nature and role of health technology assessments & evaluations, which government will use to make resource allocation decisions in finite environments. The WHO Kobe Centre leads work in exploring various technological innovations and related issues for ageing populations, persons with disabilities and health systems; and the relationship to planning for sustainable universal health coverage.

SESSION 4595 (SYMPOSIUM)

MORE THAN COUNTS AND CUTPOINTS: INNOVATIONS IN ACCELEROMETRY DERIVED METRICS FOR OLDER ADULTS

Chair: J. Schrack, *Johns Hopkins University*

Co-Chair: V. Zipunnikov, *Johns Hopkins Bloomberg School of Public Health*

Discussant: T. Harris, *NIA/Intramural Research Program, Bethesda, Maryland*

The advent of wearable devices has introduced a new layer of complexity to assessing physical activity and mobility in older adults. These devices collect and produce data with an unprecedented level of detail that can be managed, analyzed, and interpreted in multiple dimensions. This symposium focuses on new methodology to analyze and interpret accelerometry data in older adults using data from participants of the Baltimore Longitudinal Study of Aging, the Developmental Epidemiological Cohort Study, the Women's Health Initiative, and the National Health and Nutritional Examination Survey. We will discuss methods to assess and interpret physical activity in older adults using methodologies beyond daily summaries, including: (i) analyzing raw activity data to determine stride-to-stride gait variability, (ii) summarizing raw accelerometry metrics into an activity index that is comparable across studies and devices, (iii) discriminating between patterns of driving a car versus ambulating, (iv) demonstrating how heart rate defines individual differences in physiological intensity of daily activities, and (v) examining circadian rhythms of activity in relation to mortality. Collectively, these presentations will address the potential of objective activity monitors to further our understanding of physical activity and mobility in an aging population. Further development and application of the methodology presented in this symposium will: (i) provide a new level of detail to analyses of daily activity, (ii) ultimately transform the way data is utilized across research disciplines, (iii) be widely used in the implementation of prevention efforts, and (iv) contribute to efforts to optimize interventions that extend healthy aging and improve longevity.

STRIDE VARIABILITY MEASURES DERIVED FROM WRIST AND HIP-WORN ACCELEROMETERS

J. Urbanek², J. Harezlak¹, N.W. Glynn³, T. Harris⁴, C. Crainiceanu², V. Zipunnikov², 1. *Indiana University School of Medicine, Department of Biostatistics, Indianapolis, Indiana*, 2. *Johns Hopkins Bloomberg School of Public Health, Department of Biostatistics, Baltimore, Maryland*, 3. *University of Pittsburgh, Center for Aging and Population Health, Department of Epidemiology, Graduate School of Public Health, Pittsburgh, Pennsylvania*, 4. *Laboratory of Epidemiology, Demography, and Biometry, National Institute on Aging, Bethesda, Maryland*

Many epidemiological and clinical studies use accelerometry to objectively measure physical activity using the activity counts, vector magnitude, or number of steps. These measures use just a fraction of the information in the raw accelerometry data as they are typically summarized at the minute level. To address this problem we define and estimate two gait measures of temporal stride-to-stride variability based on raw accelerometry data: Amplitude Deviation (AD) and Phase Deviation (PD). We explore the sensitivity of our approach to on-body placement of the accelerometer by comparing hip, left and right wrist placements. We illustrate the approach by estimating AD and PD in 46 elderly participants in the Developmental Epidemiologic Cohort Study (DECOS) who wore accelerometers during a 400 meter walk

test. We also show that AD and PD have a statistically significant association with the gait speed and sit-to-stand test performance.

AN ACTIVITY INDEX FOR RAW ACCELEROMETRY DATA AND ITS APPLICATION IN OLDER ADULTS

J. Bai¹, C. Di², L. Xiao³, K.R. Evenson⁴, A. LaCroix⁵, C. Crainiceanu¹, D.M. Buchner⁶, 1. *Department of Biostatistics, Johns Hopkins University, Baltimore, Maryland*, 2. *Fred Hutchinson Cancer Research Center, Seattle, Washington*, 3. *North Carolina State University at Raleigh, Raleigh, North Carolina*, 4. *University of North Carolina – Chapel Hill, Chapel Hill, North Carolina*, 5. *University of California, San Diego, La Jolla, California*, 6. *University of Illinois at Urbana-Champaign, Champaign, Illinois*

Accelerometers have been widely deployed in public health studies in recent years and research has mainly focused on summarized metrics provided by accelerometers manufactures, such as the activity counts (AC). Such measures do not have a publicly available formula and can vary by device manufacturer. To address these problems, we developed the activity index (AI), a new metric for summarizing raw tri-axial accelerometry data, and compared the AI to AC's performance for distinguishing various types of activities and estimating energy expenditure. The analysis was conducted using data from the Women's Health Initiative, in which tri-axial raw acceleration data and energy expenditure were collected at the same time. ROC analyses indicated that AI better distinguished between different types of activities than AC. AI better associated with METs as well. The proposed AI provides a transparent and reliable way to summarize densely sampled raw acceleration data.

PHYSICAL EXERTION AND ACTIVITY: AGE AND RELATIVE EFFORT IN THE BALTIMORE LONGITUDINAL STUDY OF AGING

A. Leroux¹, J. Schrack¹, J. Fleg³, E.M. Simonsick², V. Zipunnikov¹, S.A. Studenski², L. Ferrucci², C. Crainiceanu¹, 1. *Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland*, 2. *National Institute on Aging, Baltimore, Maryland*, 3. *National Heart, Lung, and Blood Institute, Bethesda, Maryland*

Commonly used measures of physical activity (PA) fail to account for heterogeneity in maximal capacity between individuals. Utilizing the concept of heart rate reserve, we estimated minute level physical exertion (PE) among BLSA subjects with at least 3 days of Actiheart data ($n = 411$). Subjects' average time spent in each of sedentary, light, moderate and vigorous PE was associated with age adjusting for demographics, chronic conditions, and PA. Despite a significant decline in total PA with age ($p < 0.001$), time spent in moderate and vigorous PE is positively associated with age in both women ($p_{\text{moderate}} < 0.001$, $p_{\text{vigorous}} < 0.001$) and men ($p_{\text{moderate}} = 0.137$, $p_{\text{vigorous}} = 0.222$). Chronic conditions are also generally associated with increased average PE. Our results suggest that individuals with decreased capacity are, on average, engaging moderate and high relative intensity activities at a rate comparable to, or higher than, that of healthier individuals.

AUTOMATIC CAR DRIVING DETECTION USING RAW ACCELEROMETRY DATA

M. Straczekiewicz², J. Urbanek³, W. Fadel¹, C. Crainiceanu³, J. Harezlak¹, 1. *Biostatistics, Indiana University Fairbanks School of Public Health, Indianapolis, Indiana*, 2. *AGH University of Science and Technology, Krakow, Poland*, 3. *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

Measuring physical activity using wearable devices has gained popularity in older populations. Raw data collected from them is summarized as "activity counts", which combine information of human activity with environmental vibrations. Driving is a major sedentary activity that can artificially increase these counts. Thus, it is important to identify periods of driving and quantify the bias induced by driving in activity counts. To address these problems, we propose a Detection Algorithm of Driving via Accelerometry (DADA), which is based on short-time Fourier transform applied to the raw accelerometry data identifying the frequencies' ranges specific to car driving. We test DADA's performance on data collected using wrist-worn ActiGraph devices in an experiment conducted on 24 subjects. The median AUC for predicting driving periods was 0.94. The activity count bias induced by driving per unit of time was on average equal to 16% of the average activity counts generated during walking.

TOTAL PHYSICAL ACTIVITY AND ITS CIRCADIAN ALLOCATION ARE INDEPENDENT PREDICTORS OF MORTALITY

V. Zipunnikov, D. Dey, A. Leroux, J. Di, J. Urbanek, J. Schrack, C. Crainiceanu, *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

We examine whether the distribution of physical activity during the day acts as an independent predictor of mortality in National Health and Nutrition Examination Survey 2003–2006. Time of day analyses were conducted using 12 time windows of 2 hours represented by the percentage of the total log-transformed activity count (pTLAC) spent in each. In models adjusted for age, sex, race/ethnicity, education, body mass index, comorbidities, and the total log-transformed activity count, a higher percentage of total physical activity between 10am–12pm (HR: 0.96, $p\text{-value} = 0.003$) and a lower percentage of total physical activity between 8pm–4am (HR: 1.03, $p\text{-value} < 0.01$) were significantly associated with lower risk of mortality. These findings help define patterns of physical activity that are beneficial to health, and hold significant implications for future interventions aimed at increasing physical activity and enhancing sleep quality.

SESSION 4600 (SYMPOSIUM)

IAGG SECRETARIAT: THEORETICAL AND POLICY PERSPECTIVES FOR HEALTHY AGING

Chair: Y. Lee, *Ajou University School of Medicine, Suwon, Korea (the Republic of)*

Co-Chair: D. Lee, *Seoul National University College of Medicine, Korea (the Republic of)*

Discussant: J.L. Yoon, *Hallym University, Hwasung-si, Korea (the Republic of)*

Populations are aging and most older adults suffer from multiple chronic diseases, raising the risk of functional limitations and dependency. This phenomenon is worldwide, and poses to the world a challenge of poor quality of life and increased healthcare costs. Healthy aging framework is a solution to counter such dismal prospects. Although we should consider diverse aspects of healthy aging, such as physical, cognitive and emotional aging, there has been great progress in understanding healthy aging theoretically, resulting in convergent principles on healthy aging. Despite these converging principles of healthy aging, setting up and implementing policies to enhance healthy aging is a challenge as we should take into account of diversities of the population, community, and environment. In this symposium, the authors will review theoretical aspects of healthy aging, and then will introduce practical applications and experiences of policymaking pertaining to frailty and dementia, two major barriers to healthy aging.

THE WHO MODEL OF HEALTHY AGEING AND ITS IMPLICATIONS

J. Beard, *World Health Organization, Geneva, Switzerland*

In 2016, the World Health Organization released the *World report on ageing and health*. The Report outlines a public health framework for action on ageing built around a reconceptualization of *Healthy Ageing* that focuses on an older person's ability to do the things they have reason to value, rather than the absence of disease. In 2016, the 194 Member States of WHO used this framework as the basis for the *Global strategy and action plan on ageing and health*, and numerous initiatives linked to the strategic priorities outlined in this plan are now underway. This presentation will explore the theoretical basis of WHO's approach and its implications for global policy.

HEALTHY AGEING: A CHALLENGE TO KOREA

B. Cho, 1. *Family Medicine, Seoul National University, Seoul, Chongno-gu, Korea (the Republic of)*, 2. *Seoul National University Hospital, Seoul, Korea (the Republic of)*

The world population is growing really fast, both in the developed countries and even more in the less developed regions. More remarkable ageing changes are happening in Korea.

The prevalence of chronic disorders is very high (88.5% of total older persons have at least 1 chronic disorder), and combined with highest poverty rate of the elderly, Korean elderly's suicide rate is the highest in the world. And the number of the oldest old aged 80 or over has been increasing more rapidly than that of the older population as a whole. This means that ageing demographics could trigger a high prevalence of chronic disorders and functional impairments.

The appropriate continuum of care should be a seamless preventive intervention to reduce the speed and slope of the deterioration process with aging. There should be specific roles of health care providers in each practical position with an organic connection system: active health promotion in the community primary care, elderly-friendly geriatric care system in acute hospitals, intensive functional rehabilitation in

post-acute care, and finally various long-term care services in the community or facilities.

There are many problems with continuous care for the elderly in acute and post-acute care settings in Korea. The bottom line in the community primary care is to provide a designated physician for an older patient.

In acute care phase, a geriatric center or an elderly-friendly geriatric ward with a geriatric care interdisciplinary team should be provided.

And, the biggest problem with post-acute care in Korea is that there is no hospital or facility to take a role for sub-acute care.

Comprehensive and continuous care for the elderly should be geared to achieve an ultimate goal of successful ageing and improvement of their quality of life.

Individualized services based on a proper assessment of each patient should be carefully selected and provided.

PREVENTION OF FRAILTY FOR HEALTHY AGING

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Frailty is a hallmark of vulnerability in older adults predisposed to adverse health outcomes, posing as a major threat to healthy aging. Community-based interventions targeting the pre-frail and frail elderly tend to show beneficial effects on frailty status. A growing body of evidence suggests that exercise interventions may be effective in enhancing physical function and performance. Evidence on the benefits of nutrition by itself is, however, inconclusive. A combined exercise and nutritional intervention appears to be more effective. More recently, multi-component interdisciplinary interventions that combine exercise, nutrition, cognitive training, and comprehensive geriatric assessment appear promising. To enhance our understanding of effective preventive interventions for frailty, larger scale clinical trials are needed. This will help to develop individually tailored prevention programs and evidence-based clinical practice guidelines, and to prioritize frailty prevention as one of the key policy agenda for healthy aging.

IMPLEMENTATION OF SYSTEMS FOR DEMENTIA MANAGEMENT IN RAPIDLY AGING SOCIETY-KOREAN EXPERIENCE

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Korea is one of the most rapidly aging societies in the world. The Rapid aging poses many healthcare problems for which the society should cope with within short periods. Dementia is a typical disease which increases rapidly with rapid aging.

Koreans have designed and implemented systems for dementia management over the previous 10 years.

In the year 2008, Korean government has declared "war against dementia" and set up 21st of September as "Dementia-overcoming Day". In the same year, Korean long-term care service was launched. Early detection and early treatment service for dementia has been launched the year before.

In the year 2015, Korean government has set up “Law for Dementia Management.” and many “Dementia support centers” has been set up by this law.

Such an experience can shed light on providing systems for dementia management in rapidly aging societies.

SESSION 4605 (SYMPOSIUM)

ELDERLY ANESTHESIA AND ANALGESIA

Chair: H. Zhang, *Chinese PLA General Hospital, Beijing, China*

Co-Chair: C. Tong, *Wake Forest Baptist Medical Center, Winston-Salem*

Since the 1990 s, China's aging process was accelerated. 65 and older elderly population increased from 1990 in 62.99 million to 2000 in 88.11 million. The proportion of the total population increased from previous 5.57% to present 6.96%. It is predicted that by 2040, 65 and older elderly population will account for over 20% of the total population. At the same time, the elderly population aging trend is increasingly obvious: the number of people at the age of 80 and older is increasing at an annual rate of 5%, and by 2040 it will increase to more than 7,400, ten thousand people. Due to the special physiological and pathological physiology change of old people, there are different sorts of diseases that have impact on perioperative treatment. Elderly patients with age increase, the risk of surgery becomes more and more serious. Therefore, for every anesthesiologist, more attention should be paid to the anesthesia in elderly patients, in the preoperative evaluation, on the choice of anesthetic methods and the anesthetic, intraoperative monitoring and physiological regulation, postoperative analgesia, etc., especially to consider its particularity, to do a good job in every detail to make them through surgery.

OVERVIEW OF THE ANESTHESIA PRACTICE IN GERIATRIC PATIENTS IN CHINA

Y. Huang, *Peking Union Medical College Hospital, Beijing, China*

China has the largest and most rapidly growing elderly population in the world, and has entered the stage of a rapid growing aging society. The percentage of elderly people in China is projected to triple, from 8% in 2006 to 24% in 2050. The elderly population continues to grow rapidly, resulting in the increasing number of geriatric patients requiring surgery, which has become a huge challenge for anesthesiologists. Multiple organ function failure caused by aging, limited organ function reserve due to complex comorbidities, and the possible drug interactions between anesthetics and daily medication, together contribute to a challenging scenario for anesthesiologists to perform anesthesia practice in geriatric patients. Therefore, the Section on Anesthesia for Geriatric Patient of Chinese Society of Anesthesiology composed “Guidance on perioperative anesthesia management for Chinese geriatric patients” in 2014, aimed at improving the surgical outcome of these patients.

GERIATRIC ANESTHESIA FOR ORTHOPEDIC SURGERY IN CHINA-CHALLENGE VS. EXPLORATION

X. Guo, *Department of Anesthesiology, Peking University Third Hospital, Beijing, China*

Currently, geriatric anesthesia for orthopedic surgery is facing grave challenges in China. In order to cope with the challenges, we strengthen the anesthesia safety through popularizing the advanced technology, such as ultrasound and visualization technique, new airway devices, anesthesia depth and brain oxygen monitoring facilities. We also advocate the collaboration of anesthesiologists, orthopedists and physicians as a multidisciplinary team (MDT), and establish the experts consensus, carry out specific research, individualize patient management and promote ERAS in elderly orthopedic patients. Up to date, several academic platforms and training centers have been constructed, and a variety of training programs, including key doctor training courses, workshops, and case reports, etc., periodically conducted by the CSA to improve the long term outcome after orthopedic anesthesia in China.

THE EFFICACY ANALYSIS OF MORPHINE AND HYDROMORPHONE IN IDDS FOR GERIATRIC INTRACTABLE CANCER PAIN

K. Ma, *Xinhua Hospital, Medical School, Shanghai JiaoTong University, Shanghai, China*

The aims of this study were to observe the effects, security and pharmacoeconomics of morphine and hydromorphone in the treatment of geriatric intractable cancer pain. 240 geriatric patients with intractable cancer pain are enrolled. Participants are randomly allocated to one of the two groups. Those in group 1 were given hydromorphone via an intrathecal catheter. Those in group 2 were given morphine via an intrathecal catheter. The pain experienced after treatment is assessed for each patient every day for the next 3 months. After administration of intrathecal drug delivery system (IDDs), VAS both dramatically decreased ($P < 0.05$). SF-36 scores were all improved in the two groups. Patients in group 1 with hydromorphone represented a slower increase rate in drug requirements ($P < 0.05$). Intrathecal administrations of hydromorphone and morphine have comparable analgesic effects. However, Hydromorphone represents a slower increase rate in drug requirements and might have better toleration.

SESSION 4610 (SYMPOSIUM)

FRONTIERS IN HIGH-RISK AND POTENTIALLY INAPPROPRIATE MEDICATIONS FOR OLDER ADULTS

Chair: M. Steinman, *University of California, San Francisco School of Medicine, San Francisco, California*

For more than 2 decades, clinicians who care for older adults have known about the concepts of high-risk and potentially inappropriate medication use. Yet, use of these medications has in many cases remained stubbornly high. In this symposium, we will explore emergent approaches to defining what constitutes high-risk and potentially inappropriate prescribing, and describe research on high-value opportunities

to reduce use of these medications in vulnerable older adults. The symposium will feature 4 presentations of research in these areas by internationally-known experts on the topic from Ireland, Australia, Israel, and the United States. This will include 2 presentations on outcomes and opportunities to reduce prescribing of sedative-hypnotics, and presentations on the START-STOPP criteria and Drug Burden Index, two approaches to identifying potentially inappropriate and high-risk prescribing that have gained substantial interest in recent years. The final 30 minutes of the symposium will be devoted to a panel discussion with audience participation, where we will discuss how results of recent research inform how individual clinicians and health systems can best reduce the burden of high-risk and potentially inappropriate medications in older adults.

THE DRUG BURDEN INDEX: A TOOL TO ASSESS THE FUNCTIONAL BURDEN OF MEDICATIONS IN OLDER ADULTS

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Medicines with anticholinergic and sedative effects impair physical and cognitive function in older adults and are widely used by older adults internationally, often in combination. The Drug Burden Index (DBI) uses pharmacological principles to measure a person's total exposure to these medicines. Higher DBI is associated with impaired function, falls, frailty, higher health care utilisation and mortality in pharmaco-epidemiological studies of older people from the USA, Australia, New Zealand, UK, Canada and Europe. Observational studies have shown that review of anticholinergic and sedative medicines is not often performed with provision of health care. Interventional studies are now being conducted in Australia, New Zealand and Europe using the DBI in computerized clinical decision support systems in a range of health care settings (general practice, community pharmacy, hospital, nursing home) to reduce the functional burden of medications in older adults.

STOPP/START CRITERIA AS A CLINICAL TOOL IN PRACTICE: CLINICAL TRIAL EVIDENCE OF EFFICACY

D. O'Mahony, *University College Cork & Cork University Hospital, Cork, Ireland*

The STOPP (Screening Tool of Older Persons Prescriptions) and START (Screening Tool to Alert to Right Treatment) criteria were designed and validated as explicit criteria to help clinicians detect common instances of potentially inappropriate medicines (PIMs) and potential prescribing omissions (PPOs). The intention of STOPP/START criteria has always been to assist prescribers to identify potentially harmful PIMs/PPOs and associated adverse drug reactions and events (ADRs, ADEs). One valid criticism of all sets of explicit PIM criteria up to recently has been the lack of evidence of efficacy from randomized controlled trials (RCTs). In this presentation, we will review evidence from 4 recent RCTs about

the START/STOPP criteria. In doing so, we will discuss RCT evidence that demonstrates that STOPP/START criteria as an intervention deliver highly significant improvements in (i) medication appropriateness, (ii) falls incidence, (iii) medication costs and (iv) ADR incidence among older people in the clinical care facility environment.

USE OF BENZODIAZEPINES AMONG OLDER ADULTS IN ISRAEL: EPIDEMIOLOGY AND LEVERAGE POINTS FOR IMPROVEMENT

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Benzodiazepines and benzodiazepine-receptor agonists (BDZRAs, often known as "Z-drugs") are commonly used in older adults despite well-documented harms. In this presentation, we will present results of a national study of 56,808 older Israeli adults that explored the epidemiology of benzodiazepine and BDZRA use in this population, which is extraordinarily high. The presentation will place particular focus on potential leverage points to reduce use of these drugs, and highlight how our results can inform targeting of quality improvement efforts to reduce benzodiazepine/BDZRA use. These focus areas include the role of hospitalization in starting older adults on the path toward chronic benzodiazepine/BDZRA use, transitions from short-term to long-term use of these agents, and the potential value of focusing interventions on high-prescribing clinicians and clinics.

IS USE OF SEDATIVE-HYPNOTICS DURING HOSPITALIZATION ASSOCIATED WITH ADVERSE FUNCTIONAL OUTCOMES?

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More than one-quarter of hospitalized older adults consume sedative-hypnotics, but their adverse effects on mobility and function during hospitalization are unknown. We will present results of a prospective cohort study of 177 adults which examined the effects of sedative-hypnotic consumption on in-hospital mobility and functional decline. A daily step count was monitored using an Actical monitor, and function was assessed at admission and discharge using objective and subjective indexes. Patients consuming sedative-hypnotics (28.7%, n=50) were significantly less mobile than patients who did not use these drugs (mean step count 1400 (SD 1620) vs 2200 (SD 2328), p=0.023). However, after controlling for age and basic functioning the difference between groups was not significant. Additionally, sedative-hypnotic consumption was not significantly associated with changes in functional outcomes. We will discuss future steps for research in this area, including the influence of different hypnotic drugs' groups as well as their sedative load effects.

SESSION 4615 (PAPER)

RISK FACTORS FOR FUNCTIONAL DECLINE AND MOBILITY LIMITATIONS

RHYTHMIC INTERLIMB COORDINATION IMPAIRMENTS AND THE RISK FOR DEVELOPING MOBILITY LIMITATIONS

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The identification of novel targets that are risk factors for mobility limitations may improve the ability to prevent and treat mobility impairments among older adults. We tested the hypothesis that impaired rhythmic interlimb ankle and shoulder coordination are risk factors for subsequent mobility limitations among older adults. We conducted a 1-year prospective cohort study of community-dwelling older adults (N = 99) aged ≥ 67 years who did not have mobility limitations (Short Physical Performance Battery score > 9) at baseline. Participants performed antiphase coordination of the right and left ankles or shoulders while paced by an auditory metronome. Using multivariable logistic regression, we determined odds ratios for mobility limitations at 1-year follow up as a function of coordination variability and asymmetry. Adjusting for age, sex, body mass index, Mini Mental-State Examination score, and number of chronic conditions, odds ratios were significant for developing mobility limitations associated with a 1 standard deviation difference in the variability of ankle (OR = 1.88; 95% CI: 1.16–3.05; P = 0.011) and shoulder (OR = 1.96; 95% CI: 1.18–3.26; P = 0.009) coordination. Odds ratios were significant for asymmetry of shoulder (OR = 2.08; 95% CI: 1.23–3.51; P = 0.006), but not ankle (OR = 0.96; 95% CI: 0.60–1.55; P = 0.870) coordination. The results support our hypothesis that impaired interlimb ankle and shoulder coordination are risk factors for the development of mobility limitations. These findings indicate that the treatment of impaired coordination may be a means for preventing mobility limitations among older adults.

PHYSICAL DECONDITIONING IN OLDER PERSONS WITH PROLONGED FEAR OF FALLING-INDUCED ACTIVITY RESTRICTION

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The negative impact of fear of falling (FoF) in older persons is postulated to be due to FoF-induced activity restriction (FoF-ActRes) leading to physical deconditioning. However, there is sparse direct evidence to support this. Therefore, we identified

differences in key factors representing physical deconditioning between older adults who reported prolonged FoF-ActRes defined as reporting FoF-ActRes on 2 successive visits, and those who did not. Further, we examined if physical deconditioning could independently explain poor physical function of those who reported prolonged FoF-ActRes. In 557 cognitively intact Baltimore Longitudinal Study of Aging older participants (age ≥ 65 years and visited between 2010–15), 29 (5%) reported prolonged FoF-ActRes. They were significantly worse in the physical deconditioning factors, namely, standing balance, coordination, aerobic capacity, knee extensor torque and ankle proprioception as well as on the physical function measures including gait speed (usual pace, fast pace and on a narrow path), Short Physical Performance Battery, Walking Index and SF-12 Physical Component. However, in the ANCOVA performed for each physical function variable, the differences in physical function did not abolish after adjusting for relevant physical deconditioning variables. Nonetheless, specific physical deconditioning variables were found to be significant covariates. In fully adjusted regression analyses these physical deconditioning variables were independent determinants of physical function (all $p < 0.05$) albeit with only a small reduction in the weighing (β) associated with FoF-ActRes. In conclusion, FoF-ActRes related physical deconditioning may partially contribute to poor measured and self-reported physical function in older persons; however, it does not fully explain it.

FUNCTIONAL DECLINE IN BRAZILIAN NURSING HOMES: A SURVIVAL ANALYSIS

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The objective was to estimate the probability of maintaining functional capacity in basic activities of daily living in institutionalized older adults. Besides, we aimed at identifying the prognostic factors of functional decline. A 2-year longitudinal study with 5 waves applied every 6 months was carried out. Individuals aged ≥ 60 in 10 nursing homes in the city of Natal-RN (Brazil) were included. Functional capacity was assessed by the items 'eating', 'personal hygiene', 'dressing', 'bathing', 'transferring', 'toileting' and 'walking', through a 5-item Likert scale. Sociodemographic, institution-related and health-related variables were considered at baseline. Time dependent variables were continence decline, cognitive decline, increase in the number of medication, and incidences of falls, hospitalizations and fractures. The actuarial method, the log-rank test and Cox's regression were applied. The cumulative probability of functional maintenance was 78.2% (CI 95%: 72.8–82.7%), 65.1% (CI 95%: 58.9–70.5%), 53.5% (CI 95%: 47.2–59.5%) and 44.0% (CI 95%: 37.7–50.2%) at 6, 12, 18 and 24 months, respectively. Predicting factors for functional decline were severe cognitive impairment (HR=1.98; $p=0.003$), continence decline (HR=1.70; $p=0.013$), and incidence of hospitalizations (HR=1.65; $p=0.023$), adjusted by Parkinson's disease, kidney failure, education level, reason for institutionalization 'by own choice', tobacco consumption, marital status, private health plan, low weight, and incidence of depression. It can be concluded that the cumulative probability of maintaining functional capacity in this sample of Brazilian institutionalized older adults was only 44% at 2 years. Prognostic factors for functional decline were severe cognitive impairment

at baseline, and continence decline and incidence of hospitalizations during the period.

BETWEEN-PERSON AND WITHIN-PERSON VARIABILITY IN VITAMIN D, PHYSICAL ACTIVITY, PAIN, AND FALLS RISK

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Aims: To describe the associations between falls risk, and between-person and within-person variability in 25-hydroxyvitamin D (25OHD), physical activity (PA), knee pain and dysfunction in community-dwelling older people.

Methods: Data for 1099 participants (51% women; mean age 63 ± 7.5 years) studied at baseline, 2.5, 5, and 10 years were analysed. Falls risk (Z-score) was measured using the validated physiological Profile Assessment. Knee pain and dysfunction were assessed using the Western Ontario and McMaster Universities Osteoarthritis index (WOMAC). Moderate and vigorous PA (MVPA) was measured using accelerometer. Mixed effect regression analysis was used to model the association between falls risk and between-person and within-person variability in PA, 25OHD and WOMAC score.

Results: Between-person effect showed that 10-year average falls risk was lower in participants who had a higher 10-year average 25OHD ($\beta = -0.006$ per nmol/l, 95% CI: $-0.009, -0.004$, $P < 0.001$), MVPA ($\beta = -0.07$ per 10 minutes, 95% CI: $-0.01, -0.04$, $P < 0.001$) and lower mean WOMAC score ($\beta = 0.005$ per-unit score, 95% CI: $0.004, 0.007$, $P < 0.001$). Within-person effect showed that a higher falls risk was associated with higher than average WOMAC score ($\beta = 0.003$ per-unit score, 95% CI: $0.001, 0.005$, $P = 0.003$) and lower than average MVPA ($\beta = -0.12$ per 10 minutes, 95% CI: $-0.17, -0.08$, $P < 0.001$) but not 25OHD.

Conclusion: Having knee pain and dysfunction above an individual's average increases the risk of falling, whereas, increasing one's own MVPA level further reduces their risk of falling. The presence of between-person but not within-person associations for 25OHD suggests the former may be confounded by other factors.

CHANGE OF FUNCTIONAL STATUS AND QUALITY OF LIFE IN COMMUNITY LIVING CHINESE ELDERLY WITH FRACTURES

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To investigate the impact of fractures on subsequent functional status and quality of life, we conducted both cross-sectional and longitudinal analyses based on data collected from a population-based elderly cohort (N=2032) aged ≥ 70 years

and above recruited through stratified random sampling based on the Old Age Allowance Scheme in Hong Kong. The baseline analysis showed that elderly subjects with history of fractures in the past years, compared to those without, had two-fold increased risk of having limitations in activities of daily living (ADL, Barthel index), mobility (ability to walk 50 feet and moving up and downstairs), and lower score in satisfaction with life (below 70 out of 100). The 36-month followup data also revealed that subjects with no limitations in ADL at baseline but with fractures occurring during the followup period had increased risk of developing limitations in ADL [Odds ratio (OR) = 1.2; 95% CI: 1.0–2.0], mobility problem (OR=1.8; 95% CI: 1.2–2.8), and having lower satisfaction with life score (OR=1.24; 95% CI: 0.94–1.62), after adjustment for age, sex, baseline history of fractures and number of diseases. They were also significantly more likely to be depressed, have higher utilization of community and medical resources, and poorer self-evaluated health at the 36-month followup visit. The increased risk ranged from 30% to 100% compared to those with no fracture occurrence during the followup period.

Population preventive strategies, including lifestyle modifications, for the reduction of fractures are important for the maintenance of mobility and quality of life in the elderly population.

SESSION 4620 (PAPER)

DISABILITY AND DEMENTIA IN LONG-TERM CARE

LOW DISABILITY AT ADMISSION PREDICTS FASTER DISABLEMENT IN LONG-TERM CARE RESIDENTS

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Background: Disablement is when people lose their ability to perform activities of daily living (ADLs) like bathing and dressing over time. This study examines whether high versus low disability, balance impairment, cognitive impairment and pain at admission to long-term care are predictive of residents' subsequent rate of disablement over two years.

Methods: Longitudinal study of 12,334 residents admitted to 633 Ontario long-term care homes between April 1st 2011 and March 31st 2012. Eligible residents received an admission assessment of disability using the RAI-MDS 2.0 ADL long-form score (range 0 – 28) and two subsequent disability measures in the home they were admitted to. Regression models estimated the adjusted association between high versus low disability, pain, balance impairment and cognitive impairment at admission with residents' rate of disablement over two years.

Results: Residents had a median disability score of 13 at admission. Residents with disability scores below or equal to the sample median experienced disablement at a rate of 0.43 (95% CI: 0.42, 0.45) points per month, whereas those with above-median disability at admission became disabled at a rate of 0.17 (95% CI: 0.15, 0.18) points per month. Pain,

balance impairment and cognitive impairment at admission had negligible effects on resident disablement over two years.

Conclusions: Residents who are more disabled at admission experience slower disablement over two years than residents who are less disabled at admission. This rate difference may reflect an untapped opportunity for slowing disablement among residents who are admitted to long-term care with lower disability.

FACTORS ASSOCIATED WITH ANTIPSYCHOTIC MEDICATION USE IN LONG-STAY NURSING HOME RESIDENTS

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Nationally, 17% of nursing home residents without qualifying diagnoses of schizophrenia, Huntington's Disease, and/or Tourette's Syndrome receive antipsychotic medications. Identifying factors associated with antipsychotic use could reveal targets for alternative interventions. Using the Missouri Minimum Data Set collected between 1/1/2015 and 12/31/2015, variables correlated with antipsychotic use in long-stay nursing home residents age ≥ 65 years, lacking a qualifying diagnosis, and not comatose, were examined. Among 36,307 residents meeting inclusion criteria, 18% received an antipsychotic. After dividing the sample into 10 random equivalently-sized subsets, logistic regression with forward selection of candidate variables associated ($p < .01$) with antipsychotic use was run for each data subset. Variables selected in $\geq 50\%$ of subsets were included in a final logistic regression model using 36,307 cases. Statistically significant predictors of antipsychotic use, in ascending order of absolute magnitude ranging from odds ratios of 0.96 to 6.22, were fewer late-loss activities of daily living, lower age, non-Alzheimer's dementia, antidepressant medication, cognitive impairment, wandering, antianxiety medication, behavioral symptoms, psychosis symptoms, psychotic disorder, and manic depression. The area under the receiver operator characteristic curve was 0.81, indicating good discrimination between residents receiving and not receiving antipsychotics. This study identified characteristics of residents most at risk for antipsychotic use; these findings could guide nursing homes in proactively planning need-based interventions. By implementing interventions targeted toward younger, higher-functioning dementia residents, and including relaxation and cognitive behavioral therapy techniques for anxiety and depression, antipsychotic use may be reduced, thereby mitigating harm caused by medication side effects and complying with federal regulations.

PATTERNS OF NEW PHYSICAL PROBLEMS EMERGING IN LONG-TERM CARE RESIDENTS WITH DEMENTIA

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People receiving skilled nursing care have multiple comorbid conditions that impact comfort and resource utilization. This longitudinal study describes variations in the trajectories of new physical problems emerging over 8 weeks and the predictive value for future health and behavior in residents from two nursing homes with dementia. The sample of

72 had 668 new physical problems with a range of 2 to 37 occurring over eight weeks. Sixty-five percent of the sample ($n = 47$) had 5 or more new problems and were identified by three unstable trajectories. Thirty-nine percent ($n = 28$) had a spike in new problems of 4 or more in one week. Spikes, new physical problems, and the problem-free duration predicted 23.6% of the variance in both new physical problems and new agitation occurring in the subsequent month ($p < .001$). Common problems, acute illness, and symptoms accounted for 28.2% of the variance in subsequent new physical problems ($p < .001$) and 25.7% of the variance in subsequent agitation ($p < .001$). The frequency of new problems and differences in the patterns of how these problems emerged over a relatively short time period suggests instability and variability in physiologic health that has not been previously identified. The possible existence of different pathways of decline may have important implications for health care delivery. Findings suggest a higher intensity of need for skilled assessment and treatment than may be available in many long-term care organizations.

THE EFFECT OF ENVIRONMENTAL ADAPTATIONS ON SELF-REPORTED BATHING DISABILITY AND INSTITUTIONALIZATION

W.K. Graham, M. Bilger, *Duke-NUS Medical School, Singapore, Singapore*

Disability in bathing, an activity of daily living, has been shown to be an independent predictor of long-term nursing home (LTNH) admission. It is theorized that environmental adaptations (EA) in the home can reduce the physical demands of bathing and hence delay the development of this disability. This study aims to examine the effect of home environmental adaptations (EA) on bathing disability and subsequently on the probability of LTNH admission among older Americans with bathing disability.

This study uses data from Waves 8 to 11 (years 2006–2012) of the Health and Retirement Study (HRS). The analysis, based on responses to the experimental survey module on Characteristics of the Home Environment ($N = 1616$), is conducted in the framework of logistic models explaining self-reported disabilities as functions of related impairments and EAs. The mitigating effect of EAs on self-reported disabilities is measured via interaction terms between impairments and EAs and their significance tested using the t statistic.

Findings show that among people who have difficulty walking across a room, the presence of grab bars in the shower or tub area and of separate shower stalls is associated with lower probability of self-reported bathing disability. Among people who have difficulty stooping, kneeling and crouching, those who have separate shower stalls are also less likely to report having bathing disability. These results suggest that, by reducing disability rates, grab bars in the shower or tub area and separate shower stalls can facilitate aging-in-place and lower LTNH admission rates.

A COMMUNICATION INTERVENTION TO REDUCE RESISTIVENESS IN DEMENTIA CARE

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Background: Nursing home (NH) residents with dementia exhibit challenging behaviors or resistiveness to care (RTC) that increase staff time, stress, and NH costs. RTC is linked to elderspeak communication. Communication training (CHAT) was provided to staff to reduce their use of elderspeak.

Hypothesis: We hypothesized that CHAT would improve staff communication and subsequently reduce RTC.

Methods: Thirteen NHs were randomized to intervention and control groups. Dyads ($n = 42$) including 29 staff and 27 persons with dementia (PWD) were videorecorded during care before and/or after the intervention, and at a three month follow-up. Videos were behaviorally coded for 1) staff communication (normal, elderspeak, or silence) and 2) resident behaviors (cooperative or RTC). Linear mixed modeling was used to evaluate training effects.

Results: On average elderspeak declined from 34.6% ($SD = 18.7$) at baseline by 13.6 percentage points ($SD = 20.00$) post-intervention and 12.2 percentage points ($SD = 22.0$) at 3-month follow-up. RTC declined from 35.7% ($SD = 23.2$) by 15.3 percentage points ($SD = 32.4$) post-intervention and 13.4 percentage points ($SD = 33.7$) at 3-months. Linear mixed modeling determined that change in elderspeak was predicted by the intervention ($b = -12.20$, $p = .028$) and baseline elderspeak ($b = -0.65$, $p < .001$) while RTC change was predicted by elderspeak change ($b = 0.43$, $p < .001$); baseline RTC ($b = -0.58$, $p < .001$); and covariates.

Conclusions: A brief intervention can improve communication and reduce RTC, providing an effective nonpharmacological intervention to manage behavior and improve the quality of dementia care. No adverse events occurred.

SESSION 4625 (SYMPOSIUM)

HOSPITAL AT HOME-A DELIVERY MODEL FOR 21ST CENTURY GERIATRICS CARE

Chair: J.M. Jacobs, *Hadassah-Hebrew University Hospital, Jerusalem, Israel*

Co-Chair: G. Caplan, *Prince of Wales Hospital*

The primary purpose of Hospital at Home (HaH) is to enable the delivery of complex care at home as an alternative to in-patient care. Traditional in-patient care for older people frequently has numerous negative repercussions, and the rising number of HaH models from different Healthcare systems bears witness to this developing niche in health care delivery. Compared to usual hospital care, HaH has proven high patient satisfaction, quality of care outcomes, and evidence favors reduced mortality and overall costs. Furthermore, innovative and available technological advancements are expanding the range of treatment options available at home, and facilitating the delivery of care to a wide spectrum of increasingly more complex patients.

Yet, HaH dissemination has been limited by numerous barriers, including challenging logistics, bias towards facility-based care, and lack of payment models. Recent advances in HaH models seek to ameliorate such barriers, but they still exist. Moreover, the implementation of HaH on a widespread basis has not been well described in the research literature.

In addition to a critical review and meta-analysis of current literature, this symposium will present innovative models

of HaH providing a wide platform of care for older adults, and technologies facilitating care for specific patient groups with acute heart failure, or requiring long term mechanical ventilation. Challenges facing the implementation of widespread HaH will be addressed.

Understanding the impact of new modes of Hospital at Home care delivery, and ways at promoting implementation, is of critical importance to geriatric health service delivery in the 21st century.

A META-ANALYSIS OF HOSPITAL IN THE HOME

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This meta-analysis of Hospital-in-the-Home (HITH) compared to in-hospital care identified 61 Randomised Controlled Trials from MEDLINE, Embase, Social Sciences Citation Index, CINAHL, EconLit, PsycINFO and the Cochrane Database of Systematic Reviews. HITH care led to reduced mortality (odds ratio [OR] 0.81; 95% CI, 0.69 to 0.95; $p = 0.008$; 42 RCTs; 6992 patients), readmission rates (OR 0.75; 95% CI, 0.59 to 0.95; $p = 0.02$; 41 RCTs; 5372 patients) and cost (mean-difference 1567.11; 95% CI, 2069.53 to 1064.69; $p < 0.001$; 11 RCTs; 1215 patients). The number needed to treat at home to prevent one death was 50. Mortality data was homogenous, but heterogeneity was observed for readmission rates and cost. HITH had higher patient and carer satisfaction (21/ 22; 6/8 studies respectively); carer burden was nonsignificantly lower (8/11 studies).

HITH is associated with reductions in mortality, readmission rates and cost, and increases in patient and carer satisfaction, but no change in carer burden.

THE HOSPITAL AT HOME/MACT 'PLATFORM' MODEL—A SPECTRUM OF FACILITY-LEVEL CARE PROVIDED AT HOME

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To date, Hospital at Home (HaH) care has focused on substitutive admission avoidance or early discharge models. In the context of a U.S. Federal innovation award program for the Center for Medicare and Medicaid Services, we have evolved the HaH model into a care "platform" for older adults. In addition to providing substitutive admission avoidance care, the platform includes: 1) "observation" stay at home; 2) acute palliative care at home; 3) acute care for hospital adverse patients (people who refuse hospital admission under all circumstances) at home; and 4) subacute rehabilitation care at home as a substitute for admission to inpatient subacute rehabilitation. This platform evolved in recognition of the evolving health care delivery system, the need to create greater demand for HaH resources, provide adequate patient

volumes for HaH operations, and the needs and preferences of patients. Results from the first 2 years of the platform will be presented.

HOW TECHNOLOGIES CAN HELP HOSPITAL-AT-HOME CARE FOR ELDERLY PEOPLE WITH ACUTE HEART FAILURE

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Advances in the miniaturization and portability of diagnostic technologies, information technologies, remote monitoring, and long-distance care have increased the viability of home-based care, particularly for patients with serious conditions.

The Hospital at Home Service (HHS) of Torino is a multidisciplinary, physician-led unit, established in 1985. About 15% of HHS patients have Acute Heart Failure (AHF), requiring on occasion intravenous diuretics and dopamine. A Randomized Controlled Trial of telemonitoring, was initiated in 2014 for patients with AHF receiving home management as an alternative to hospital care. Through the web-platform "Nuova IT HomeDoctor", physicians and nurses remotely monitor vital signs (blood pressure, heart rate, oximetry, weight), treating accordingly. The technology is simple, and well accepted by patients and caregivers.

We will present an overview of our model of care, and the impact of telemonitoring upon frequency of home visits by HHS staff, and quality of life of patients and caregivers.

HOME HOSPITAL FOR LONG TERM MECHANICALLY VENTILATED PATIENTS

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As technologically advanced respiratory care becomes increasingly available, home ventilation within the Home Hospital (HH) setting is a viable alternative to specialized long-term care facilities (LTCF) for many patients needing Persistent Mechanical Ventilation (PMV).

The Jerusalem HH treats 300 medically complex patients, currently including 65 patients requiring PMV. Multidisciplinary care includes 24-hour on-call physician, logistic and respiratory backup. Between 2005 -2015 the average number of HH-PMV patients increased from 34 to 66 simultaneously, while PMV patients in LTCF declined from 94 to 72. Average annual mortality in HH versus LTCF was 14% versus 38%, and formal monthly cost of HH: LTCF was 1:4.

We present data comparing PMV patients treated with HH versus LTCF, including sociodemographic characteristics, clinical parameters, mood, quality of life, caregiver stress, length of treatment, mortality rates, and costs.

Our findings confirm that HH for PMV is a cost effective, feasible and safe alternative to LTCF.

HOSPITAL IN THE HOME: WHAT'S HAPPENING IN THE UK 2017

R. McCrea, *Amie Healthcare, London, United Kingdom*

A Narrative appraisal of history of "Hospital In The Home" in the UK with descriptions of services ranging from subacute to acute. The talk will highlight barriers and enablers to progress within the National Health Service, the UK's socialised medical provision model.

SESSION 4630 (SYMPOSIUM)

INSTRUMENTING GERIATRIC ASSESSMENT WITH BODY-WORN SENSORS—POTENTIAL AND LIMITATIONS

Chair: C. Becker, *Robert Bosch Hospital*

Co-Chair: C. Bula, *University of Lausanne Medical Center (CHUV)*

Discussant: K. Taraldsen, *Norwegian University of Science and Technology, Trondheim, Norway*

Geriatric assessment historically has been based on observation, stopwatches and questionnaires. The rapid development of computational and ubiquitous sensing capacity has only been slowly absorbed by geriatric medicine and gerontological research. The symposium will showcase examples of the added value of body worn sensors for outcome evaluation, diagnosis and hypothesis generation in the areas of frailty classification, mobility disability and hip fracture treatment. Study groups from Lausanne, Trondheim, Stuttgart and Tucson, Arizona will present their work. The clinical and technical presentation will include the strength but also weaknesses of the current methodology. New models of complexity analysis will be presented to explore future research directions.

The state-of-the art research demonstrates that it is possible to quantify walking, turns, sit-to-stand transfers and physical activity. Gait variability, quality of transfers and complex walking bout and sedentariness analysis are getting more accessible for advanced mobility analysis. While the role of sensor based assessment is being established open question remain on optimal sensor configuration, multisensor applications, sensor fusion, real-time feedback. The symposium will give an overview of cutting edge research and the relevance of this hot topic.

PHYSICAL ACTIVITY PROFILES IN HIP AND PELVIC FRACTURE PATIENTS

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Hip and pelvic fractures are one of the most serious consequences of a fall. A multifactorial intervention to improve physical activity and falls efficacy was evaluated with 124 community-dwelling elderly after hip or pelvic fracture (Mean age = 82.5 years; 76.6 % female). Components of the intervention were (a) relaxation, (b) meaningful mobility goals, (c) falls-related cognitions and emotions, (d) an individual physical exercise program, (e) integration of training and physical activities in daily life, (f) fall hazards. The

intervention was delivered in 8 face-to-face sessions during inpatient rehabilitation plus 4 telephone contacts and one home visit over ten weeks after discharge. There were significant between-group effects ($p < .05$) in favor of the training group on physical capacity and self-efficacy. No effect was seen for sensor based measurements on several physical activity post discharge. This demonstrates the relevance to add instrumented objective tests for outcome measurements.

MEASURING DAILY LIFE PHYSICAL ACTIVITY USING SENSORS FOLLOWING HIP FRACTURE

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Older people suffering from a hip fracture are at increased risk of functional decline. In The Trondheim Hip Fracture Trial we monitored activity the fourth day and 4 and 12 months post-surgery ($n = 397$). Patients randomised to receive treatment in an orthogeriatric ward spent more time upright than patients treated in a traditional orthopaedic ward. The differences lasted at 4/12 months. In the EVA-Hip study ($n = 143$), we assessed the effect of 10 weeks individualised, task oriented home-exercise delivered four months after hip surgery and compared this to usual care. Results demonstrated an improvement in gait speed in the intervention group, but with no change in time spent upright between the two groups.

SENSOR-BASED ASSESSMENT OF PHYSICAL ACTIVITY FOR DISCRIMINATION OF FRAILTY STATUS

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Instrumented physical activity (PA) assessment for determination of frailty status has not been adequately validated. This study aimed to examine the ability of sensor-based PA assessment to discriminate between frailty levels (nonfrail, prefrail, frail). In a cross-sectional study, PA measures were completed in 125 older adults (nonfrail: $n = 44$, prefrail: $n = 60$, frail: $n = 21$). Detailed PA characteristics including percentage of walking, standing, sitting, lying and duration and variability of single walking, standing, sitting, and lying bouts were calculated. PA parameters related to walking best discriminated between nonfrail and prefrail individuals, with highest effect sizes found for number of steps (Cohen's $d = 0.83$) and percentage of walking ($d = 0.75$). Interestingly, walking bout duration variability emerged as the most sensitive PA parameter to separate three frailty groups. Our results may suggest that the 'loss of complexity paradigm' related to frailty is reflected by everyday PA behavior.

MOVEMENT COMPLEXITY IN REHABILITATION OF GERIATRIC INPATIENTS

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Daily activity can be characterized by metrics such as duration, intensity, frequency. Combining these activity metrics into a temporal pattern (barcoding), and calculating its

complexity can provide a global view of physical behaviour. We hypothesize that complexity increases following rehabilitation ($n = 524$ inpatients). Using an accelerometer fixed on the thigh, the activity of one full day was recorded at the beginning of the rehabilitation and at follow-up 14 days later. The activity profile (i.e. time spent sitting, standing, and walking) was obtained. Activity patterns were built considering 14 different levels of intensity and the entropy of these levels was calculated (Lempel-Ziv metric). Complexity increased significantly, confirming its consistency with the activity profile. Complexity was correlated with Barthel Index, age, gender, and severity of mobility impairments. Complexity analysis of daily activity is deemed suitable to assess rehabilitation outcome and it is highly correlated with a standard clinical score.

REHABILITATION OUTCOMES IN OLDER INPATIENTS AFTER HIP FRACTURE USING INSTRUMENTED SHOES: PILOT STUDY

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Wearable activity monitoring in clinical setting has shown promise in evaluating rehabilitation outcomes in elderly inpatients. In this study, patients aged >65 years admitted to post-acute care after hip fracture were monitored using an instrumented shoes system consisting of 3D accelerometer and gyroscope, and a pressure sensing insole. Activity data were collected over 8 hours at admission and 14 days later. Daily activity was profiled and gait parameters, load symmetry, and activity barcodes were obtained using dedicated algorithms. Among participants (4 men, 4 women), percent time sitting decreased whereas walking and standing increased, with significant increase of maximum locomotion period duration ($p = 0.028$). Load symmetry and LZ complexity revealed significant improvements ($p = 0.01$ and $p = 0.04$, respectively). Complexity and load symmetry proved to be highly sensitive to functional improvements compared to classical activity metrics, even though all metrics evolved in the expected direction. These results demonstrate the suitability of instrumented shoes for rehabilitation monitoring.

SESSION 4635 (PAPER)

INTERNATIONAL PERSPECTIVES ON PREDICTING AND MANAGING FRAILTY

PREDICTORS OF FUNCTIONAL IMPROVEMENT IN GERIATRIC REHABILITATION UNITS. A MULTICENTER STUDY

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Frailty-related characteristics, such as sarcopenia, malnutrition and cognitive impairment, are often overlooked, both in practice and research, as potential contributors to functional recovery in patients admitted to geriatrics rehabilitation units.

We evaluated the association of these characteristics with functional improvement using data from a multicenter cohort study including patients ≥ 65 years with orthopedics conditions or stroke from three geriatric rehabilitation units (Barcelona, Spain, and Cremona and Rome, Italy) (December 2014-April 2016). Assessment at admission: demographics, main diagnosis, comorbidity (Charlson Index (CI)), polypharmacy (≥ 4 drugs), malnutrition (MNA-SF ≤ 11), functional status (Barthel Index), cognitive impairment (MMSE ≤ 23), sarcopenia (EWGSOP definition) and its sub-items (muscle mass through BIA, handgrip strength and gait speed). Outcome: functional improvement (FI) (Barthel discharge-admission ≥ 20 , cutoff selected for clinical significance and for identifying upper tertiles Vs lowest). We used logistic regression to test the association between admission variables and FI, introducing sarcopenia and its sub-items in different models.

We enrolled 461 patients (mean age $\pm$ SD=80.6 $\pm$ 9.7 years), 34% women, 70% with orthopedic conditions (fractures or prosthesis). Comorbidity (CI=3.76 $\pm$ 2.6) and disability (BIA=42.2 $\pm$ 21.5) were moderate, sarcopenia was highly prevalent (82%). Better admission Barthel (OR[95%CI]=0.984[0.97–0.99]), admission for stroke (OR[95%CI]=0.357[0.23–0.56]) and cognitive impairment (OR[95%CI]=0.565[0.37–0.87]) independently reduced the likelihood of functional improvement. No other variables were independently associated with the outcome.

In conclusion, in our sample, only cognitive impairment, among frailty-related characteristics, is associated to worse functional recovery. A very high prevalence of sarcopenia suggests to better explore this condition and to evaluate possible alternative definitions that better suit rehabilitation settings.

FEASIBILITY AND POTENTIAL EFFICACY OF HIGH INTENSITY WALKING IN FRAIL OLDER ADULTS

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BACKGROUND: Walking is an effective and preferred mode of exercise for older adults, yet limited evidence exists on the optimal walking intensity for frail older adults. The purpose of this study was to investigate the feasibility and efficacy of a high intensity walking training (HIWT) intervention for pre-frail and frail older adults in an assisted living facility.

METHODS: Using a pre-post test design, we enrolled 5 participants aged 85–89 years who completed 12, 30-minute sessions of HIWT at 70–80% of heart rate reserve or ratings of 15 to 17 (hard to very hard) on the Rating of Perceived Exertion scale. HIWT included walking at fast speeds, directional changes, stairs, outdoor surfaces, and without an assistive device. The primary outcome was feasibility assessed

through program evaluations. Secondary outcomes included frailty, self-reported health, balance, endurance, gait speed, and strength.

RESULTS: HIWT is feasible in pre-frail and frail older adults. Participants viewed HIWT as highly satisfactory (mean rating 9.6/10) and 100% recommended that HIWT continue as part of the assisted living services. Participants had significant changes in frailty ($p=0.001$), fast gait speed ($p=0.003$), six minute walk test ($p=0.03$), and balance ($p=0.01$). There were no adverse events and all participants reached target training intensity in all 12 sessions.

CONCLUSIONS: This study offers the first evidence of the feasibility and potential efficacy of HIWT for frail and pre-frail older adults. Initial results suggest that HIWT significantly lessens the degree of frailty, but also contributes to improved mobility and balance.

HEALTHY LIFESTYLES AND ITS ASSOCIATION WITH FRAILTY

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Frailty is a clinical syndrome that increases vulnerability, disability and premature death among the elderly. Many studies have identified risk factors associated to the occurrence of frailty, but just a few have put emphasis in the association of frailty and healthy lifestyles indicators. The objective of this study was to determine the association between the presence of frailty and the following indicators associated with healthy lifestyles in mid-life: Body mass index (overweight / obesity), physical activity, smoking, alcohol consumption, consumption of fruits and vegetables, and social participation. Longitudinal study conducted in 2009 and 2014 with a nationally representative sample of 4189 older adults aged 50 and over in Mexico. Frailty was measured using the Fried's approach and three groups were formed: Non-frail, pre-frail, and frail groups. Our results suggest the presence of frailty in younger subjects; which supporting the hypothesis that in older Mexicans adults frailty is occurring at younger ages. Also support the evidence that some unfavorable life styles excessive alcohol consumption (RR=1.74, $p<0.01$), low physical activity (RR=4.5, $p<0.01$), and low social participation (RR=1.49, $p<0.01$) are closely associated with the prevalence and incidence of frailty. Finally, there is also a strong association between the presence of frailty and sarcopenia, particularly in octogenarians (1 in 4 is frail and/or presents sarcopenia). The results confirm the association of frailty with some indicators of healthy lifestyles, and highlight the importance of looking this association from a life course approach.

HEALTH ASSETS CAN DECREASE MORTALITY AND LENGTH OF STAY FOR HOSPITALIZED FRAIL OLDER ADULTS

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Background: Health assets are resources that individuals or communities have at their disposal, which protect against negative health outcomes and promote wellbeing. Health assets may mitigate the effects of frailty for hospitalized older adults and decrease mortality and other adverse outcomes.

Methods: This secondary analysis was performed on data collected on 1418 inpatients aged over 69 using the interRAI assessment system for acute care tool. Potential health assets present in the dataset were chosen based on a literature review and expert opinion. The factors examined were gender, living arrangement, days the person left the house prior to becoming unwell, marital status and primary language. Outcomes included inpatient mortality, mortality 28 days after discharge, readmission and length of stay. Multivariate analysis was performed for all factors that had an association with a p value of <0.2 in univariate analysis in a model that accounted for frailty status.

Results: Mean age of patients was 81 and 55% were women. Patients who were able to walk further had decreased mortality with OR 0.06(0.01,0.53). Patients who did not leave the house prior to admission had increased mortality with an OR 6.82(3.09,15.05). Living arrangement, person supportive of discharge and distance walked prior to hospitalisation were all associated with a decreased length of stay. None of the health assets examined were protective against readmission.

Conclusion: Health assets improved outcomes across the frailty spectrum. Elucidating factors associated with recovery for hospitalized older adults can improve prognostication and guide development of interventions.

SESSION 4640 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: UNDERSTANDING THE IMPACT OF OBESITY ON HEALTHY LIFE EXPECTANCY THROUGH CROSS-NATIONAL COMPARISONS

Chair: C. Jagger, *Newcastle University*

The rising trends in obesity and overweight worldwide are a major public health concern. The continued increases in life expectancy from falling mortality rates, even at very old ages, are also reflected worldwide but the effect of obesity on mortality, is equivocal. A recent meta-analysis found that obesity and overweight were associated with an increased risk of all-cause mortality, however other evidence suggests this may only be true for the young old (75–84) whilst in the very old overweight has little effect or may be protective. Nevertheless how obesity impacts healthy life expectancy, the remaining number of years spent healthy, is even less well researched, despite the possibility that reduction of obesity could result in compression of morbidity.

In this session we aim to consolidate the sparse knowledge of whether obesity affects healthy life expectancy more or less than life expectancy. We use longitudinal studies from both Western and Eastern populations as well as both physical and mental health measures. The first presentation examines whether obesity has a greater or lesser effect on Active Life Expectancy (ALE) than two decades ago in the US, whilst the second presentation uses the same measure of ALE to compare the effect of obesity on ALE in Japanese

older people. The final two presentations focus on Australian data. The third presentation provides a link between health measures by investigating the effect of obesity on ALE compared to its effect on cognitive impairment-free life expectancy. Finally we report how obesity impacts dementia-free life expectancy.

EFFECT OF OBESITY ON ACTIVE LIFE EXPECTANCY IN THE UNITED STATES: CHANGES OVER TIME

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In recent decades, life expectancy increase has slowed in the United States. Also, there have been striking increases in the prevalence of obesity, decreases in the age of obesity onset, and increases in the length of time people are living with obesity. In addition, the link between obesity and mortality appears to have weakened in more recent years. These trends indicate value in revisiting the links between obesity and active life expectancy. Building on earlier work using HRS data from 1993 to 1998 for the 70 plus population in the United States, we use HRS data from 2004 through 2008 to examine how the links between obesity, mortality, disability and subsequent active life expectancy have changed. We find that in the later cohort obesity is less related to mortality, more to disability, and remains a strong determinant of active life.

EFFECT OF BMI ON ACTIVE LIFE EXPECTANCY AMONG OLDER ADULTS IN JAPAN

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Previous studies conducted in Western countries suggest that obesity at older ages affects length of life as well as active life expectancy (ALE). However, we know little of the relationship between BMI and ALE among older adults in Asian countries partly because lack of studies. We use the Nihon University Japanese Longitudinal Study of Aging, a nationally representative sample of older adults age 65 and over at baseline with interviews conducted in 1999, 2001, 2003, 2006 and 2009, and a mail survey was conducted in 2013. We compute BMI based on self-reported height and weight at baseline in 1999 and ALE as no difficulty in any of 5 ADLs (bathing, eating, walking, transferring and toileting) or 5 IADLs (preparing own meal, using a telephone, managing own money, shopping personal items and medication). Using multistate life tables we estimate life expectancy and ALE by sex and BMI category.

IMPACT OF OBESITY ON ACTIVE AND COGNITIVE IMPAIRMENT: FREE LIFE EXPECTANCIES IN OLDER AUSTRALIANS

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As many, if not all, lifestyle factors are risk factors for both disability and mortality, it is important to assess the impact of them on both outcomes together, in a measure such as active life expectancy (ALE). In this way we can judge whether promotion of a healthy lifestyle will indeed increase

ALE more than life expectancy, so the extra years are all healthy ones. We use a unique data set, DYNOPTA, which combines Australian longitudinal studies of ageing, to evaluate the impact of obesity (from BMI at baseline) on ALE using multistate life tables and adjusting for level of education. We have previously published similar analyses but with cognitive impairment-free life expectancy (CIFLE) as the outcome rather than ALE. We showed that, in comparison to smoking and physical activity, obesity reduced total life expectancy the least but that the increase in years with cognitive impairment were non-significant.

IMPACT OF OBESITY ON DEMENTIA: FREE LIFE EXPECTANCIES IN OLDER AUSTRALIAN WOMEN

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A number of studies have calculated active or cognitive impairment-free life expectancies but there are limited data on years that people will live with dementia though this is crucial for policy development and service planning. Given that a cure for dementia remains elusive, it is important to assess the impact of potential risk factors, one of which is obesity. Women born in 1921–26 from the Australian Longitudinal Study of Women's Health were surveyed every three years from 1996 until 2011. Body mass index was calculated at baseline and dementia was identified from the self-report surveys and linked administrative datasets. Using multistate life tables, we examined the impact of obesity on life expectancy and dementia-free life expectancy. We found that obese women had lower life expectancy than women who were not obese though these differences were non-significant. Additionally obesity appeared to have little impact on years lived with or without dementia.

SESSION 4645 (PAPER)

PSYCHOLOGICAL DISTRESS, SOCIAL CAPITAL, DEPRESSION AND COGNITIVE DECLINE

PROTECTIVE EFFECT OF MASTERY AGAINST PSYCHOLOGICAL DISTRESS IN FAMILY CAREGIVERS OF OLDER PERSONS

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Family caregivers are often unprepared for and face considerable psychological distress from their caregiving role. Caregiver's sense of mastery may protect against the negative impact of caregiver burden. This study aims to examine the relationship between caregiver mastery and burden in predicting psychological distress.

We conducted a cross-sectional survey on 150 family caregivers of hospitalized older persons aged ≥ 65 . The main outcome was Hospital Anxiety and Depression Scale (HADS) total score ($\geq 15/42$ cutoff). We conducted hierarchical logistic regression adjusted for the caregiver's relationship with patient, caregiving hours/week, and neuropsychiatric symptom,

entering caregiver burden (Zarit Burden Interview (ZBI)) in the first step, and caregiver mastery (Pearlin Mastery scale) (model 1) and interaction term between mastery and ZBI (model 2) in second step. We repeated analyses using HADS depression and anxiety subscales ($\geq 8/21$, respectively) as outcomes.

After adjusting for covariates in step 1 ($R^2=0.46$), ZBI significantly predicted higher HADS total score ($OR=1.12$; $p<.01$). For model 1 ($R^2=0.52$), mastery independently predicted lower HADS-total score ($OR=0.76$; $p<.01$), accounting for additional 6% variance. Similarly, for model 2 ($R^2=0.52$), the interaction term was significant ($OR=0.997$; $p<.01$). ZBI remained significant in both models ($OR=1.10$ and 1.16 , respectively). Subgroup analysis revealed that the observed results with HADS-total scores were largely driven by depression rather than anxiety scores.

Our study suggests the dual protective effect of caregiver mastery against psychological distress by its direct impact independent of burden, and modulating effect on burden. This supports the role of interventions targeted at mastery to protect against deleterious effects of caregiving.

POSITIVE AND NEGATIVE ASSOCIATIONS OF SOCIAL CAPITAL FACTORS WITH HEALTH

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It is critical to develop and strengthen community-based support to sustain super aged society. Because accumulating evidence suggests social capital is an important social determinant of health, the success of a sustainable society may depend on the development of social capital in the community.

This paper examines the variety in individual cognitive social capital by factor analysis and investigates the association between the detected sub-dimensions of an individual's cognitive social capital and their health in community dwelling older Japanese. We distributed self-administered postal questionnaires to people aged 60 to 89 who were randomly selected from the residential registration in a mid-sized urban city in western Japan. In the questionnaire, we asked participants to answer questions about their cognitive social capital in their main activity group. We created a set of 12 questions asking about cognitive social capital that was developed from previous studies.

Factor analysis identified three components from these twelve questions on cognitive social capital, which we named "harmonious", "hierarchical", and "diversity". Multiple regression analysis adjusted for gender, age, marriage status, equivalent income and present illness revealed the following to be independent factors associated with two health outcomes measured by the Medical Outcomes Study Short Form-36 (SF-36), Japanese version 1.2: "harmonious" social capital was positively associated with physical and mental health, "hierarchical" was negatively associated with mental health, and "diversity" was positively associated with mental health.

For the practical application of promoting a healthier society, it is important to consider both positive and negative sides of social capital.

IS COGNITIVE DECLINE SIMILAR AMONG PARKINSON'S DISEASE MOTOR SUB-TYPES? A PROSPECTIVE STUDY

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Parkinson's disease (PD) is traditionally classified into the postural instability gait difficulty (PIGD) and the tremor dominant (TD) sub-types. Mild cognitive deficits are increasingly recognized as a common non-motor symptom in PD, however, cognitive differences among the two motor sub-types have not been well-described. We investigated whether changes over time in cognitive functions differ across the PIGD and TD sub-types. 57 non-demented patients with PD who were previously classified into PIGD (n=30) and TD (n=27) were followed for an average of 60 months. At baseline and follow-up, participants underwent cognitive testing (on medications): the Montreal Cognitive Assessment (MoCA) and a computerized neuropsychological battery (NeuroTrax™) that generated index scores of executive function (EF), attention, memory, and a global cognitive score. At baseline, the groups were similar with respect to age (PIGD: 69.31 ± 7.6 yrs; TD: 70.5 ± 12 yrs; p=0.652), disease duration (PIGD: 10.6 ± 3.8 yrs; TD: 10.1 ± 2.9; p=0.628), and all cognitive functions (p>0.29). At follow-up, the global cognitive score declined by 9.5% in the PIGD group (from: 94.5 ± 11.7 to 85.3 ± 13.6, p<0.001). This decline was significantly larger (p=0.03) than the 4.5% decrease observed in the TD group (from: 96.3 ± 10.4 to 91.93 ± 14.3, p=0.047). Similar group differences (p=0.006) were observed in the decline of EF, where a significant GroupXTime interaction effect was also seen (p=0.008). MoCA, memory and attention indices declined similarly in the two sub-types. The present findings demonstrate that PIGD patients experience greater cognitive decline, compared to TD patients, in specific domains of cognitive function, suggesting that treatment should be tailored to the motor sub-type.

MEDICALLY SERIOUS AND NON-SERIOUS SUICIDE ATTEMPTS IN PERSONS AGE 70 AND ABOVE

S. Wiktorsson, P. Olsson, M. Waern, *University of Gothenburg, Göteborg, Sweden*

High rates of suicide are observed among older adults in many countries worldwide. In clinical settings, suicide attempters with medically serious attempts are generally considered to be at higher risk of subsequent suicide than their peers with less serious attempts. Medically serious attempts are however relatively little studied in older clinical cohorts. The aim was to compare older adult suicide attempters (70+) with and without medically serious attempts. Participants (n=101) were recruited in hospitals in the aftermath of a suicide attempt; they took part in an interview with a research psychologist. Attempters with (n=28) and without (n=73)

medically serious attempts were compared regarding a number of clinical factors. Major depression was common in both groups, and scores on the Geriatric Depression Scale did not differ. However, older adults with medically serious attempts scored higher on the Brief Scale of Anxiety and lower on the Mini Mental State Examination than their peers with less serious attempts. Reasons for attempting suicide differed in the two groups; those with medically serious attempts more often reported problems related to functioning and autonomy, as well as social problems. Findings may help to inform clinicians who meet and treat older suicidal persons.

GENDER DIFFERENCES OF DEPRESSION TRAJECTORIES AND RISK FACTORS IN LATER LIFE

J. Lee¹, S. Jang², S. Cho¹, 1. *Department of Public Health Science, Graduate School of Public Health, Seoul National University, Seoul, Korea (the Republic of)*, 2. *Red Cross College of Nursing, Chung-Ang University, Seoul, Korea (the Republic of)*

This study investigated the changes in depression trajectories and discovered related risk factors affecting these changes among the elderly by gender. Data were obtained subsample who participated in Korean Longitudinal Study of Ageing (KLoSA) from 2006 to 2012. A total of 3,667 individuals (1,566 men and 2,101 women) aged 60 or more were included in the analysis. We used a group-based trajectory model in order to determine the appropriate number of groups and observe the change in the depression according to research year. After trajectory analysis, multinomial regression analysis was performed to examine depression-related risk factors influencing different trajectory group membership. Distinctive differences in the depression trajectories were found; four groups (normal-melancholic-worsening-depressed) in men and five groups (normal-melancholic-worsening-improved-depressed) in women. Chronic diseases, self-rated health (SRH), and somatic pain were associated with depression in both gender. Statistically significant differences were observed in employment among older men, and social integration among older women. In conclusion, maintaining physical health status play an important role in preventing depression. In addition, gender differences were found that employment in men and social integration in women showed beneficial effect on prevention of depression.

SESSION 4650 (SYMPOSIUM)

INNOVATIVE APPROACHES TO ENHANCE COGNITIVE AND EMOTIONAL FUNCTIONING IN AT-RISK OLDER ADULTS

Chair: D. Jimenez, *University of Miami Miller School of Medicine, Miami, Florida*

Discussant: R. Schulz, *University of Pittsburgh*

This session will describe innovative ways to deliver mental health services to three high-risk, older adult populations: (1) racial/ethnic minorities; (2) socially isolated older adults; and (3) older adults with severe mental illness. Treatment alternatives addressing the cognitive, physical and mental

health needs will be discussed. Particular attention will be paid to the use of technology and paraprofessionals in delivering non-traditional psychotherapeutic interventions (e.g. health promotion, cognitive remediation therapy). In addition, the role of increased social connectivity and reduced social isolation – as main outcome and potential moderating variable – will also be presented.

THE HAPPY OLDER LATINOS ARE ACTIVE (HOLA) HEALTH PROMOTION AND PREVENTION STUDY

D. Jimenez¹, S. Bartels², M. Alegria³, C. Reynolds⁴, 1. *Psychiatry, University of Miami Miller School of Medicine, Miami, Florida*, 2. *Geisel School of Medicine at Dartmouth, Lebanon, New Hampshire*, 3. *Massachusetts General Hospital, Boston, Massachusetts*, 4. *University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania*

Happy Older Latinos are Active (HOLA) is a newly developed intervention that uses a community health worker (CHW) to lead a health promotion program in order to prevent common mental disorders among at-risk older Latinos. HOLA is a multi-component, health promotion intervention. This prevention approach will be tested against a fotonovela, an enhanced psychoeducation control condition, in a sample of Latino elderly with minor or subthreshold depression or anxiety. A total of 60 older Latinos (aged 60+) were randomized to receive HOLA or the fotonovela. The primary outcomes of interest are recruitment, adherence, retention, and acceptability. The results of this study could have implications for other high-risk, highly disadvantaged populations. The development of a health promotion intervention designed to prevent common mental disorders could be a means of addressing multiple disparities (for example, mental health outcomes, mental health service use, stigma) among racial/ethnic minority elderly.

AN INTERVENTION TARGETING PATIENTS WITH AD AND THEIR CAREGIVERS

S.J. Czaja, D. Loewenstein, C. Lee, *University of Miami Miller School of Medicine, Miami, Florida*

The prevalence of Alzheimer's Disease (AD) is increasing with a related increase in burden on family members and society. There is a need to identify interventions that decrease the cognitive/behavioral manifestations of the disease in the patient, and the distress and health-related consequences experienced by family caregivers (CGs). This paper will present data from a pilot project that is evaluating the feasibility and acceptability of an integrated innovative technology-based dyadic intervention (DT). The patient component is designed to train both cognitive and real world functional skills. The CG component is designed to enhance the CG's skills, preparedness for the caregiver role, available resources, and reduce known areas of CG risk. The sample includes Hispanic and White American individuals with mild AD and their CGs who are randomly assigned to the DT intervention or a control condition that combines cognitive stimulation exercises for the patient and nutrition/wellness counseling for the CG.

AGING & ENGAGING: AN AUTOMATED PROGRAM TO IMPROVE SOCIAL COMMUNICATION FOR DEPRESSED OLDER ADULTS

K. Van Orden, M.E. Hoque, M.R. Ali, P.R. Duberstein, Y. Conwell, *University of Rochester School of Medicine, Rochester, New York*

Social communication deficits—lack of eye contact, flat affect/little smiling, monotone and soft voice—are maintaining factors in late-life depression, but are rarely treated effectively. We will describe an intervention using Human Computer Interaction technology to teach effective social communication to depressed older adults. LISSA (Live Interactive Social Skills Assistance) is an automated, portable program—a computerized “coach”—that provides subjects with oral and visual (text, pictograms) feedback on communication. Data demonstrate that LISSA is effective in improving social communication in younger adults. We are adapting LISSA for older adults by compensating for aging-related challenges and capitalizing on aging-related strengths. Pilot data from 18 subjects provides initial feasibility data. Subjects with greater anxiety were more likely to report that they would use the program in their own homes ($r = .43$). We will present qualitative data on subjects' experiences with the program and discuss implications for improving emotional functioning in later life.

IMPROVING COGNITIVE AND FUNCTIONAL SKILLS IN OLDER ADULTS WITH SMI

P. Harvey, S.J. Czaja, *University of Miami Miller School of Medicine, Miami, Florida*

Cognitive and functional skills training interventions have been shown to improve the everyday functioning of people with severe mental illness, but little attention has specifically been directed at older patients. In two studies, we used technology-based interventions aimed at treatment of cognitive and functional deficits in older patients with severe mental illness to determine whether abbreviated technology oriented training could reduce cognitive and functional skills deficits. In the first study, 40 older patients with schizophrenia were treated with either 15 sessions of cognitive remediation therapy with the Brain HQ program from Posit science or a computer games control. In the second study 20 older schizophrenia patients and 20 healthy older controls were treated with a computerized skills training program. The skills training program led to substantial gains in performance with healthy controls and SMI patients reducing their time to completion of both by over 50% tasks in 4 training sessions.

SESSION 4655 (SYMPOSIUM)

CIRCULATING IMMUNE CELLS AND THEIR CONTRIBUTION TO AGE-RELATED DISEASES

Chair: A. Akbar, *University College London, London, United Kingdom*

T. Fülöp, *Universite De Sherbrooke, Sherbrooke, Quebec, Canada*

The bulk of data in the field of biological aging are derived from blood analysis. Blood has three main roles during perfusion i) oxygen supply (red blood cells) ii) nutrient

supply (plasma) and iii) immune surveillance (white blood cells). Cells that circulate in the bloodstream, the leukocytes, are very reactive to their environment and many studies have shown these immune cells' characteristics to be different in older adults. Changes in the immune response underline the increase in many diseases with aging such as infections, cancer and autoimmune diseases. These last years tremendous advances have made in our understanding of the changes of the immune functions with aging and how they can contribute to the major age-related diseases. This symposium will aim to update the scientific community on 1) how the immune system is shaped during aging 2) how immune cells contribute to diseases 3) mechanisms (signalling, metabolic) explaining those observations 4) the role of inflammation.

THE CONTRIBUTION OF THE ADAPTIVE IMMUNE SYSTEM TO AGEING

G.P. Pawelec, *3Second Department of Internal Medicine, University of Tübingen, Tübingen, Germany, Tübingen, Germany*

The human adaptive immune system is particularly sensitive to the effects of ageing because the physiological process of thymic involution at puberty severely reduces the output of naïve T cells in adulthood. As a result, older adults consistently show low levels especially of CD8+ and to a lesser extent also CD4+ naïve T cells. This renders them highly susceptible to infectious disease caused by pathogens to which they were not previously exposed. Moreover, the accumulation of pro-inflammatory late-stage differentiated CD8+ T cells reactive to latent viruses, especially Cytomegalovirus, may contribute to the low-level enhanced chronic inflammatory state in older people, which is thought to facilitate the development of age-associated non-infectious degenerative diseases. These and other age-related changes to adaptive immunity in older adults conspire to reduce fitness to face new antigenic challenges at the same time as having to deal with chronic infections causes damage to the soma.

THE REGULATION OF T CELL SENESENCE AND METABOLISM BY P38 MAPKINASE SIGNALING

A. Lanna, S.M. Henson, A. Akbar, *Division of Infection and Immunity, University College of London, London, United Kingdom*

Persistent viral infections, ageing and inflammatory syndromes induce the accumulation of senescent human T cells. However the mechanism that regulates the function of these end-stage cells is unclear. Human CD8+ effector memory T cells that re-express CD45RA (CD27-CD45RA+; EMRA) express surface KLRG-1 and CD57, exhibit reduced replicative capacity and telomerase activation, decreased survival and high expression of nuclear γH2AX after T cell receptor (TCR) activation. We investigated the involvement of p38 MAP kinase signalling in these senescence characteristics of these cells. The expression of both total and phosphorylated p38 was highest in the EMRA compared to other CD8+ T cell subsets. Furthermore, the inhibition of p38 signalling, especially in CD4+ EMRA T cells, significantly enhanced their telomerase activity and survival after TCR activation. EMRA T cells preferentially utilize glycolysis to fuel their effector functions. The inhibition of p38 enhances mitochondrial function, reduces

reactive oxygen species production and increases proliferation and telomerase activity, however, these cells still utilize glycolysis instead of oxidative phosphorylation for energy. The precursors for glycolysis are generated by autophagy, that is increased after p38 blockade. Thus activation of the p38 MAPK pathway is directly involved in the senescence characteristics of highly-differentiated CD4+ T cells and this pathway also regulates the metabolic function in this population.

AGE-RELATED CHANGES IN INNATE IMMUNE CELL FUNCTION

R. Montgomery, *Yale University School of Medicine, New Haven, Connecticut*

A progressive decline in immune function with aging leads to increased susceptibility to infectious diseases and decreased response to vaccination. In our investigations of the molecular mechanisms of immunosenescence in primary human, we have shown broad age-associated decreases in surface expression of Toll-like receptors in innate immune cells that is associated with reduced production of cytokines and vaccine responses. Notably, levels of TLR5 in monocytes of older subjects were elevated, which may be relevant for vaccine strategies. Reduced levels of TLR1 in neutrophils of older donors, accompanied by lower activation across multiple pathways, may be mediated by reduced bioenergetics and suggests potential therapeutic opportunities. Recently, we have examined high-dimensional single-cell data using mass cytometry (CyTOF) to simultaneously evaluate effects of aging on phenotype and function of natural killer (NK) cells. Ongoing studies address the complexity of aging in human populations and detailed mechanisms of increased susceptibility of innate immune cells.

SIGNAL TRANSDUCTION CHANGES IN IMMUNE CELLS WITH AGING

T. Fülöp¹, A. Le Page¹, C. Fortin¹, J.M. Witkowski³, G. Dupuis¹, A. Larbi², *1. Medicine, Université De Sherbrooke, Sherbrooke, Quebec, Canada, 2. Aging and Immunity Program, Singapore Immunology Network (SIgN), Agency for Science Technology and Research (A*STAR), Singapore, Singapore, 3. Medical University of Gdansk, Gdansk, Poland*

Ageing induces alterations in the immune response called immunosenescence. However, the causes of these immune alterations remain largely to be established. Efficient function of the immune system requires homeostatic regulation from receptor recognition of antigenic challenge to cell responses. One of the most important molecular causes of immunosenescence is alteration in regulation of signalling pathways. Indeed, alterations in feed-forward and negative feedback (inhibitory) signalling have been highlighted in all cells involved in the immune response, especially neutrophils and T lymphocytes. Besides these intrinsic molecular changes there are alterations in the membrane composition as well in the functionality of the microclusters (lipid rafts) in the membrane. These dysregulations tip the balance in favor of altered (less efficient) function of the immune system. Modulation of these pathways with aging represents a major challenge to restore the immune response to functional levels.

FROM BASIC RESEARCH TO COHORT STUDIES: UP-SCALING IMMUNE-PHENOTYPING FOR UNDERSTANDING OF AGING

A. Larbi, *Aging and Immunity Program, Singapore Immunology Network (SIgN), Agency for Science Technology and Research (A*STAR), Singapore, Singapore*

Data from our laboratory and others have shown that aging and persistent stresses to the immune system are key factors influencing T cell profiles. For instance, we have focused our interest in a subset of T cells that shows impressive stemness (Stem Cell Memory T cells). We will present data on their dysregulation during aging and the possible clinical implications. From this deep molecular and proteomics study performed on a limited number of individual we expanded our analysis to other T cell populations on a larger set of older adults. One reason for this is the huge inter-individual variability observed in T cell characteristics in older adults. We performed T cell naïve/memory phenotyping in >600 individuals aged 53–84 years old and stratified based on various demographic, clinical and lifestyle values. We will show published and novel data on the importance of stratifying older adults to better link biological readouts to clinical phenotypes.

SESSION 4660 (SYMPOSIUM)

TRANSITIONS IN THE DEMENTIA CARE CONTINUUM: OPPORTUNITIES FOR PERSON- CENTERED APPROACHES

Chair: M. Roes, *German Center for Neurodegenerative Diseases (DZNE), Witten, Germany*

A ‘Transitions can be understood as ‘a change from one state or status to another’. Therefore transitions encompass transitions in *levels of care* and in *locations of care*, which integrates a psychosocial and a health care service perspective. In this symposium we will present a variety of research, which exemplify these two perspectives.

Two presentations address transitions regarding *levels of care*: The focus of the 1st speaker is on transition being a carer, within the caregiving journey presenting data from 370 family south Asian and white British caregivers; the focus of the 2nd speaker is on transitions over the course of families living with fronto-temporal dementia and how families adapt and cope with transitions in this conditions. Two presentations address transitions regarding *location of care*: the 3rd speaker will present person-centered approaches from a RCT testing transitional care interventions for persons with dementia, especially those living in highly-disadvantaged US areas. The 4th speaker will present results regarding transitions from nursing homes to hospitals for residents with Ambulatory Care Sensitive (ACS) conditions, with a specific focus on early detection of ACS. The focus of the 5th speaker is on the role of cross-setting communication for people with dementia in facilitating high quality, person-centered transitions, presenting results from a retrospective cohort study (N = 343).

Transitions in the Dementia Care Continuum include attention to individuals’ needs and psychosocial contexts. Research about opportunities and challenges for person-centered approaches need to focus explicitly on these transitions.

OBLIGATION, WILLINGNESS AND PREPAREDNESS FOR TRANSITIONS IN CAREGIVING FOR A PERSON WITH DEMENTIA

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As the population continues to age, an increasing number of family members will be required to provide care for relatives with dementia. However, little is known about how willing and prepared individuals are to provide care; additionally, service providers often assume that family members are willing to provide care. The aim of this study is to explore how changes in the sense of obligation, willingness, and preparedness influence south Asian and white British carers’ wellbeing. A cohort of 370 family caregivers completed a questionnaire at three time points over 12 months. In addition 10 south Asian and 10 white British carers have participated in in-depth interviews. The main themes to emerge from initial interviews include: carer motivations and willingness to provide emotional, instrumental and nursing care and preparedness for diagnosis, seeking information and services, coping with behavioral problems, selecting a care home and end of life care.

TRANSITIONS IN FAMILY ADJUSTMENT TO LIVING WITH BEHAVIORAL VARIANT FRONTO-TEMPORAL DEMENTIA

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Behavioral variant fronto-temporal dementia (bvFTD) is distinctly different as empathy, awareness and social relationships are affected early. Almost no research has explored how FTD is experienced by the whole family. We aimed to develop a detailed understanding of inter-generational family experience of bvFTD over time. We took a social constructionist approach based on interviews with seven families, including the person with bvFTD at up to 3 time points every 6–9 months. Families faced four major challenges: The whole family was challenged around developing awareness and understanding of the changes, and managing everyday life. Those directly living with bvFTD wrestled with maintaining their identity, and those closely involved in care struggled with changes in their relationship. Families’ coping lay on a continuum from adjustment through to being stuck, with this influenced by connectedness prior to bvFTD, individual ways of coping, the ongoing changes, and the context of family life over time.

FACILITATING PARTICIPATION BY PERSONS WITH DEMENTIA AND THEIR CARERS IN A TRANSITIONAL CARE RCT

A.J. Kind^{1,2}, A. Gilmore-Bykovskyi^{1,2}, E. Schmitz², J. Mineau², P. Troller³, C. Hermann², M. Brenny-Fitzpatrick³, 1. *William S Middleton Memorial VA Hospital, Madison, Wisconsin*, 2. *University of Wisconsin-Madison, Madison, Wisconsin*, 3. *University of Wisconsin Hospitals and Clinics, Madison, Wisconsin*

For persons with dementia, especially those living in highly-disadvantaged US areas, transitions from the acute care hospital to home are high-risk. Yet, few transitional care interventions are designed to be feasible and sustainable in these highly-disadvantaged US regions. The Coordinated-Transitional Care (C-TraC) program was designed specifically to fill this gap, has decreased rehospitalizations in preliminary testing, and now is being rigorously assessed via a 5-year NIH-funded prospective randomized controlled trial for hospitalized patients with mild, moderate and severe dementia (and their carers) discharging to the community. The peri-discharge period is a challenging recruitment window for this population, but, thus far, enrollment has been near-target with well over 125 patient-carer dyads randomized. In conducting this trial, person-centered approaches have been employed by all study personnel and have facilitated subject participation and retention to the 90 day end-assessment time-point. Future prospective interventional trials in this population may benefit from employing similar techniques.

REDUCING RATES OF AVOIDABLE TRANSITIONS TO HOSPITAL FOR NURSING HOME RESIDENTS

M.G. Downs¹, A. Blighe¹, C. Powell¹, A. Feast², K. Froggatt³, B. McCormack⁴, E.L. Sampson², 1. *School of Dementia Studies, University of Bradford, Bradford, Yorkshire, United Kingdom*, 2. *University College London, London, United Kingdom*, 3. *Lancaster University, Lancaster, United Kingdom*, 4. *Queen Margaret University, Musselburgh, United Kingdom*

Reducing transitions from nursing homes to hospitals for residents with Ambulatory Care Sensitive (ACS) conditions is a government priority in the UK. ACS conditions are those, which if not actively managed in the community, can lead to unplanned or avoidable hospital admissions. Early identification of changes in residents' health is essential to ensure active management of ACS conditions in nursing homes. The purpose of this paper is to describe the development and feasibility testing of a multi-component, complex intervention for early detection of ACS conditions. Six key components were identified including: an adapted early warning tool; a care pathway for the 4 conditions; a knowledge and skills competency framework; structured communication tool for nurses and primary care; family involvement; and implementation support. The feasibility of introducing and embedding this complex intervention and gathering data on outcomes was tested in 2 nursing homes. Findings have implications for policy, practice and research.

COMMUNICATION OF DEMENTIA SYMPTOMS AND CARE NEEDS DURING HOSPITAL TO NURSING FACILITY TRANSITIONS

A. Gilmore-Bykovskiy¹, M. Hovanes¹, R. Johnson³, A.J. Kind^{2,1}, 1. *University of Wisconsin-Madison, Madison, Wisconsin*, 2. *William S. Middleton Memorial Veterans Hospital, Madison, Wisconsin*, 3. *UC Berkley, Berkley, California*

Transitions from hospitals-to-Skilled Nursing Facilities (SNFs) are frequently poorly in quality. SNF providers have identified under-communication of dementia-related symptoms and associated care needs as a major barrier to

facilitating safe, effective and person-centered transitions. The extent of discharge communication between hospitals and SNFs regarding these care needs has not been previously examined. This retrospective cohort study identified omission rates for behavioral symptoms in hospital discharge communication as compared to medical record documentation for stroke/hip fracture PwD discharged from one of two hospitals to a SNF (N=343) between 2003–2008. High rates of omission were found across all symptoms and care needs, anxiety (94%), agitation/aggression (79%), hallucinations (86%), need for 1:1 supervision (90%) and high fall risk (78%). Consistent with other research, these findings underscore the urgent need for additional research on the role of cross-setting communication for PwD—who often cannot communicate their care needs—in facilitating high quality, person-centered transitions.

SESSION 4665 (SYMPOSIUM)

SOCIAL JUSTICE AND AGING

Chair: J. Baars, *University for Humanistic Studies, Netherlands*

Social Justice refers to normative discussions (including their presuppositions, logical structures and practical outcomes) about issues that are crucially important for society and its institutions. In this symposium some issues will be discussed that are vital for the well being of older people. First, Joachim Duyndam will analyze the question whether there should be a United Nations Convention on the Rights of the Elderly, analogous to the 1989 UN Convention on the Rights of the Child. Next, Harry Moody will address the role of elders in the environmental challenges that are facing the world population in connection with climate change, thus changing central terms of the debate about intergenerational justice. Finally, Peter Derkx will discuss the ambitions of 'Geroscience' and inquire whether fighting obesity might not only be more efficacious in extending life span and health span, but also more ethically just than developing sophisticated and expensive technology to delay processes of senescence.

GENERATIONAL DIFFERENCES AND COMMUNICATIVE ETHICS

H.R. Moody, *Fielding Graduate University, Santa Barbara, California*

Gerontologists seem reluctant to discuss openly justice and intergenerational politics. In the case of Brexit vote, as well as in the U.S. Presidential election of 2016, there were substantial differences in political behavior based on age. In both cases, older people commonly felt "this is no longer my country" and were supportive of right-wing political views hostile to immigration and globalization. By contrast, academics, in both the USA and other countries, tend toward progressive or left-wing political outlook favorable toward multiculturalism and globalization. Although recognized this disparity in political outlook is almost never openly discussed in gerontology. In this session, we look at specific policy challenges related to social justice, including immigration, climate change, and public pension programs. Instead of silence about political differences across age-groups, we

adopt the communicative ethics of Jürgen Habermas with the aim of promoting intergenerational solidarity by more open discussion of challenges affecting us all.

SOCIAL JUSTICE AND EXTENDING HEALTH SPAN: GEROSCIENCE OR FIGHTING OBESITY?

P. Derkx, *University of Humanistic Studies, Geldermalsen, Netherlands*

Before 1995 biogerontology came down to description of specific age-associated diseases. The last twenty-five years biomedical gerontology has started to aim at explanation of underlying processes of senescence and at (genetic, dietary, and pharmacologic) interventions and technology to delay those processes. 'Geroscientists' such as Brian Kennedy and Felipe Sierra have been writing about the 'Prospects for Life Span Extension' and have argued that 'it is critical to expand geroscience research directed at extending human healthspan'. They pay attention to social effects that might occur, but issues of social justice are mostly ignored. In this paper an ethical-philosophical argument is developed. It makes plausible that fighting obesity might be more efficacious in extending life span and health span and also more ethically just than developing sophisticated and expensive technology to delay processes of senescence. It is not a matter of one or the other, but priorities should be debated.

SESSION 4670 (SYMPOSIUM)

NEW METHODS FOR STUDYING AGING AND SOCIOEMOTIONAL PERCEPTION

Chair: D.M. Isaacowitz, *Northeastern University, Boston, Massachusetts*

Co-Chair: U. Kunzmann, *Leipzig University*

Discussant: J.T. Stanley, *University of Akron, Akron, Ohio*

A large body of research has investigated age differences in the ability to accurately perceive emotional expressions on faces. This work has generally found consistent age-related declines in such emotion perception abilities, though it has been limited by the particular paradigm most commonly used: a participant sits in front of a computer and makes judgments about the emotion expressed on a static face. This session highlights cutting-edge methods that bring the study of aging and emotion perception into more everyday, ecological contexts. Moving away from making simple judgments about a static face may allow older adults to display more of their experience not only in making accurate emotion assessments, but also in social judgments more broadly. Talks in the session will consider to what extent computer-based emotion perception tasks lead to similar conclusions as in-person assessments about other individuals (Vicaria), the nature of more complex socioemotional judgments like personality and rapport (Castro), the cues that lead to empathic accuracy (Wieck), and the nature of emotion-oriented perception in the context of emotion regulation in couples (Rohr). Together, these talks highlight methods that can be used to give a more ecological perspective on the types of socioemotional judgments typically made by older adults, and when they are (and are not) accurate.

AGE-BASED PERFORMANCE DIFFERENCES IN THREE INTERPERSONAL JUDGMENT TASKS

I. Vicaria, D.M. Isaacowitz, *Psychology, Northeastern University, Boston, Massachusetts*

Older adults have traditionally performed poorly on computer-based assessments of emotion perception skills. However, they report experiencing emotionally satisfying relationships in real life. The current study assesses the difference between computer and interaction-based interpersonal judgments in younger and older adults. Participants complete a computer-based emotion perception task, then interact with someone of their age or the opposite age group for 20 minutes. Afterwards they judge their partner's personality traits and ratings of rapport, which are later correlated with partners' self reports to obtain accuracy scores. Analyses of 19 younger and 37 older adults revealed that older adults' accuracy on the computer-based tasks was significantly poorer ($p < .001$) than younger adults', but their performance on the interaction-based judgments was as good (rapport; *n.s.*) or even better (personality traits; $p < .05$) than younger adults'. The interaction-based judgments better approximate real life judgments and may draw on experience obtained with age.

AGE DIFFERENCES AND SIMILARITIES IN PERCEPTIONS OF PERSONALITY AND RAPPORT IN DYADS

V. Castro, I. Vicaria, D.M. Isaacowitz, *Psychology, Northeastern University, Boston, Massachusetts*

This study examined young, middle-age, and older adults' accuracy in perceiving personality and rapport in young and old dyads. Participants were presented with twelve videos depicting two young adults or two old adults interacting. Perceivers were randomly assigned to one target within each dyad and asked to judge the target person's personality traits and level of rapport. Videos varied in length (i.e., 10 secs, 20 secs, 20 secs) and location (i.e., second vs. third minute of the interaction). Results were mixed: age differences were found for the perception of some social qualities (e.g., agreeableness, satisfaction) but not others (e.g., extraversion, openness, conscientiousness, rapport). Accuracy was higher for shorter videos and videos from earlier rather than later portions of the interaction. These findings augment recent studies on social perception and aging to consider the myriad aspects of the perceptual process that may contribute to social perception accuracy across the lifespan.

AGE DIFFERENCES IN EMPATHIC ACCURACY: A BRUNSWIKIAN APPROACH

C. Wieck, S. Nestler, U. Kunzmann, *University of Leipzig, Leipzig, Germany*

Previous research has shown that older adults perform worse than younger adults at recognizing others' emotions accurately. The goal of the present study was to better understand the processes underlying these age-related differences in empathic accuracy. Applying a Brunswikian approach, we tested age differences in the utilization of multiple facial, prosodic and semantic cues selected to reflect three emotions: anger, sadness, and happiness as experienced and expressed by twelve targets who were videotaped while they relived an emotional memory. Facial, prosodic and semantic cues were measured objectively

as well as by independent groups of experts. A sample of 100 younger and 100 older adults rated each target's emotions. Empathic accuracy was computed as correspondence between targets' self-reports and perceiver's other-reports. Preliminary analyses suggest that older adults use less valid cues than young adults. As predicted, age differences in cue utilization were associated with age differences in empathic accuracy.

A SORROW SHARED IS A SORROW HALVED—AGE DIFFERENCES IN EXTRINSIC EMOTION REGULATION

U. Kunzmann, M. Rohr, *University of Leipzig, Leipzig, Germany*

Previous work suggests age-related improvement in emotion regulation. Although emotion regulation is embedded in social contexts, the majority of studies has adopted an individual approach examining how well individuals regulate their own emotions. Extending this work, the goal of this study was to test age differences in the ability to regulate one's partner's emotions. In each trial, one partner relived negative emotions associated with an acute personal problem, while the other engaged in a control task. Subsequently the couple came together and talked about the problem. Immediately after each conversation, both partners rated the conversation according to multiple respects (e.g., quality and satisfaction with the conversation, success of regulatory attempts). Preliminary analyses using actor-partner-interdependence models revealed that older couples were more successful at down-regulating each other's negative emotions. They further reported higher agreement on regulatory efforts and success. Implications for research on socio-emotional aging and social competence are discussed.

SESSION 4675 (SYMPOSIUM)

AGEING AND HEALTH IN THE CARIBBEAN

Chair: N. Quashie, *Chulalongkorn University, Bangkok, Thailand*

The Caribbean is undergoing rapid population ageing. Increasing proportions and numbers of older persons require states to strengthen institutional systems of care and support, and to re-frame the roles of older adults in society in order to mitigate the health and socio-economic challenges associated with ageing. The health of older adults is of primary concern as increasing longevity is typically associated with increased morbidity and disability due to chronic diseases. Research on the health of older adults within the Caribbean region is burgeoning with much attention given to patterns and correlates of chronic conditions such as obesity and hypertension, and based on a limited number of countries, for which data are available. Many aspects of older adults' health and quality of life, however, remain unexplored such as dementia and factors associated with ageing well.

The symposium brings together scholars resident within the Caribbean and internationally, to discuss their research on this demographic challenge of increasing significance to the region. Furthermore, the symposium introduces research on increasingly relevant aspects of population health that are

critical to different stages of the life course. The papers in this symposium will address considerations of alternative demographic approaches to measuring population ageing in the Caribbean based on health indicators; quality of life of older adults in Trinidad and Tobago; sexual health among older Jamaicans; and risk factors for dementia among older adults in Cuba and Barbados.

EXPLORING AGEING PARAMETERS FOR SELECTED CARIBBEAN COUNTRIES: TOWARDS A NOVEL APPROACH

G. St. Bernard, *University of the West Indies, St. Augustine, Trinidad and Tobago*

Ageing has traditionally been measured as the proportion of a nation's population aged at least 65 years, ignoring age distribution dynamics. Alternative measures such as median age and the ageing index have also been used. This paper explores a novel conception of ageing as a change in human populations' cumulative exposure-time to lifetime rewards and challenges in impacting individual and by extension, the collective wellbeing, whether positively or negatively. This exploratory paper targets four Caribbean countries – Barbados, Belize, Jamaica and Saint Lucia, for the 1980s, 1990s, 2000s and 2010s. Ageing parameters are estimated and compared for the respective populations including disaggregation according to sex. The paper discusses likely implications of unexpected findings from the standpoint of interpreting ageing dynamics, reflects upon challenges associated with data availability, and offers some direction for refining proposed measurement strategies.

POPULATION ATTRIBUTABLE RISK OF DEMENTIA IN TWO CARIBBEAN COUNTRIES

K. Ashby-Mitchell, *Australian National University, Canberra, Australian Capital Territory, Australia*

This study aimed to 1) determine the proportion of dementia explained by three common modifiable factors in Barbados and Cuba, and 2) estimate the effect of risk factor reduction on future prevalence of dementia. Levin's Attributable Risk formula which assumes independence of risk factors was used to calculate the proportion of dementia attributable to diabetes mellitus, physical inactivity and smoking in Barbados and Cuba. Using a modified formula and survey data, non-independence of risk factors was accounted for. Finally, the effect of a 5%-20% reduction in each risk factor on future dementia prevalence was computed. Accounting for non-independence of risk factors, the proportion of dementia attributable to these three risk factors was estimated to be 21.9% in Barbados (658 cases) and 26.2% in Cuba (39,366 cases). A 5% - 20% reduction in each risk factor every 10 years to 2050, would reduce dementia prevalence by between 1.3% and 16.3% in the countries under study. Dementia is a progressive condition with no known cure. Developing countries like those of the Caribbean are known to be ageing more rapidly than their developed counterparts. Any intervention able to delay or prevent dementia onset by targeting modifiable lifestyle factors can significantly reduce future dementia prevalence.

SEXUAL HEALTH AMONG MIDDLE-AGED AND OLDER WOMEN ATTENDING GYNAECOLOGY AND UROLOGY CLINICS IN JAMAICA

D. Tyndale, W. Aiken, D. Eldemire-Shearer, *University of the West Indies, Mona Campus, Kingston, Jamaica*

We sought to 1) determine the prevalence of sexual activity and disorder symptoms; 2) identify sociodemographic and health factors associated with sexual activity; 3) describe views regarding seeking sexual healthcare services. Data on socio-demography, medical history, menopausal status, and sexual activity were obtained from 272 clinic attendees, ≥ 50 years old. Forty-one percent reported sex in the last 12 months. The majority who did not have sex cited 'no partner' as the reason. Low desire and weak/absent orgasm were the most common disorders. Nine percent would not tell the doctor about a sexual problem if asked. Every 1 year increase in age was associated with 7% reduction in odds of sexual activity. Married women were 2.72 times as likely as unmarried women to report sexual activity. Needs of middle-aged and older women should be considered when designing and delivering sexual health services. Reluctance in seeking these services may warrant provider-initiated approaches.

AGING WELL IN THE CARIBBEAN: SOCIO-DEMOGRAPHIC AND PSYCHOLOGICAL PREDICTORS OF WELL-BEING

N.L. Alea, S. Ali, M. Arneaud, *University of the West Indies, St. Augustine, Trinidad and Tobago*

Research on Caribbean older adults has focused mostly on the absence of ill health as a proxy for aging well. However, well-being is not the opposite of ill-being. Thus, this work brings together data ($N = 104$) which examined socio-demographic (gender, ethnicity, income, education) and psychological (personality, locus of control) predictors of hedonistic and eudaimonic well-being in older Trinidadians. Higher income was associated with higher levels of hedonistic well-being (i.e., lower negative affect), whereas higher education and being female predicted eudaimonic well-being (i.e., environmental mastery and personal growth, respectively). Psychological variables explained additional variance. Neuroticism was detrimental to hedonistic well-being (i.e., higher negative affect), but having an internal locus of control was beneficial for eudaimonic well-being (i.e., personal growth). The discussion encourages researchers in the region to move beyond socio-demographic predictors of well-being to also consider how psychological variables may enhance the likelihood of aging well in the Caribbean.

SESSION 4680 (SYMPOSIUM)

ISUPPORT: ONLINE SUPPORT PROGRAM FOR CAREGIVERS OF PEOPLE WITH DEMENTIA

Chair: A. Pot, *Switzerland*

Co-Chair: T. Dua, *World Health Organization, Geneva, Switzerland*

The number of people with dementia is expected to increase to over 130 million in 2050 globally. Regardless of age or level of capacity, older people have a right to a dignified and meaningful life. For people with dementia, this is possible only with care, support and assistance of

others. Responsibility typically falls on family members, and presents them with significant psychological, social and economic costs. Therefore, efficient support for family and other caregivers is needed more than ever. The Internet offers opportunities to provide available, accessible, and affordable support for them.

In the last two years, the World Health Organization (WHO), health agency responsible for providing leadership on global health matters, has partnered with international experts in caregiving and dementia to develop a comprehensive e-program to enhance self-help, skills, and support for caregivers of people with dementia, recognizing this urgent need. In this session, we address its development, preliminary results and future directions.

After presenting the development and of the iSupport program by Pot, Gallagher-Thompson will continue by presenting the results of US focus groups that contributed to development of content. Holroyd-Leduc will address the preliminary results of an evaluation of one iSupport module ('Caring for Me') in Canada. Varghese will speak to the field-testing of iSupport in Bangalore, India, and present first results of that trial. Finally, Dua will discuss the development of iSupport and future directions to improve dementia care worldwide from a WHO perspective.

INTRODUCTION OF ISUPPORT: DESIGN AND CONTENT

A. Pot, *World Health Organization, Geneva, Switzerland*

This first presentation provides more details on the design of iSupport, the way in which the program works, and how the World Health Organization (WHO) supports adaptation and implementation in different resource settings.

The generic field-testing version of iSupport consists of 5 modules: Introduction to dementia, Being a caregiver, Providing everyday care, Caring for me and Dealing with Challenging Behaviours. These modules contain 23 interactive lessons in total, all based on small exercises with feedback. An adaptation and implementation guide for countries is available.

The iSupport program has been developed by WHO in collaboration with the Netherlands Institute on Mental Health and Addiction and many experts from around the world, including experts from Stanford University (U.S.), NIMHANS (India), and the University of Calgary (Canada), who will give the next presentations.

HEALTH PROFESSIONAL AND FAMILY CAREGIVER FOCUS GROUPS: INTERNET SUPPORT FOR PEOPLE WITH DEMENTIA

D. Gallagher-Thompson, K.M. Mehta, *Stanford University, Stanford, California*

There are 35 million people living with dementia worldwide; this number will triple by 2050. Families are the cornerstone of care despite mounting research on the cumulative stress of long term dementia caregiving (depression, burden, loss of roles and social connectedness). In many countries (India, China), in person support is not available at scale due to lack of trained workers.

We describe results from two US focus groups contributing to iSupport content development. Methodology included facilitation by a trained interviewer using a structured

interview guide and thematic analyses of transcript data. Several key themes emerged: needing basic information about dementia, self-care, and how to manage challenging situations. Examples of how this information was used for content development of iSupport will be presented.

EVALUATION OF ISUPPORT IN CANADA: THE USABILITY AND EFFECTIVENESS OF THE “CARING FOR ME” MODULE

J. Holroyd-Leduc², A. Huhn¹, N. Jette², 1. *Alzheimer Society of Alberta & NWT, Canada, Edmonton, Alberta, Canada*, 2. *University of Calgary, Calgary, Alberta, Canada*

The objective of this research is to evaluate the evidence-informed support program (iSupport) developed by the World Health Organization, within the Canadian context. Specifically, using grant funding from the Canadian Institute of Health Research, we are evaluating the effectiveness of the iSupport module focused on caregiver self-efficacy and self-care (‘Caring for Me’). We are testing the overall usability of iSupport with family caregivers. This will be followed by a randomized controlled trial to determine the impact of the iSupport ‘Caring for Me’ module on caregiver outcomes such as self-efficacy and burden. Preliminary results of the usability study will be presented.

ISUPPORT FOR FAMILY CAREGIVERS OF PEOPLE WITH DEMENTIA IN INDIA-A RANDOMIZED CONTROLLED TRIAL

M. Varghese, S. Loganathan, P. Shivakumar, *NIMHANS, Bangalore, India*

The generic version of iSupport was culturally adapted for Indian caregivers. To assess the effectiveness of the adapted version of the iSupport program, a randomized controlled trial (RCT) is conducted all over India by inviting family caregivers to participate in the study. Caregivers who use the interactive iSupport programme are compared with caregivers who receive education only, on the following outcomes: perceived burden, symptoms of depression and anxiety, mastery, feelings of competence, and quality of life in family caregivers. Measurements take place at baseline, directly after the 3-month intervention period and at follow-up, 3 months after post-measurement. First results of this RCT in India will be presented.

SESSION 4685 (SYMPOSIUM)

AGEISM IN A GLOBAL CONTEXT: COMBINING SOCIETAL AND INDIVIDUAL PERSPECTIVES ON AGE DISCRIMINATION

Chair: K. Rothermund, *FSU Jena*

Co-Chair: L. Ayalon, *Bar Ilan University, Ramat Gan, Israel*

Discussant: G.J. Westerhof, *University of Twente*

This symposium examines based on research from 22 countries the operation of ageism at the individual and societal levels. Papers stress the multi-faceted nature of ageism, its differential manifestation over the life course and how it can be addressed. Chasteen et al. consider how older adults respond to different types of ageism. Levy et al. present evidence that older adults with positive age stereotypes may be able to ward off cumulative stress. Rothermund &

Voss suggest that perceived group-level age discrimination may originate from an increased sensitivity towards age discrimination due to high levels of societal awareness or to an impending individual transition into old age. Ayalon & Rothermund introduce indicators of relative age disadvantage at a national level. Westerhof discusses the findings from the perspective that aging is a construction in which societal and individual influences interact.

THE UTILITY OF NATIONAL INDICATORS OF RELATIVE AGE DISADVANTAGE

L. Ayalon¹, K. Rothermund², 1. *Bar Ilan University, Ramat Gan, Israel*, 2. *Jena University, Jena, Germany*

We introduce new indicators measuring relative disadvantage of older compared with younger people at a national level. Drawing on data from 19 European countries, our study shows that (a) older people are consistently disadvantaged with regard to health, income, education, and employment, (b) relative age-disadvantages (i.e., the status of those aged 30–45 divided by the status of older adults aged 60–75) predict the situation of older people over and above age-matched status of living conditions within a country (i.e., the mean for the absolute status of those 60–75 year-old and 30–45 year-old). Results of our study highlight the relevance of age-related inequalities for diagnosing, understanding, identifying, and changing the situation of older people in modern societies.

UNWANTED HELP: REACTIONS TO BENEVOLENT VS. HOSTILE AGEISM

A.L. Chasteen¹, M. Horhota², E. Haseley², 1. *Psychology, University of Toronto, Toronto, Ontario, Canada*, 2. *Furman University, Greenville, South Carolina*

Although prejudice towards older groups is often expressed hostilely, bias toward older adults can take different forms. Specifically, older adults may sometimes encounter hostile ageism, but at other times face benevolent, patronizing ageism. In this talk I will examine those types of age prejudice more closely by comparing young, middle-aged, and older adults’ perceptions of benevolent and hostile ageism. I will present findings from both general survey responses and reactions to specific ageism incidents. Across these studies, I will show that hostile ageism is viewed as more inappropriate than benevolent ageism, and I will discuss the consequences for older adults of either confronting or failing to confront these different types of ageism. In combination, the findings from this research demonstrate the difficulties older adults face when having to decide whether or not to oppose a form of bigotry that often goes unrecognized.

CUMULATIVE STRESS BUFFER: POSITIVE AGING SELF-STEREOTYPES PREDICT LOWER CORTISOL ACROSS THIRTY YEARS

B. Levy¹, S. Moffat³, S. Resnick², M. Slade¹, L. Ferrucci², 1. *Social and Behavioral Sciences, Yale University, New Haven, Connecticut*, 2. *National Institute on Aging, Baltimore, Maryland*, 3. *Georgia Institute of Technology, Atlanta, Georgia*

Prolonged elevation of cortisol, a primary stress biomarker, is associated with worse cognitive and physical health. Cortisol tends to increase in later life among most, but not all, older individuals. The current study considered whether this pattern could be explained by more-positive

age stereotypes acting as a stress-buffer. The 439 participants, drawn from the Baltimore Longitudinal Study of Aging, provided 1,789 24-hour cortisol measurements across 30 years. Among those aged 50 or greater, the cortisol of those in the more-negative age-stereotype group increased by 44%, whereas those with more positive age-stereotypes tended to show no increase. Also, as expected, no association of age stereotypes and cortisol level was found among the younger participants, for whom the age stereotypes were self-irrelevant. The findings suggest the important contribution positive age stereotypes can make to older individuals' well being.

PERCEIVED GROUP-LEVEL AGE DISCRIMINATION: FINDINGS FROM THE AGING AS FUTURE STUDY

K. Rothermund, P. Voss, FSU Jena, Jena, Germany

Using data from the international Aging as Future study conducted in the USA and Germany, we assessed group-level perceptions of age discrimination in a large age-heterogeneous sample (35–85 years, N=1,340). Highest levels of perceived discrimination of older people were found among the US participants (compared to German participants) and among the age group of people facing retirement (55–65 years). Perceived group-level age discrimination was related to low levels of perceived provision for and societal participation of older people, and to negative age stereotypes. Although we found country and age group differences also with regard to these predictor variables, they did not explain the country and age group differences in perceived age discrimination. Our findings thus indicate that perceived group-level age discrimination reflects not only a perceived lack of available resources for older people within a society but may also originate from an increased sensitivity towards age discrimination due to high levels of societal awareness or to an impending individual transition into old age.

SESSION 4690 (SYMPOSIUM)

THE BROADER PICTURE: A MULTIDIMENSIONAL APPROACH TO FRAILTY

Chair: J. Schols, Maastricht University, Maastricht, Netherlands

Co-Chair: N. De Witte, Vrije Universiteit Brussel, Brussels, Belgium

Discussant: R.J. Gobbens, Inholland University of Applied Sciences, Amsterdam, Netherlands

Although an increasing number of studies consider frailty as a multidimensional phenomenon, frailty is still often conceptualized and measured as a merely medical or physical concept. In this international symposium with four presenters from Belgium and the Netherlands, we address the importance of a multidimensional approach to frailty. Several frailty domains will be discussed thoroughly and attention will be given to balancing factors in frailty. The first presenter will focus on cognitive frailty and its relationship with other frailty domains. Our second presenter will discuss the results of in-depth analyses of socio-demographic factors and their connection with psychological frailty. Thereafter, the third presenter will illustrate why and how the environmental domain is related to frailty. Despite its importance, research

regarding environmental factors (e.g. (bad) housing condition) is still lacking. Finally, our last presenter will discuss balancing factors in frailty, as frailty cannot be considered as only an individual attribute of deficits, but might be considered as a balance between deficits and resources. Our discussant, Robbert Gobbens from the Netherlands, will reflect on the presentations.

COGNITIVE FRAILTY AND ITS RELATION WITH PHYSICAL, PSYCHOLOGICAL, SOCIAL AND ENVIRONMENTAL FRAILTY

E.E. DeRoock^{1,2}, A. van der Vorst³, S. Engelborghs¹, E. Dierckx², D-SCOPE Consortium², 1. University of Antwerp, Antwerp, Belgium, 2. Vrije Universiteit Brussel, Brussels, Belgium, 3. Maastricht University, Maastricht, Netherlands

Recently, cognitive frailty was added as a new domain to the Comprehensive Frailty Assessment Instrument (CFAI). The CFAI is a well-studied instrument that measures physical, psychological, social, environmental and cognitive frailty. Nevertheless little is known about the interaction between cognitive frailty and the other domains. The goal of this study was to investigate the relationship between cognitive frailty and the other frailty domains. Therefore, the CFAI was administered to 475 older adults between 51 and 101 years old recruited from the community. Cognitive frailty correlated significantly with environmental, physical, and psychological frailty. Contrariwise there was no correlation with social frailty. In addition 52.2% of the older people were cognitive frail in combination with one or more other frailty domains. The most common combination was cognitive frailty together with physical frailty. Gaining insight in the relationship between cognitive frailty and the other domains can help to develop appropriate therapeutic interventions.

PSYCHOLOGICAL FRAILTY: A QUANTITATIVE STUDY ON THE BELGIAN AGING STUDIES

L. Hoeyberghs^{1,2}, N. De Witte^{1,2}, J. Schols^{3,4}, D-SCOPE Consortium², 1. Faculty of Education, Health and Social Work, University College Ghent, Ghent, Belgium, 2. Faculty of Psychology and Educational Sciences, Vrije Universiteit Brussel, Brussels, Belgium, 3. Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands, 4. Department of Family Medicine, CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands

The rationale of this study is a quantitative search for factors related to psychological frailty. This search was done on the dataset of the Belgian Aging Studies (BAS). First, second order factor analysis was conducted on the Comprehensive Frailty Assessment Instrument (CFAI) which is incorporated in the BAS. This resulted in the following factor-loadings: .80 for psychological factors, .36 for physical factors, .32 for environmental factors and .33 for social factors, pointing towards frailty as rather a psychological problem. Therefore, a more in-depth exploration of data from the BAS, administered among 32,481 older community dwelling adults, was conducted. After identifying the high psychologically frail group, we investigated which factors are associated

with psychological frailty. Findings reveal that psychological frailty is not equally distributed within the older population, and that the following factors may contribute to psychological frailty: ageism, difficulties in executing household tasks, and social activities.

FRAIL AND AGEING IN PLACE. WHAT ABOUT THE ENVIRONMENT?

N. De Witte, 1. *Faculty of Education, Health and Social Work, University College Ghent, Ghent, Belgium*, 2. *Faculty of Psychology and Educational Sciences, Vrije Universiteit Brussel, Brussels, Belgium*

Research on frailty has mainly focused on ageing individuals and populations. Less attention is given to the environment an ageing individual lives in. Some researchers call this tendency the “decontextualization of human ageing away from the environment”. However, when ageing in place, older people highly depend on the sustainability of their own housing conditions and environment. As a consequence, the environmental domain was introduced in the Comprehensive Frailty Assessment Instrument (CFAI), besides physiological, psychological and social frailty. The environmental domain contains 5 items assessing older people’s housing conditions and neighborhood. Based on a second order confirmatory factor analysis on the CFAI, the factor loading for this domain was .32, pointing towards the fact that environmental problems contribute to frailty. Hereby, the concept of frailty is extended towards a more holistic approach. In order to support frail older people aging in place, screening with CFAI enables tailor made interventions, including environmental.

BALANCING FACTORS IN COMMUNITY-DWELLING PEOPLE AGE 60 YEARS AND OVER

A. van der Vorst¹, G. Zijlstra¹, N. De Witte^{2,3}, G. Kempen¹, J. Schols^{1,4}, D-SCOPE Consortium³, 1. *Department of Health Services Research, Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, Netherlands*, 2. *Faculty of Education, Health and Social Work, University College Ghent, Ghent, Belgium*, 3. *Faculty of Psychology and Educational Sciences, Vrije Universiteit Brussel, Brussels, Belgium*, 4. *Department of Family Medicine, Care and Public Health Research Institute (CAPHRI), Maastricht University, Maastricht, Netherlands*

Since not all frail older people experience negative outcomes, we aimed to examine which factors contribute to quality of life (QoL) and self-control in older people, despite being frail. 121 community-dwelling people living in Belgium were assessed using a mixed-method approach. Multidimensional frailty was measured with the Comprehensive Frailty Assessment Instrument (CFAI). QoL and self-control were measured using a visual analogue scale, and were assessed more in-depth during a qualitative interview. Initial analyses were performed in overall frail older people with lowest ($n = 15$) and highest ($n = 10$) scores on QoL and self-control. Groups were compared and relationships were investigated based on socio-demographic characteristics and frailty levels per domain. However, no clear explanations for the differences in outcomes were found. Future research is going to include in-depth analyses of the qualitative interviews to

search for explanations for the discrepancies in the outcomes QoL and self-control in frailty.

SESSION 4695 (SYMPOSIUM)

RECENT ADVANCES IN OLDER DRIVER RESEARCH: METHODOLOGY AND OUTCOMES FROM THE AAAFTS LONGROAD STUDY

Chair: L. Hill, *University of California, San Diego, San Diego, California*

The over 65 population is the fastest growing group in the US, including 35 million drivers. Older adults are more likely to experience health and functional impairments than their younger counterparts, which may interfere with their ability to drive safely, and have been found to be associated with driving cessation. Older drivers made up 17% of the traffic fatalities in the US in 2012. However, there are methodological challenges to older driver research, including recruitment barriers (e.g. distrust, health issues precluding participation, lack of mobility), the inaccuracy of self-reported data, limited stamina for research assessments, and multiple confounding variables (e.g. disease, medications, cognitive impairment). This symposium will present four papers addressing older driver research. The presentations will be based on the experiences and preliminary results of the AAA Foundation for Traffic Safety’s LongROAD Study. This five-city prospective study enrolling 6000 older adults drivers across the country. This study been designed to collect data using validated car instrumentation, including the types and timing of trips, driving safety issues, and changes with time. Baseline and annual testing assesses cognitive, physical and medical status of participants, diagnoses and medications. Methodological issues will be discussed, with potential solutions. Challenges and solutions to obtaining driving information on study participants from motor vehicle departments will be presented. Outcomes will include recruitment results, department of motor vehicle data, the driving habits and patterns based on GPS data monitors, with the identification of potential interventions to reduce unsafe driving, and safely delay driving retirement.

LONGITUDINAL RESEARCH ON AGING DRIVERS (LONGROAD): STUDY DESIGN AND METHODS

G. Li, *Columbia University, New York, New York*

The Longitudinal Research on Aging Drivers (LongROAD) project is a prospective cohort study designed to generate empirical evidence for understanding the dynamics, mechanisms, and determinants of driving safety in older adults. A total of 3,000 active drivers aged 65–79 years will be recruited through clinics in five study sites located in CA, CO, MD, MI and NY. Consented participants are assessed at baseline with standardized protocols and instruments, including vehicle inspection, performance-based tests, questionnaires, and “brown-bag” medication reviews. The primary vehicle of each participant is instrumented with a small recording device to collect real-time driving data. Annual follow-up is conducted with questionnaire survey and with in-person assessment in alternate years. Driving records, including crashes and violations, are collected through state

motor vehicle departments. Pilot-testing was conducted on 56 volunteers during March-May 2015. Enrollment started in July 2015. As of June 30, 2016, the investigators have enrolled 1745 study participants.

RECRUITMENT OF OLDER DRIVERS INTO LONGROAD: EXPERIENCES FROM A MULTI-STATE STUDY

M. Betz¹, C. DiGuseppi², L. Hill³, L.J. Molnar⁴, V. Jones⁵, L.H. Ryan⁶, D. Strogatz⁷, G. Li⁸, 1. *Emergency Medicine, University of Colorado--Denver, Denver, Colorado*, 2. *Colorado School of Public Health, Aurora, Colorado*, 3. *University of California San Diego, San Diego, California*, 4. *University of Michigan Transportation Research Institute, Ann Arbor, Michigan*, 5. *Johns Hopkins University, Baltimore, Maryland*, 6. *University of Michigan Institute for Social Research, Ann Arbor, Michigan*, 7. *Bassett Research Institute, Cooperstown, New York*, 8. *Columbia University, New York, New York*

Eligible LongROAD participants were 65–79 years old; drove $\geq$ once/week with a valid license; received primary care at the site's healthcare system; lacked significant cognitive impairment; spoke English; and primarily drive one car (1996 model or newer) with an empty port for the study GPS device. Potentially-eligible individuals (sampled from healthcare system patients) received letters and subsequent calls. Over 12 months, the sites mailed 18,078 letters. On average, 25% of those reached by phone declined to eligibility questions; among those giving a reason, being "too busy" or "don't like research" were most common. Among those screened for eligibility, the most common reasons for ineligibility were not driving (38%) or having an ineligible residence (26%) or vehicle (17%). Recruitment yield (enrollments per letters mailed) was 9.8% (range: 5.4%-17%). This presentation highlights recruitment challenges and offers strategies to overcome recruitment barriers.

THE OBJECTIVE MEASUREMENT OF DRIVING AMONG OLDER ADULTS

D.W. Eby, L.J. Molnar, D. LeBlanc, M. Gilbert, S. Bogard, R. St. Louis, N. Zanier, S. Stanciu, *University of Michigan, Ann Arbor, Michigan*

One of the challenges of conducting research on aging and driving is the measurement of driving behavior. Many studies rely on older drivers themselves to report how much, where, and when they drive. While these data are useful, research shows that drivers have difficulty accurately reporting not only their driving exposure, but also their driving patterns. The Longitudinal Research on Aging Drivers (LongROAD) study employed an innovative system to objectively measure all driving done by participants in their primary vehicle. As of May, 2016 there were 1,477 participants who had collectively taken more than 650,000 trips and driven more than 4,000,000 miles. On average, trip length was 6.3 miles, trip duration was 14.2 minutes, and 6.1 percent of trips were taken at night. About 65 percent of trips occurred within 15 miles of home. Further detail on the data collection system and driver behaviors will be provided in this presentation.

COMPARISON OF THE ACCESSIBILITY AND CONTENT OF DRIVING RECORDS FROM MULTIPLE STATES

D. Strogatz¹, V. Jones², H. Andrews³, C. DiGuseppi⁴, D.W. Eby⁵, L. Hill⁶, T. Mielenz³, G. Li³, 1. *Bassett Research Institute, Cooperstown, New York*, 2. *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*, 3. *Columbia University, New York, New York*, 4. *University of Colorado School of Medicine, Denver, Colorado*, 5. *University of Michigan Transportation Research Institute, Ann Arbor, Michigan*, 6. *University of California at San Diego, San Diego, California*

Research examining driving among older adults suggests driving records can be used to measure moving violations and crashes as outcomes. Much of research on driving records in the United States is from a single state and therefore can't address extent and impact of interstate differences in accessibility and content. Sources of variability may include request procedures (e.g. written, online, free or fee), timeline for obtaining data, mode of driving record information (e.g. electronic or paper files) and type of information in driving records (e.g. crash details). The Longitudinal Research on Aging Drivers (LongROAD) Study is obtaining driving records of approximately 3000 adults 65–79 years old in 5 states; initial data on 1,080 participants revealed 65 crashes and 162 violations in recent years. From this experience we compare states on process and cost of obtaining past and future driving records and differences in content of reports on crashes and moving violations.

SESSION 4700 (PAPER)

VOLUNTEERING: PRECURSORS AND OUTCOMES

VOLUNTEERING ENGAGEMENT IN SENIORS: BARRIERS AND FACILITATORS

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Engaging in regular volunteering has been proposed as a strategy to facilitate healthy and productive ageing. Evidence suggests that engaging in volunteering activities can provide beneficial social, physical, and cognitive outcomes for older people including, but not limited to, improvement in quality of life, reduced depression, higher levels of self-rated health, lower mortality rates, and improved psychological well-being. Given these benefits, engagement in volunteering activities should be encouraged in seniors. The present study, part of a broader randomized control trial examining the effects of volunteering on the health and well-being of Australian seniors, examined the perceived barriers to and facilitators of involvement in volunteering in over 200 participants aged 60 years and older. NVivo11 was used to code and content analyze the interview transcriptions. Several intrapersonal and environmental barriers were reported including being time poor, lack of mobility, lack of available transport, health issues, lack of relevant information and knowledge about

where to seek volunteer work, and organizational “red tape” and inflexibility. Interviewees believed that increasing flexibility of positions, making the commitment easier to manage within existing lifestyles, making resources pertaining to possible volunteering positions readily accessible, and finding positions of interest would assist in facilitating involvement in volunteer work. Results suggest that although there are several barriers that prevent seniors from engaging in volunteer work after retirement, motivation to undertake such activities can be enhanced if organizations understand the specific needs of seniors and improve the ease with which seniors can engage in this work.

THE VOLUNTEERING-IN-PLACE PROGRAM: MEANINGFUL VOLUNTEER ACTIVITY FOR ASSISTED LIVING RESIDENTS

J. Klinedinst, B. Resnick, *University of Maryland School of Nursing, Baltimore, Maryland*

The Volunteering-in-Place (VIP) Program was developed to provide individualized meaningful volunteer activities matched to interests and capabilities for older adults in assisted living (AL). The purposes of this study were to (1) establish feasibility of the VIP Program based on treatment fidelity (design, treatment, delivery, enactment); and (2) evaluate preliminary efficacy via improvement in psychological health (depressive symptoms, usefulness, purpose, resilience, and life satisfaction) and decreased sedentary activity (survey and Fitbit) at 3 and 6 months.

Guided by the Social Ecological Model and Social Cognitive Theory, the VIP Program addressed barriers to volunteering through innovative motivational techniques and making volunteer opportunities accessible to residents. A Volunteer Coordinator facilitated the VIP Program using a four step approach: 1) Environmental Scan and Staff Education; 2) Assessment of Residents Abilities and Interests; 3) Ongoing Implementation of the VIP Program; and 4) Individualized Reassessment of the Volunteer Activity.

This was a single group, single-site, repeated measures study. Residents were eligible if they were ≥ 65 years old, scored ≥ 2 on the three-item recall, and could sign consent. Survey and Fitbit data were collected at baseline, three and six months post volunteering.

Ten residents participated. The majority was white, female, educated, and on average 88 years. The VIP Program was feasible and most participants continued to volunteer at 6 months. There were non-significant improvements in depressive symptoms, usefulness, purpose, resilience and recreational physical activity.

The results of this study provide support for the feasibility of the VIP Program. Further study is necessary to examine efficacy.

EARLY LIFE COURSE EVENTS AND VOLUNTEERING IN LATE LIFE

M. Hogerbrugge, I.R. Jones, *Wales Institute for Social and Economic Research, Data & Methods (WISERD), Cardiff University, Cardiff, United Kingdom*

Besides highlighting heterogeneity in life courses and the impact of socio-historical time, geographical location, human agency, and linked lives, the life course perspective underlines

the significance of [the timing of] transitions and events earlier in the life course in shaping the later life of individuals – a principle also known as path dependency. Employing data from the life history interview and subsequent waves of the English Longitudinal Study of Ageing (ELSA), we test to what extent the experience of negative events earlier in the life course, as well as the timing of ‘normal’ events (e.g., leaving the parental home, marriage, [first] child birth) affect the frequency of, and reasons for volunteering in late life (age 50 and over). Ordered logistic regressions revealed that the frequency of volunteering was positively affected by the experience of negative events in the life course, especially when they were first experienced at a young age. When ‘normal’ events, such as marriage and parenthood, were experienced at ages outside normative social timetables (i.e., too early or too late), the frequency of volunteering in late life was found to be lower. Examining the reasons for volunteering, individuals who had experienced negative events in their life course, or who experienced ‘normal’ events off-time, were found to report socially related motivations for volunteering more often and motivations related to personal development less often. We discuss the relevance of our findings in light of the notion of ‘active ageing’ and related policies.

VOLUNTEERING BUFFERS NEGATIVE IMPACT OF LONG-TERM UNEMPLOYMENT ON OLDER ADULTS’ MENTAL HEALTH

J. Yang, Y. Wang, *Boston College, Allston, Massachusetts*

Research abounds in demonstrating the negative impact of unemployment on older adults’ mental health. However, few studies examined the protective factors that buffer the negative impact of long-term unemployment (over six months) on older adults’ mental health. Using a framework of resilience and productive aging, this study explores the buffering effect of volunteering on the relationship between unemployment and depressive symptoms for older adults.

A longitudinal design with 7 models using the first difference approach was adopted. Two waves (2010, 2012) of panel data from the Health and Retirement Study were used with a sample of 9,421 older adults age 50–85. Independent variable was a four-way interaction between two waves of unemployment and volunteering status. Control variables included change in self-reported health, change in difficulties in activities of daily living, change in total household income, and change in marital status.

Results demonstrated that for long-term unemployed older adults, those who did not volunteer in wave 1 but volunteered between 100 to 200 hours in wave 2 had a significant decrease in depressive symptoms compared to those who were unemployed but did not volunteer in either wave.

This study demonstrated a buffering effect of volunteering on depressive symptoms for long-term unemployed older adults. This finding is important because current unemployment interventions lack attention to both the long-term unemployed and people’s mental health. The finding from this study provides insights to inform future intervention development around creating volunteering opportunities for unemployed older adults in order to enhance their mental wellbeing.

SESSION 4705 (SYMPOSIUM)

PATTERNS OF (IN)FORMAL CARE IN THE COMMUNITY: DETERMINANTS AND OUTCOMES

Chair: M.I. Broese Van Groenou, *VU University, Amsterdam, Netherlands*

Due to increased policy on and preferences for ageing in place, many health impaired older adults living at home and in home-like settings are in need of (in)formal care. This situation raises questions and calls for more research about the variety in patterns of care and the dependency between formal and informal care use. Moreover, more information is needed on the quality of (in)formal care and how this affects quality of life and ageing in place. This symposium explores patterns of (in)formal care in relation to various determinants and outcomes. The first contribution focuses on the formal-informal care linkage and examines how changes in national home care expenditures affect individual informal care provision in nine European countries. The next study shows how social networks contribute to care patterns among Danish older adults, and whether care patterns differ in overall and care-related quality of life. The third contribution examines whether a larger proportion of informal caregivers increases the perceived quality of care and the overall quality of life of Dutch older care recipients. The fourth study uses a qualitative longitudinal design and adds how patterns of informal care influence residents' quality of life and ability to age in place in assisted living over time. Together, these studies show that linkages between formal and informal care vary over time and place, and that advancing complementary models of (in)formal care is essential to understanding and improving care quality for older individuals who are required or prefer to age in place.

CHANGES IN HOME CARE EXPENDITURE AND THE COMBINATION OF INFORMAL CARE AND PAID WORK

D. Verbeek-Oudijk, *Labour and Public Services, Netherlands Institute for Social Research, The Hague, Netherlands*

In this paper we examine the relationship between rising home care expenditure and the combination of informal care and paid work among the independent community-dwelling persons aged over 50 in nine European countries. We use data from 2004–2013 – a period characterised by rising expenditure and investments in home care. The nine countries studied are Austria, Belgium, Denmark, France, Germany, The Netherlands, Spain, Sweden and Switzerland. We analyse the effect of a change in home care expenditure using logistic regression with fixed effects on the longitudinal data from the *Survey of Health, Ageing and Retirement in Europe*, combined with national data on home care expenditure from the OECD. Preliminary results show that, when home care expenditure in a country rises, fewer over-50s provide informal care. However, the effects seem to differ for those who work and for those who do not. (140)

VARIATIONS IN CARE PROFILES AMONG DANISH OLDER ADULTS: DETERMINANTS AND CONSEQUENCES

A.A. Kjaer^{1,2}, A. Siren¹, 1. *Social Policy and Welfare, the Danish National Centre for Social Research, Copenhagen, Denmark*, 2. *Department of Political Science, University of Copenhagen, Copenhagen, Denmark, Denmark*

This study investigates variations in the combination of formal and informal care amongst community dwelling older adults in Denmark, and its determinants and consequences. Using data from the fourth wave of the Danish Longitudinal Study on Ageing, we first classify recipients of municipal home-care into four different *care-profiles* based on 1) the intensity of formal care and 2) the level of assistance from informal care-givers. Conducting multivariate regression analysis we next investigate the role of *social network*, in terms of proximity and contact, in explaining care-profile membership while adjusting for age, gender, health and physical functioning. Last, we examine the *overall and care-related quality of life* associated with each care-profile. Preliminary results indicate that social network has a role in explaining individuals' care-profiles. Thus, older adults with a poor social network may be in risk of a care deficit despite the dominant formal care regime of the Danish welfare state.

HOW DO PATTERNS OF CARE AFFECT THE QUALITY OF CARE AND QUALITY OF LIFE AMONG DUTCH OLDER ADULTS?

M.I. Broese Van Groenou, *Sociology, VU University, Amsterdam, Netherlands*

This study examines how quality of life of community-dwelling older adults is associated with the composition of the care network, the intensity of care provided and the perceived quality of care. Preliminary multivariate regression analyses were conducted using 491 respondents of the 2012 wave of the Longitudinal Aging Study Amsterdam, who received help with at least one of five tasks. Results show that, adjusted for background variables, health status and levels of mastery, a lower proportion of informal caregivers and lower satisfaction of care contributed to higher depressive symptoms. Also, respondents who evaluated the cooperation among the caregivers as more negative reported higher levels of loneliness. Results suggest that the use of informal care and perceived quality of care adds to quality of life. This calls for better working linkages between formal and informal caregivers in order to increase the quality of life of those ageing in place.

FAMILY INVOLVEMENT IS THE KEY: INFORMAL CARE IN ASSISTED LIVING

C.L. Kemp¹, M.M. Ball², J.C. Morgan¹, E.O. Burgess¹, P.J. Doyle³, M.M. Perkins², 1. *Gerontology, Georgia State University, Atlanta, Georgia*, 2. *Emory University, Atlanta, Georgia*, 3. *Brightview Senior Living, Baltimore, Maryland*

This paper presents findings from a 5-year longitudinal qualitative study involving 50 residents and their informal and formal care network members (n= 225) in eight diverse assisted living (AL) communities in the southern US. Previous analysis of data from four settings identified variability in

informal care and generated a typology of care patterns. Here, we expand this analysis to examine data from all eight settings and focus on outcomes. We ask: What implications do informal care patterns have for residents and their care providers? Findings show that the quality and quantity of informal care influences AL residents' ability to age in place, and directly and indirectly influences their overall care quality and well-being. Informal care can influence the well-being and quality of life of those providing it and also can impact direct care workers' work satisfaction and perceptions of care quality. Findings have implications for improving care and care relationships.

SESSION 4710 (PAPER)

END-OF-LIFE/PALLIATIVE CARE/PAIN MANAGEMENT/CHRONIC DISEASE MANAGEMENT

PHYSICIAN ORDERS FOR LIFE-SUSTAINING TREATMENT (POLST): ARE FORMS COMPLETE? CAN THEY BE IMPROVED?

A.N. Rahman, S. Enguidanos, *Davis School of Gerontology, University of Southern California, Santa Monica, California*

Background: The Physician Orders for Life Sustaining Treatment (POLST) form allows seriously ill individuals to express their preferences for end-of-life treatments. Despite increased POLST use, little is known about the quality of completed forms. Missing or conflicting information can invalidate the forms, rendering them ineffective.

Objective: We examined whether POLST forms prepared for nursing home residents were actionable and therefore effective in communicating residents' preferences.

Design: We reviewed POLST forms for a sample of nursing home residents in California.

Setting/Sample: We completed POLST audits for 938 residents in 13 nursing homes in Los Angeles.

Measures: Forms were deemed actionable if they were signed by both the patient (or proxy) and the physician, and the patient's treatment choices regarding resuscitation and medical intervention were consistent, as required by the California form.

Results: Overall, 69.6% of audited POLST forms were deemed actionable. Those not actionable typically lacked a required signature. Of the 855 POLST forms that were dated, roughly half were prepared at least six months prior to our review, with 17.4% prepared 18 months to 3 years earlier.

Conclusion: We found a concerning percentage of POLST forms for nursing home residents were not actionable. Implementing a statewide registry could ensure POLSTs are actionable, but some forms will likely be lost to the vetting process. A checklist of required items on POLST forms could prompt practitioners to audit forms for compliance. Space to document that standing orders have been reviewed would help ensure that POLST forms reflect patients' current treatment preferences.

KNOWLEDGE INTO PRACTICE: IMPROVING ADVANCE CARE PLANNING FOR OLDER PEOPLE IN AUSTRALIA

D. Parker, 1. *Faculty of Health, University of Technology Sydney, Sydney, New South Wales, Australia*, 2. *University of Queensland, Brisbane, Queensland, Australia*

Decision Assist is a national program that aims to enhance the provision of palliative care and advance care planning (ACP) services to older people.

This presentation reports results from a blended learning program (online modules and two face to face workshops approximately 2 months apart) delivered to clinical staff working in long term care and community aged care services. The aim was to promote participation in advance care planning discussions with residents/clients. Participants were asked to practice ACP between workshops and report their activity.

The homework activity was completed by 1489 staff long term care and 259 community staff. Almost half (47.3%) of long term care and community (49.0%) aged care staff had a ACP discussion with new residents/clients and approximately two thirds of participants had ACP discussions with existing residents/clients (66.2% long term care, 62.9% community). Completion of an Advance Care Directive (32.4% vs 19.3%, $p < 0.001$) or Advance Care Plan (37.1% vs 21.6%, $p < 0.001$) was significantly more likely to have been practiced by long term care participants compared to their community counterparts.

A blended approach to education has improved staff's ability to provide advance care planning for older adults. Further research to understand differences in long term care and community staff ACP and palliative care case conferences opportunities is indicated.

EFFECTS OF PATIENT CENTERED MEDICAL HOMES ON MEDICARE BENEFICIARIES WITH MULTIPLE CHRONIC CONDITIONS

J.M. Wiener, L. Lines, A. Kandilov, *RTI International, Washington, District of Columbia*

The Centers for Medicare & Medicaid Services (CMS) Multi-payer Advanced Primary Care Practice (MAPCP) Demonstration tested the effect of patient-centered medical homes (PCMH) on Medicare and Medicaid beneficiaries in eight states. Using multivariable linear and logistic regression models, the evaluation assessed how people with multiple chronic conditions performed on 7 utilization measures (e.g., all-cause hospitalizations), 7 process quality measures (e.g., receipt of total lipid panel); and 4 health outcome measures (e.g., avoidable catastrophic events) relative to a comparison group of beneficiaries in non-PCMH practices. Medicare fee-for-service beneficiaries in demonstration states with 3+ chronic conditions present in 2+ consecutive years of Medicare claims who were in the high-risk category of the CMS Hierarchical Condition Category index were defined as beneficiaries with multiple chronic conditions. Roughly a quarter of beneficiaries met inclusion criteria. Over the first two years, the MAPCP Demonstration was not associated with many statistically significant outcomes relative to the comparison group. Several states' significant outcomes were mostly in an unexpected direction (i.e., favored

the comparison group). No consistent patterns emerged in terms of which outcomes most improved across the demonstration states or which states had the best outcomes. Of the 18 selected measures, no state had significant results in more than 3 outcomes. Overall, the Demonstration does not appear to have had a significant positive effect on Medicare beneficiaries with multiple chronic conditions in the first two years of the demonstration. Final analyses spanning all three years of the demonstration will be available at the time of the conference.

DISRUPTING NARRATIVES OF LOSS: REFLECTIONS ON END-OF-LIFE CARE FOR PEOPLE WITH ADVANCED DEMENTIA

G. Puurveen, *School of Nursing, University of British Columbia, Vancouver, British Columbia, Canada*

Current discourse in research that examines end-of-life (EOL) care for people with advanced dementia is predominated by biomedicine that constructs a storyline of an experience dominated by the decline of the body. However, the focus on the dying body obscures the social, emotional, and spiritual elements of the dying experience. If we accept that the EOL is more than an experience of a deteriorating body, then research must take a holistic perspective and offer a counter narrative that attends to the depth of human experience.

This paper presents findings from ethnographic case study research exploring how care staff and family understood the needs and experiences of women with advanced dementia nearing the EOL. In-depth interviews with 23 care staff (nursing, management and allied health) and 2 family members, over 600 hours of participant observation, and 30 hours of video observation were conducted in one nursing home. Informed by a dialogical perspective, thematic and narrative analyses revealed that while family and staff's reflections were undergirded by a storyline of deterioration, their narratives were dominated by an ethical obligation towards the residents that went beyond fulfilling instrumental tasks and caring for the dying body. Rather, analysis showed that (1) encountering and acknowledging the residents' personhood, (2) nurturing relationship, (3) negotiating contextual factors, and (4) acting out of love and compassion were central to provide responsive person-centred EOL care. Findings suggest that staff and family have a nuanced understanding of EOL care, which has important implications for practice and education of care providers.

DO NURSING HOME RESIDENTS WITH DEMENTIA RECEIVE PAIN ASSESSMENTS AND INTERVENTIONS?

T. Nakashima^{1,2}, Y. Young², W. Hsu³, 1. *Rutgers University, Camden, New Jersey*, 2. *SUNY at Albany, Albany, New York*, 3. *New York State Department of Health, Albany, New York*

Purpose: This study compares the pain assessments and pain interventions received by nursing home residents both with and without dementia.

Methods: Study subjects were nursing home residents age 65 or older in New York State (n=51,224). Minimum Data Set (MDS3.0) in 2012 was used to address the study aims. Descriptive and categorical analyses were performed to quantify the differences in pain assessments/pain interventions between residents with and without dementia.

Results: Preliminary results show that pain assessment interviews were conducted in 80% of nursing home residents. Residents with dementia received significantly fewer pain assessments than their counterparts (74.3% vs. 92.4%; $P<.000$). Among those who had pain assessments, dementia residents had significantly less pain presence than those without dementia (14.8% vs. 30.1%; $P<.000$). Of those who had pain presence, dementia residents received significantly less pain medication (91.2% vs. 93.7%; $P<.000$) or non-medication intervention (18.0% vs. 21.8%; $P<.000$) than their counterparts.

Implications: Our results suggest that dementia residents were less likely to receive pain assessments and pain interventions. Assessment of pain in residents with dementia is challenging due to the loss of language, and the ability to communicate raises the risk of unmet needs. There is a possibility that patients with dementia may experience pain but are unable to articulate or complain about it, and thus get overlooked. It is important to solicit the assistance of knowledgeable hands-on caregivers to identify typical pain behaviors for residents with dementia using appropriate pain assessment tools, thus pain interventions can be administered.

SESSION 4715 (SYMPOSIUM)

LEADING GLOBAL CHANGE AT HOME: EXPERIENCES FROM THE HEALTH AND AGING POLICY FELLOWS

Chair: R. Mabe, *Sale Lake City VA Healthcare system*

Discussant: H.A. Pincus, *Columbia University*

The Health and Aging Policy Fellows (HAPF) Program has provided over 100 fellows the opportunity to learn about and contribute to aging policy. Each year, fellows have access to leading experts and policy makers via their placements, program orientations, and networking opportunities. The fellowship boasts significant diversity and exposure to both national and international aging policy opportunities. The significant contributions of current and former fellows to US and international aging policy through research, policy making, and industry are a testament to the vital role the fellowship plays in augmenting the potential of promising aging policy leaders. This is the second of a two-part symposium series by the 2015–2016 cohort. The symposium will highlight projects and experience from fellows who participated in non-profit advocacy group placements. Stephanie Firestone discusses her work with the American Planning Associate and US HUD on appropriate housing options for older adults. Rebecca Mabe will present her project with the Eldercare Workforce Alliance. Gina McCaskill will consider key informants and their contribution to consumer centered models of care. Jacquelyn Kung will offer insights on how caregivers can navigate federal government agencies. The symposium will conclude with a panel discussion where fellows will expound upon their experiences, offer insights on advancing aging policy in the US and abroad, and reflect about how their experiences might be adapted for use in settings abroad. Individuals affiliated with the fellowship will be invited to participate in the discussion. Fellowship director, Harold Pincus, will moderate the discussion.

APPROPRIATELY HOUSING OLDER ADULTS: A MANDATE WITHIN OUR CAPACITY TO FULFILL

S.K. Firestone, *AARP International, Washington, District of Columbia*

Universities and communities are effectively working in partnership to advance age-friendly principles espoused by the World Health Organization's Age-Friendly Cities and Communities Program, designed to provide policies to prepare for trends in population aging and urbanization. Such communities are walkable, visitable, and accessible, providing opportunities for residents of all ages to be active participants in their communities. This session will present findings from a symposium exploring examples of successful age-friendly university/community partnerships and will identify common elements and policies found amongst model collaborations.

IMPLICATIONS OF FINANCING LONG TERM CARE SERVICES AND SUPPORTS AND THE DWINDLING ELDERCARE WORKFORCE

R. Mabe, *Salt Lake City VA Health Care System, Salt Lake City, Utah*

As the United States works toward improving the ability of the aging and disabled population to afford needed care, the expansion of long term care services and supports across settings calls for an expansion of the Workforce in greater numbers than currently exist. Integrating financing and delivery of Medicare, Medicaid and Long Term Care Services and Supports will require a highly educated and well compensated workforce. All stakeholders in the Aging and Disability arena will need to become active participants in the implementation of quality and process improvements as value and outcome based payments for care delivery impact the changing landscape of care delivery in the home and community.

DISCOVERING BRIGHT SPOTS: THE ROLE OF KEY INFORMANTS IN IDENTIFYING CONSUMER- CENTERED MODELS OF CARE

G.M. McCaskill, *Birmingham Veterans Affairs Medical Centers, Birmingham, Alabama*

A national health advocacy group presented a unique opportunity for a Health and Aging Policy Fellow to identify exceptional models of consumer-centered, integrated care and services for low-income populations with an emphasis on older adults in America's Deep South states of Georgia, Alabama, Mississippi, and Louisiana. The primary objective of this presentation is to discuss the role of key informants, laypersons and professionals with knowledge about communities in which they may live and work, in identifying these exceptional models. The Fellow will discuss the political, social, and cultural challenges in establishing relationships with key informants across the miles to identify local bright spots. The secondary objective is to discuss the quality indicators that can be used in a global context in under-resourced communities to identify exceptional models of consumer-centered, integrated care and services for low-income older adults. Examples of these models will be highlighted.

FROM THE PERSPECTIVE OF FAMILY CAREGIVERS: WHAT DO DIFFERENT FEDERAL AGENCIES DO FOR ME?

J. Kung, *Family Caregiver Alliance, San Francisco, California*

Federal agencies can often be a confusing set of organizations (and accompanying acronyms) for non-political professionals. Yet many of these agencies deliver incredibly important resources and services to older adults and their family caregivers in the U.S. Taking the perspective of a family caregiver, this presentation will address the "need to know" information about a dozen Federal agencies, including CDC, OSG, ONC, ACL, CMS, and others. This session will be informative to international policy makers, U.S. professionals who work with older adults and their families, and others interested in the complex but critical set of U.S. Federal policy making organizations.

SESSION 4720 (SYMPOSIUM)

FIGHTING AGAINST ELDER ABUSE IN COLLABORATION WITH ADULT PROTECTIVE SERVICES

Chair: P. Liu, *UCSF, Walnut Creek, California*

Co-Chair: A.E. Navarro, *University of Southern California*

Discussant: B. Penhale, *University of East Anglia, Norwich, United Kingdom*

In the United States, the Adult Protective Services (APS) program is responsible for investigating reports of abuse, exploitation, and neglect among mostly vulnerable older adults. Data on APS clients, perpetrators, and interventions are not widely available, as each state operates APS independently and defines their service populations differently. Nonetheless, whether at the federal, state, or local level, working with APS to collect and analyze data is important. Researchers, APS staff, and policymakers are prepared to help older adults, when they know who the clients are and what they need, as well as who the perpetrators are and why they commit the crime. Person-centered services and remedies can be designed when client and perpetrator information is available. This symposium includes four presentations on researchers' experiences working with APS. Drs. Kendon J. Conrad and Madelyn Iris will discuss their multi-year collaboration with APS agencies in Illinois, and with the Illinois Department on Aging as they developed the Elder Abuse Decision Support System. Dr. Adria Navarro will present California APS' feedback on having a screening tool designed for efficient undue influence risk assessment among vulnerable adults. Dr. David Burnes will present findings from a prospective project that examines the development and feasibility of goal attainment scaling as a way to measure APS client outcomes. Lastly, Dr. Pi-Ju (Marian) Liu will discuss California APS' journey in collecting client and perpetrator data as a state. Following the presentations, Dr. Bridget Penhale will open up the discussion regarding protective agencies' operations across the globe, focusing on protective agencies in European countries.

ELDER ABUSE DECISION SUPPORT SYSTEM

K.J. Conrad², M. Iris³, P. Liu¹, 1. *UCSF, Walnut Creek, California*, 2. *University of Illinois at Chicago, Chicago, Illinois*, 3. *Leonard Schanfield Research Institute, Chicago, Illinois*

Objectives. The Elder Abuse Decision Support System (EADSS) was designed to meet the critical need for improved methods for assessment and substantiation of elder mistreatment, using a web-based system with standardized assessment measures. **Methods.** Six Illinois agencies participated in the field test. One-year pre/post analyses assessed substantiation results, using Illinois' standard investigation procedure as a comparison. Pre/post acceptability was assessed with caseworkers. Focus groups with APS staff examined users' experiences. Validity of measures was assessed using Cronbach's alpha and receiver operator characteristic curve analyses with final substantiation decision as criterion. **Results.** Increased substantiation of abuse was found. Regarding acceptability, the two systems were found to have differing strengths and weaknesses. Outcome measures had high validity estimates while focus groups indicated directions for improvement. **Significance.** This study was a successful proof of concept that data collected in the field would be useful for clinical purposes as well as for research.

EVALUATING CALIFORNIA'S READINESS TO PARTICIPATE IN THE NATIONAL ADULT MALTREATMENT REPORTING SYSTEM

P. Liu¹, T. Hedani⁸, L. Delagrammatikas², J. Nielsen³, S. Lindberg⁴, C. Alire⁵, S. Skezas⁶, R. MacKenzie⁷, 1. *UCSF, Walnut Creek, California*, 2. *California Department of Social Services, Sacramento, California*, 3. *City/County of San Francisco, San Francisco, California*, 4. *Orange County, Orange, California*, 5. *San Diego County, San Diego, California*, 6. *Santa Cruz County, Santa Cruz, California*, 7. *Sacramento County, Sacramento, California*, 8. *Institute on Aging, San Francisco, California*

California's Adult Protective Services (APS) program investigates approximately 15% of all elder abuse, neglect, and exploitation reports in the country. However, as a county-based system, each of the 58 counties operates independently. Collecting and submitting state level data to the National Adult Maltreatment Reporting System (NAMRS) will be a challenge for the state. Two surveys were launched to investigate data systems used and data elements collected in each county. Moreover, in-depth interviews were conducted with 14 counties' 24 APS supervisor, manager, or/and director. Six more interviews are scheduled for the remainder of July. Preliminary findings revealed that one third of the counties track data without any technological support, and expressed the desire to acquire help. Other counties using a case management system vary in the system used and often differ on data elements collected. Challenges including administrative, budgetary, and political issues will be summarized, and a blueprint for next steps in California will be outlined.

GOAL ATTAINMENT SCALING: MEASURING CHANGE IN APS ELDER ABUSE INTERVENTION

D. Burnes¹, M.S. Lachs², 1. *University of Toronto, Toronto, Ontario, Canada*, 2. *Weill Cornell Medical College, New York City, New York*

Adult protective services (APS) involvement with elder abuse cases carries the primary objective to reduce risk of re-victimization. Knowledge of effective APS intervention in elder abuse cases is scant. Intervention research is constrained by an absence of outcome measures that can assess change on re-victimization risk status over the course of intervention. Re-victimization risk is difficult to measure due to its multifarious/heterogeneous nature across cases. This presentation will present findings from a prospective study with the State of Maine APS to examine the feasibility of goal attainment scaling (GAS). GAS is a client-centered measure of client change that accommodates case heterogeneity. Based on qualitative interviews with APS caseworkers/management, we will present themes of GAS implementation challenges, feasibility, and best practices. We will also present caseworker focus group findings on constructing a menu of pre-worded GAS scales, which span several areas of risk including living arrangement, safety planning, and social support/engagement.

DEVELOPING AN UNDUE INFLUENCE SCREENING TOOL FOR ADULT PROTECTIVE SERVICES

A.E. Navarro¹, M. Joy², L. Nerenberg³, 1. *University of Southern California, Los Angeles, California*, 2. *Superior Court (ret.), San Francisco, California*, 3. *California Elder Justice Coalition, San Francisco, California*

In 2020, California baby boomers start turning 85, increasing by 143% (CDA, 2012). Given the added risk of experiencing cognitive decline and physical fragility, the need for Adult Protective Services (APS) efficiencies will be critical. Training and screening tools that recognize financial abuse have also been recommended within the APS field. In a report—Recommended Minimal Program Standards—published by the National Adult Protective Services Association (2013), the importance of APS training in evaluating clients' capacity to manage, use, and preserve assets is highlighted.

This qualitative project examined the diffusion of knowledge about undue influence among 33 APS personnel in two California county-based service organizations to determine the need for a screening tool. Among diverse personnel, 6% had knowledge of the state definition (effective 1/1/2014), while 94% had previous training. Participant feedback of a drafted screening tool designed to screen undue influence risk among vulnerable adults was positively received.

SESSION 4725 (SYMPOSIUM)**LONG-TERM CARE IN ASIA, THE U.S., AND EUROPE**

Chair: L. Polivka, *Claude Pepper Center, Tallahassee, Florida*

Co-Chair: B. Luo, *Western Washington University, Bellingham, Washington*

Long-term care (LTC) is rapidly emerging as a major public policy issue in countries across the developed and developing worlds as their older populations grow at unprecedented rates. Nations vary widely in the kinds of LTC services they provide, how they pay for them and in how they are administered. The presenters in this symposium will demonstrate this variance in their analyses of LTC policies and administrative structures in several countries from Asia to Europe and

the United States. Pamela Nadash will compare the efforts of three countries with relatively advanced systems of socially insured LTC to address the cost pressures that are emerging along with big increases in the number of older citizens who need LTC services. Larry Polivka will compare trends in LTC policy in the US and several northern European countries in terms of publicly supported LTC services and financing strategies and their implications for the future of individual (family) responsibility for sharing the costs of LTC services. Jung Kwak will describe the current public LTC system in South Korea and discuss the options available to policymakers confronting the large gap between the current system and the services that will soon be needed by the country's rapidly increasing older population. Baozhen Luo will describe China's urgent effort to develop a LTC system designed to accommodate the continuing growth of the world's largest population of older citizens. Dr. Luo will discuss the need for a more balanced approach to LTC financing based on social insurance.

HOW ARE SOCIAL INSURANCE MODELS OF LTSS FARING? ADAPTATIONS IN GERMANY, JAPAN, AND THE NETHERLANDS.

P. Nadash, *University of Massachusetts Boston, Boston, Massachusetts*

Germany, Japan, and The Netherlands represent the most mature systems of financing LTSS through a social insurance model – that is, via premiums deducted out of wages. The Dutch introduced their program in 1968, Germany in 1995, and Japan in 2000. This paper explores adaptations made by the programs over time, and their implications for systems design. All are facing concerns about the increasing cost burden of the programs. The Dutch program has seen the most extensive overhaul, moving nursing care into the health system, devolving much home-based care to localities, and restricting its cash for care program. The German public LTSS program has also undertaken significant reforms to ensure its sustainability, by increasing its premium, indexing its benefit, and revising its eligibility criteria. While to date Japan has made smaller changes to its program, a 2013 government report suggested significant cuts, including income-testing, increasing copayments, and cutting benefits.

NEEDING A MORE BALANCED APPROACH—A CRITIQUE OF CHINA'S RECENT DEVELOPMENT IN LONG-TERM CARE

B. Luo¹, Y. Wan², 1. *Sociology, Western Washington University, Bellingham, Washington*, 2. *Jiangxi University of Finance and Economics, Nanchang, China*

China's elderly population (60+) is projected to exceed 440 million by 2050. With the world's largest population of older citizens, the country, however, has yet developed a systematic approach to address its pressing need for long-term care. During the past decade, Chinese governments, at both central and local levels, have aggressively increased their efforts to experiment with various models to finance and deliver long-term care service, with a special focus on including more non-governmental resources such as proprietary corporations and small businesses. Such aggressive experiments were at times poorly designed and executed, and without a clear and well-articulated mission. This paper

offers a critique of the current fragmented and investor-oriented approach and discusses the need for a more balanced approach by including more community-based resources and the nonprofit sector and developing a financing base through some form of social insurance.

POPULATION AGING AND LONG-TERM CARE IN SOUTH KOREA

J. Kwak, *Social Work, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin*

The rate of population aging in South Korea is projected to accelerate rapidly over the next three decades, causing South Korea to join Japan and a few European countries as one of the oldest countries in the world after 2050. South Korea does not yet have an extensive long-term care (LTC) infrastructure in place to serve as a foundation for meeting the growing needs for LTC. The presentation will describe these demographic trends and the current LTC system and the growing gap in services that will soon need to be addressed. The presentation will analyze the economic, political and cultural constraints that policymakers will have to overcome to meet the LTC challenge, especially cultural constraints regarding the roles of women and the political challenge of generating enough revenues to support a much more extensive public LTC system than exists today.

SESSION 4730 (SYMPOSIUM)

AGING POLICIES GLOBAL PERSPECTIVES: TOWARD A NEW HORIZON

Chair: U.M. Staudinger, *Columbia University, New York, New York*

Discussant: S.H. Harper, *The Oxford Institute of Population Ageing, Oxford, United Kingdom*

This symposium will discuss aging policies for the 21st century which we will argue need to strive toward a new horizon for at least three reasons: (i) the global nature of demographic change, (ii) the systemic nature of demographic change and its impact on society, and (iii) the potential synergy of increasing sustainability and responding to demographic change.

(1) The whole world is aging now. The world-average life expectancy has changed from 47 in 1900 to 70 in 2015, and 79 years by 2060. The global nature has repercussions for national policies in as much as economies have turned global quite some time ago. What are the implications? (2) Aging policies traditionally have been discussed in three major policy areas: health/disability/long-term care, pensions, human rights. We will ask whether there is more when it comes to aging in the 21st century? (3) Besides, global demographic change, there is another major challenge for our planet and that is, climate change and finite resources. We will ask whether and if so how demographic change and questions of sustainability may go hand in hand?

Jack Rowe will present the results of a NAS task force that investigated some of these questions for the United States. Ruth Finkelstein will focus on her conception of new aging policies that emphasize the importance of built environment, infrastructure, and neighborhood. Maurizio Bussolo will discuss the recent World Bank report on Aging in Europe.

Finally, Angelique Chan presents perspectives from Asia. Finally, Sarah Harper will serve as discussant.

POLICY RECOMMENDATIONS TO ENHANCE HEALTH AND HEALTH CARE OF OLDER PERSONS IN THE US

J.W. Rowe, *Columbia Aging Center, Columbia University, New York, New York*

The US health care system is unprepared to provide the medical, public health and support services needed for the future sick and frail elderly is also not investing sufficiently in keeping people healthy late in life. The US National Academy of Medicine has offered a series of evidence-based affordable policy recommendations in four specific areas: 1) development of new models of care delivery with a special emphasis on people with multiple chronic conditions; 2) strengthening the elder-care workforce by increasing the number of individuals with special geriatric expertise in the professional workforce and increasing the numbers and geriatric competence of all primary care and direct care workers; 3) fostering social engagement, including work for pay and volunteering, in late life; and 4) improving care for advanced illness and at the end of life.

This presentation will discuss the specific NAM recommendations.

GOLDEN AGING: PROSPECTS FOR HEALTHY, ACTIVE, AND PROSPEROUS AGING IN EUROPE AND CENTRAL ASIA

M. Bussolo, J. Koettl, E. Sinnott, *World Bank, Washington, District of Columbia*

Aging societies are not destined to experience stagnation or decline in living standards. The "Golden Aging" report shows that slower population growth offers some opportunities and not just challenges. By taking into account behavioral adaptation, the report finds that: (i) with improved longevity, people are increasing their labor participation at older ages; (ii) their skills do not inexorably deteriorate, but rather shift; (iii) firms can adapt and take advantage of the new demographic reality of an older workforce.

However, the behavioral changes that help reduce dependency and sustain productivity do not necessarily happen automatically. Bold adaptive action is needed across many policy areas, well beyond reforming the intergenerational transfer and pension systems. These encompass, among others, shifting health systems toward preventive care, primary care, and more diagnostics; reforming educational systems to bolster the cognitive skills needed for productive employment along longer working lives; and reforming labor market institutions to allow women to reconcile family and career goals and older people to work more flexible hours.

SUPPORTING SUCCESSFUL AGING IN SINGAPORE: RECENT POLICY INITIATIVE AND DIRECTIONS

A. Chan, *Duke-NUS Medical School, Singapore, Singapore*

Singapore is the most rapidly aging country in Asia. At present, 11% of the population is aged 65 and above and this percentage is projected to increase to 23% in 2030. In January 2016 the Singapore government announced the Action Plan for Successful Ageing in which ten areas for policy change were highlighted; employability, lifelong learning, senior volunteerism, health and wellness, social engagement

and inclusion, aged care services, housing, transport, public spaces, and research on aging. The Action Plan builds in a strong link between research and policy which puts Singapore in a unique position to evaluate policies and programs as they are implemented. To facilitate this linkage, the National Research Foundation has set aside up to \$200 million for a national innovation challenge on active and confident ageing. This paper will discuss some of the policy changes and current research being conducted under the Action Plan.

THE CENTRALITY OF PLACE

R. Finkelstein, *Robert N. Butler Columbia Aging Center, New York, New York*

Public policy is challenged to assimilate global aging. Income support policies for people who live longer than they can work are primary; health and social supports typically follow. These policy issues have been conceptualized as relationships between individuals and the state. The concepts of place and community are often neglected, increasingly important as globalization scatters generations as people move in search of opportunity. Institutions and policies must replace the role of family. Transportation systems must work for drivers and non-drivers and be accessible; public spaces should encourage social interaction across generations; places to walk and sit must be safe as people attend to daily needs; and communities need work, volunteer, education, and engagement opportunities for people of all ages. Housing is particularly complex and should allow families to live close to one another OR live well separately. By ignoring place, we have inadvertently made it more difficult to retain community.

SESSION 4735 (SYMPOSIUM)

GERONTOLOGICAL HIGHER EDUCATION AROUND THE WORLD: COMPETENCIES AND PROFESSIONS

Chair: E. Schoenmakers, *Fontys University of Applied Sciences, Eindhoven, Netherlands*

Co-Chair: J.C. Frank, *University of California, Los Angeles*

Discussant: J.D. Damron-Rodriguez, *University of California, Los Angeles*

With an ageing population worldwide, there is a need for professionals with specialized knowledge and skills in gerontology. Competency-based education (CBE) is a way to assure the development of a workforce that has obtained the know-how to serve older adults. CBE is increasingly recognized as the new pedagogy by accrediting bodies for higher education because of its clear definition of learning goals and accountability for outcomes. In this session, different perspectives on CBE and the consensus and difference in gerontology international competencies are presented. The Association for Gerontology in Higher Education (AGHE) developed a competency framework that can serve as a guideline for developing educational programs in gerontology, which is presented in the first presentation. These competencies, as well as others, are used to a different extent across the world. Educational program development are described and discussed from a European and Pan-American perspective in presentations two and three. Presentation 4

explores the current international job market in gerontology and the competencies required as identified in job postings.

THE ASSOCIATION OF GERONTOLOGY IN HIGHER EDUCATION (AGHE) GERONTOLOGY EDUCATION COMPETENCIES

J.C. Frank, J.D. Damron-Rodriguez, *University of California, Los Angeles, Los Angeles, California*

The Association of Gerontology in Higher Education (AGHE) is a global leader in education on aging and has revitalized competencies for gerontology education programs at the Associate, Bachelor's and Master's degree levels over a 3-year iterative process. This presentation will review the consensus-building process that used a tiered "circle of influence" method, the foundations and organization of the competencies, and the final set of AGHE gerontology education competencies. This presentation will include examples of utilizing the competencies for curricula development, application of a newly designed curriculum mapping tool and approaches to competency-based outcome evaluation. Discussion will include how the AGHE competencies are now being integrated into the Accreditation of Gerontology Education Council as one international program review criterion for programmatic accreditation of gerontology education programs.

COMPETENCIES IN EUROPEAN GERONTOLOGICAL HIGHER EDUCATION. AN EXPLORATIVE STUDY ON CORE ELEMENTS

E. Schoenmakers¹, J.D. Damron-Rodriguez², J.C. Frank², B. Pianosi³, J. Jukema⁴, *1. Applied Gerontology, Fontys University of Applied Sciences, Berkel-Enschot, Netherlands, 2. UCLA, Los Angeles, California, 3. Huntington University, Sudbury, Ontario, Canada, 4. Windesheim University of Applied Sciences, Zwolle, Netherlands*

This study explores whether there is a common core of competencies in European gerontology education programs by doing a cross-comparison of five undergraduate level programs. Content analysis of competency profile documents at the five European educational programs were studied using thematic analysis. Study results document that there indeed is a common core of elements in gerontological educational programs. Three clusters which included a total of fifteen categories were identified. The clusters were labeled professional attitude, communication skills and service provision. Clusters and categories varied across the five programs. One program in particular included less clusters and categories. This may reflect a difference in focus in the program, but could also reflect a less elaborately formulated competency profile document. The results of this study show that, at the level of formulating competencies, there is a strong agreement on the major components that are important for a gerontologist at the undergraduate level.

IMPROVING LEADERSHIP COMPETENCIES IN PUBLIC HEALTH AND AGING: THE LATIN AMERICA EXPERIENCE

E. Vega¹, J. Parodi², J. Menendez³, L. Rodriguez⁴, *1. Life Course, Pan American Health Organization (PAHO),*

Washington, District of Columbia, 2. University of San Martin de Porres, Lima, Peru, 3. Centro Colaborador OPS-OMS en Salud Publica y Envejecimiento, La Habana, Cuba, 4. ALMA, La Habana, Cuba

This study evaluates the certificate program "The Specialization in Management of Health Programs for Older Persons". Under the coordination of Pan American Health Organization (PAHO) and the World Health Organization (WHO), several academic institutions in the America's Region developed a competency-based program to respond to the need for increased skills, knowledge and abilities in public health and aging. After nine generations and more than 250 graduates participating in the 10 month virtual education certificate, results indicated positive outcomes and areas for program improvement. Analyses included change levels using the Kirkpatrick model (reaction, learning, behavior / transfer and impact / outcome). The results provide an opportunity to refine and improve the model initially utilized to foster potential country implementation and to promote the scaling up of the Specialization certificate program and training experience.

COMPETENCIES INCLUDED IN GERONTOLOGY JOB POSTINGS: AN INTERNATIONAL COMPARISON

B. Pianosi, *Gerontology, Huntington University, Sudbury, Ontario, Canada*

As society is ageing, experts from a wide range of professions will work with and for older adults. Some of these professionals are specifically trained to work with older adults, some have a different training with a specialization in older adults or ageing, while others have an occupational training without specific competencies in gerontology. This is true for most industrialized countries, including those located in Europe and North America.

In this study, the job market in the field of gerontology is explored internationally and the competencies as described in the job postings are identified.

SESSION 4745 (SYMPOSIUM)

THE CONSEQUENCES OF GENTRIFICATION AND DISPLACEMENT FOR OLDER ADULTS IN THE U.S.

Chair: A.J. Lehning, *University of Maryland, Baltimore, Maryland*

Discussant: A. DeLaTorre, *Portland State University, Portland, Oregon*

A major focus of U.S. aging policies and programs is supporting the ability of older adults to age in place, based on evidence that neighborhoods become increasingly important in later life due to place attachment and the belief that aging in place can lead to optimal health and well-being. Gentrification, which occurs when more affluent residents move into a neighborhood that was previously occupied by lower-income residents, has received limited attention in gerontological scholarship. The percent of neighborhoods experiencing gentrification has increased in the U.S., and therefore the ramifications of gentrification are receiving more attention from policymakers, researchers, and the media, yet the potential repercussions for older adults are often ignored. To address this gap, this symposium will

examine the consequences of neighborhood renewal for two groups of older adults: those who are involuntarily displaced, and those who continue to age in place. The first two papers will discuss a qualitative study of low-income senior housing residents in Detroit, Michigan who have been involuntarily relocated because of their building's conversion to market rate rents in a deliberate strategy of neighborhood gentrification. The third paper will present findings from a study combining data from the National Health & Aging Trends Study and the U.S. Census to examine the quality of life of older adults living in gentrifying neighborhoods, particularly for those with limited financial resources. The co-coordinator for Age-Friendly Portland, a city experiencing particularly high rates of neighborhood gentrification, will serve as the discussant.

PERSPECTIVES FROM BELOW: OLDER ADULTS' LENSES ON DISPLACEMENT AMID REVITALIZATION IN DETROIT

T.E. Perry¹, J. Mah², 1. *Wayne State University, Detroit, Michigan*, 2. *University of Toronto, Toronto, Ontario, Canada*

As U.S. "declining cities" undertake efforts to revitalize their inner-city neighborhoods, gentrification can result in the direct displacement of vulnerable populations, including older adults. Combining urban planning and anthropological perspectives, this presentation integrates spatial analysis of gentrification processes in Detroit, Michigan with qualitative data collected from a study of low-income seniors who were involuntarily relocated as their building went market rate (n=43). We examine how these perspectives on changes in social networks and their communities shed light on the effects of gentrification for older adults. In particular, we explore how these individual stories collectively increase our conceptual understanding of gentrification-induced displacement. Findings include 1) older adults' challenges with information flow on moving processes and relocation options and 2) perceptions that the city's revitalization does not include low-income seniors. The presentation will conclude with policy and practice implications for understanding the particular concerns of urban older adults experiencing displacement.

PRESERVING SENIOR HOUSING IN A CHANGING CITY: REFLECTIONS ON A COALITION'S EFFORTS

T.E. Perry, *Wayne State University, Detroit, Michigan*

The revitalization of Detroit, Michigan's urban core has invigorated interest to live in these areas of the city. An unintended consequence has been the displacement of seniors whose low-income housing is being converted to market rate apartments. A coalition, Senior Housing Preservation-Detroit, formed to address immediate needs of older adults and advocate for policies that promote a city for all ages and income levels. This presentation offers reflections on lessons learned in the coalition's history, including concerns of membership, messaging, mission and goals and tangible outcomes. One lesson learned was to gain the coalition members' views on development, and fit goals of the coalition within these views. Excerpts from the documentary as well as related research (n=43) will be featured. This presentation will conclude with next steps for preserving senior housing in

Detroit, and how this coalition's efforts may be aligned with other preservation efforts around the United States.

AGING IN PLACE IN GENTRIFYING NEIGHBORHOODS: IMPLICATIONS FOR PHYSICAL AND MENTAL HEALTH

R. Smith², A.J. Lehning¹, K. Kim¹, 1. *Social Work, University of Maryland, Baltimore, Maryland*, 2. *Wayne State University, Detroit, Michigan*

In response to the emphasis on aging in place, some commentators have noted the potential deleterious effects for older adults who are living in neighborhoods experiencing either gentrification or disinvestment. Because little gerontological research on gentrification has focused on older adults who stay, we examined health and well-being among older adults living in gentrifying neighborhoods, with particular attention to the economically vulnerable. We used data from the National Health & Aging Trends Study, a representative sample of Medicare beneficiaries ages 65+, combined with U.S. Census data. Employing both matching and multivariate methods, initial findings indicate low-income respondents in gentrifying neighborhoods had significantly higher self-rated health compared to their counterparts in poor neighborhoods, while there was no difference for higher-income respondents. This suggests potential benefits for remaining in a neighborhood undergoing a transformation in residents and amenities, and has implications for addressing the displacement of older residents that often accompanies gentrification.

SESSION 4750 (SYMPOSIUM)

ACTIVE AGING OF KOREAN/KOREAN AMERICAN OLDER PERSONS

Chair: G. Han, *Seoul National University*

Co-Chair: N.S. Park, *University of South Florida, Florida*

Discussant: M. Kim, *Daegu University, Korea (the Republic of)*

The first study will focus on Korea's employment policy of older adults after retirement. With the retirement age of Korea as the lowest among OECD countries, it is important for older Korean adults to find meaningful purpose, not just economically but also for their social identity. The second study will examine the volunteer experiences of older adults as a substitute for their job after retirement. The third study will focus on the successful aging of Korean Americans as immigrants and minority in the U.S. Implications of these studies suggest policy and practice how to adapt well and live actively in their long life expectancy.

EMPLOYMENT POLICY FOR KOREAN OLDER ADULTS

S. Choi, *Korea Labor Force Development Institute for the Aged, Seoul, Korea (the Republic of)*

While Korean society has undergone unprecedentedly high rate of individual and population aging for over three decades, due to late institutionalization of a public pension system and setting a mandatory retirement age at 60, those who receive pensions are less than 50% and the amount of pension on average is too low to maintain the minimum level of living. Hence, almost 50% of older Koreans aged 60 and over want to work mainly to supplement their low income. However, employment policies for older Koreans have not

been so active mainly due to the inattention to social impact of rapid aging and ageism deeply pervasive in Korean society. Moreover, active employment policies are needed to ease the increasing social burden of population aging. This presentation will examine current employment policies for older Koreans and suggest measures to improve current policies in light of the perspective on rapid individual and population aging.

VOLUNTEERING AS ACTIVE AGING OF KOREAN OLDER ADULTS

J.S. Hwang, *Korea Labor Force Development Institute for the Aged, Seoul, Korea (the Republic of)*

Since longevity of Korea is increasing and Korea moves rapidly from an aged society to a super aged society, older adults are becoming very active. Older adults attempt to find their social role after retirement and after entering into the empty nest syndrome. To compensate for their lost role, they try to contribute their experience, knowledge, and skills for Korean society. For analysis, volunteer activities, which were performed in the Korean Senior Citizens Association, were used focusing on how long and how many older adults volunteer. Additionally, each volunteer program was evaluated also. This study focused on the volunteering experiences of older adults and examined volunteerism as an active aging perspective. Based on findings that the types of volunteering depended on the provinces people lived in, their class status, and age, a volunteer model was established as a new role for older Korean adults in the super aged society.

SUCCESSFUL AGING OF KOREAN AMERICAN OLDER ADULTS

S. Kang¹, J. Kim², 1. *Binghamton University State University of New York, Binghamton, New York*, 2. *Kangnam University, Yongin, Korea (the Republic of)*

Purpose: This study presents a utility assessment of two different definitions of successful aging for predicting psychological well-being measured by depressive symptoms. Design and Methods: We assessed the following definitions of (a) self-rating of life satisfaction and (b) Rowe's and Kahn's criteria: the absence of illness, disability, and risk factors; maintaining physical and mental functioning; and active engagement with life. We explored these associations with depressive symptoms for each definition using data from 238 Korean immigrant participants living in the US, aged 65–98 years. Results: The percentage of those rating themselves as aging successfully is higher than the percentage classified according to Rowe's and Kahn's criteria. Many Korean immigrant elders with chronic medical conditions did not belong to Rowe and Kahn's Successful aging criteria, but still rated themselves as aging successfully. Implications: The conceptualization and measurement of successful aging needs to be applied differently.

SESSION 4755 (SYMPOSIUM)

IN SEARCH OF QUALITY ELDERCARE WORKERS: ISSUES AND CHALLENGES FROM AN INTERNATIONAL PERSPECTIVE

Chair: C.T. Hayashida, *St. Francis Healthcare System of Hawaii*

Co-Chair: R. Stone, *LeadingAge, Washington, District of Columbia*

Discussant: L. Yancey, *Elder Stay At Home, Inc., Little Rock, Arkansas*

As one of the most critical challenges for the 21st Century, population aging will have wide-ranging societal and economic ramifications for every nation. As the older population rapidly expands, there will be a burgeoning need for more eldercare workers. Various strategies are being used to moderate the demand from encouraging immigration, postponing retirement age, increasing women in the workforce, increasing birth rates to the use of technology to supplement worker shortages. This session will address another strategy - the importation of migrant healthcare workers. It will provide a global overview of this human migration to address this shortage and its implications. While the importation of migrant workers is seen as one of the most critical to resolve this growing crisis, there are also numerous issues that need to be addressed. This is not just an acculturation challenge. There is a need to address questions related to exploitation, livable wages, permanent residency, opportunities for advancement and consequences for the sender nations. There are differences in the classification of job taxonomies and the certification and training requirements cross-nationally. Is it possible to create international standards regarding eldercare training requirements? As the leading edge of this demographic revolution, Japan's experience will shed important light through this symposium. This session will also reflect on the experiences and pioneering work of the Arkansas-based Schmieding Center for Senior Health and Education. Recommendations and dos and don'ts for policy and curriculum design will be shared.

FOREIGN-BORN AND MIGRANT DIRECT CARE WORKERS: A SOLUTION TO THE GLOBAL DEMAND FOR ELDERCARE

R.I. Stone, *LeadingAge, Washington, District of Columbia*

This presentation critically reviews issues related to the increasing reliance on foreign born/migrant workers to address the eldercare workforce crisis in high and middle income countries. It begins with a brief discussion of the factors underlying the growing demand for and lack of direct care workers in most of the developed world, followed by a description of the percent and countries of origin of foreign-born workers employed in Europe, the United States, Canada, Australia and Asia. The benefits of and challenges to this growing reliance on a foreign-born workforce for elderly consumers, their families, workers and the host and origin countries are identified. This session concludes with examples of how organizations such as the WHO, the ILO and the OECD are attempting to address the challenges to this global transfer of human capital through the development of standardized recruitment/retention practices, ethical guidelines, training programs and employer registries.

SOME JAPANESE MEASURES FOR SECURING LONG-TERM CARE WORKERS

T. Ogawa, 1. *Active Aging Consortium Asia Pacific (ACAP), Fukuoka, Japan*, 2. *Fukuoka City Planning Committee*

for Advanced Healthy City, Fukuoka, Japan, 3. Kyushu University, Fukuoka, Japan

In Japan, the long-term care for the elderly is distinct and defined separately from nursing care. Professional paid employment in long-term caring requires specialized training and a national qualification as “Certified Care Worker. Unlike nurses who are part of the medical and health care system, Certified Care Workers are aligned with the social welfare system under Japanese law. Given this legal arrangement, it is difficult to recruit the quantity and the quality of long-term care workers. International migrant care workers in Japan are not permitted under current law to be recruited as “Certified Care Workers”. Consequently, Japan is developing additional strategies to recruit a new long-term care workforce. The national strategy entails: (1) Stratifying LTC competencies, knowledge and skills; (2) International agreements call for Economic Partnerships that permit technical internships in long-term care by migrant workers; (3) Long-term care will be added as a new entry work category and (4) Promoting the standardization of training for long-term care and nursing care.

QUALITY CARE: BETTER TRAINING FOR BETTER DIRECT CARE WORKERS

L. Wright, 1. *Schmieding Center for Senior Health & Education, Springdale, Arkansas*, 2. *University of Arkansas Medical Sciences, Little Rock, Arkansas*

The recruitment of a sufficient number of workers to address the growing workforce shortage of direct care workers in home care is imperative. Also critical will be the development of training standards to ensure that these workers have adequate skills and knowledge to provide high quality care in the home setting, the real focus of long-term caring. Training curriculum with a strong focus on (1) the fundamental caregiving skills (cognitive and physical), (2) a tiered training approach from personal care to the CNA level and (3) Advanced Aide preparation given the increased complexity of client needs have proven successful. This approach as exemplified by the Schmieding Model will be discussed. Based on decades of experience in field tested curriculum design and on-going training in several states, suggestions for national standards for training to prepare direct care workers to serve an expanded role within the home care team will be made.

SESSION 4760 (SYMPOSIUM)

INTEGRATIVE ANALYSIS OF LONGITUDINAL STUDIES ON AGING AND DEMENTIA (IALSA)

Chair: J. Kaye, *Oregon Health & Science University, Por, Oregon*

Co-Chair: S.M. Hofer, *University of Victoria*

Cross-validation of research findings across independent longitudinal studies is essential for building the most effective evidence base for successful cumulative science in gerontology. In many cases, cross-study differences in measurements and sample composition (e.g., ability level, education, language) impede the utility of pooled data analysis, particularly in the case of longitudinal studies. Harmonization can occur at the levels

of research question, statistical models, and measurements, permitting synthesis of results for understanding ways in which birth cohort, country, culture, and issues of mortality and selection relate to outcomes and differences across studies. The goal of the Integrative Analysis of Longitudinal Studies of Aging and Dementia (IALSA: NIH/NIA P01AG043362) research network encompassing over 100 studies from around the world is to maximize opportunities for international reproducible research and cross-validation across heterogeneous sources of evidence by evaluating comparable statistical models, with comparison of the pattern and magnitudes of effects at the construct level. This symposia describes network activities and methods and provides multiple examples for rigorous cross-study comparison based on the coordinated analysis approach.

INTEGRATIVE DATA ANALYSIS AND HARMONIZATION OF LONGITUDINAL STUDIES OF AGING AND DEMENTIA

S.M. Hofer, 1. *Psychology, University of Victoria, Victoria, British Columbia, Canada*, 2. *Oregon Health & Science University, Portland, Oregon*

The Integrative Analysis of Longitudinal Studies of Aging and Dementia network (IALSA; ialsa.org; NIH/NIA P01AG043362) facilitates interdisciplinary, cross-national research on determinants and dynamics of within-person aging-related changes in cognitive and physical capabilities, health, personality, and well-being. A key feature of the IALSA network is the optimization and evaluation of the reproducibility through a coordinated analysis approach based on comparable statistical models and measurements. Affiliated studies are catalogued on the IALSA-Maelstrom Metadata and Harmonization Platform to permit the identification of studies for answering particular questions. Network activities encourage the examination of cross-cultural and cross-cohort effects and provide a strong basis for synthesizing evidence across longitudinal studies. Merits of coordinated analysis and current approaches and challenges for quantitative harmonization are discussed.

CORRELATED DYNAMICS ACROSS PHYSICAL AND COGNITIVE FUNCTIONING IN 12 LONGITUDINAL STUDIES

A.M. Piccinin¹, G. Muniz², 1. *Psychology, University of Victoria, Victoria, British Columbia, Canada*, 2. *University of Edinburgh, Edinburgh, United Kingdom*

Maintaining independence in older age depends on adequate levels of physical and cognitive functioning. Numerous studies, both longitudinal and cross-sectional, describe progressive declines although few studies report on the dynamics within and across these domains of functioning. In a coordinated analysis of 12 longitudinal studies, we examined associations between changes in physical functioning (i.e., grip strength, pulmonary function) and changes in cognitive functioning (i.e., speed, memory, reasoning, executive functioning) using multivariate latent growth curve models analyses with adjustment for baseline age, sociodemographic factors, health behaviors, diabetes, and cardiovascular disease. Overall, initial levels of pulmonary and cognitive functioning were related across many measures of cognitive functioning for both men and women. Multivariate patterns of change across physical and cognitive

variables were less consistent. We provide a research synthesis of the findings across studies and describe study-level differences in terms of country, cohort, and measurements.

ACTIVE COGNITIVE LIFESTYLE AS A PROTECTIVE FACTOR FOR COGNITIVE DECLINE AND DEMENTIA?

G. Muniz¹, A. Robitaille², I. Cukic¹, E.O. Hoogendijk⁵, J. Skoog³, A. Koval², S.M. Hofer², A. Van den Hout⁴, 1. *Centre for Dementia Prevention, University of Edinburgh, Cambridge, United Kingdom*, 2. *University of Victoria, Victoria, British Columbia, Canada*, 3. *University of Gothenburg, Gothenburg, Sweden*, 4. *University College London, London, United Kingdom*, 5. *VU University, Amsterdam, Netherlands*

There is considerable evidence to support a link between an active cognitive lifestyle and a decreased risk of cognitive decline and dementia. Further, it has been shown that an active lifestyle is associated with a decreased risk of cognitive decline, an increased risk of cognitive recovery and a reduced risk of mortality, though results are inconsistent across studies. These inconsistent results may be explained by sample and study differences, but also differences in the methodologies employed.

Our aim here was to evaluate replicability of results when investigating the independent and combined impact of cognitive lifestyle factors on transitions between the following clinically relevant cognitive states: non-impaired cognitive health, mild impairment and moderate-to-severe impairment, and thereafter, death. With this aim, we used a coordinated analysis where the same multi-state model was fitted to MMSE scores from participants of 7 studies of ageing, to assess the relationship between separate and combined measures of cognitive lifestyle to forward and backward transitions between cognitive states over time.

We used data from LASA (Netherlands), the Lothian Birth Cohort 1936 (Scotland), MAP (US), H70 (Sweden) study, the OCTO Twin (Sweden) and the MAP (US).

Results indicate an independent protective effect of some of the factors examined, but not consistently across states and samples.

PERSONALITY AND SMOKING-RELATED MORTALITY: A MULTI-STUDY ANALYSIS WITH 15 REPLICATIONS

E. Graham, D.K. Mroczek, *Psychology, Northwestern University, Evanston, Illinois*

Background: Psychological characteristics such as personality traits are independent predictors of mortality risk. Health-detrimental behaviors such as smoking are mechanisms (mediators) that connect psychological factors such as traits to downstream outcomes such as disease and mortality. Personality traits may be a behavioral “vital sign” that physicians can use to predict long term health risks for individuals. We used 15 studies from around the world to test whether smoking mediated the effect of personality traits on mortality, and to evaluate the overall effect of traits on mortality risk.

Methods: Subjects were 44,455 participants in 15 separate longitudinal studies. Survival analysis in a structural equation modeling framework simultaneously assessed the

association between the Big 5 personality traits and mortality risk and smoking as a mediator.

Results: A gradient (standard deviation) of extraversion (OR=0.95, 95%CI .91-.99), conscientiousness (OR=0.90, 95%CI .86-.94), and agreeableness (OR=0.95, 95%CI .93-.98), was associated with lower mortality, and a gradient of neuroticism with higher mortality (OR=1.06, 95%CI 1.02-1.09), even when accounting for smoking as a mediating factor. This is much wider array of associations between personality traits and mortality risk than had previously been known. Smoking mediated the conscientiousness- and neuroticism-mortality relationships, partially explaining those associations.

Conclusions: Providers, patients, and policymakers alike may benefit from taking personality traits into account when assessing health risks. Results also point to the benefits of multi-study, coordinated data analysis in promoting reproducibility, replicability, and cumulative science

CARDIOVASCULAR BENEFITS TO EDUCATIONAL ATTAINMENT: INTERNATIONAL EVIDENCE FROM FOUR BIRTH COHORTS

S. Clouston, *Public Health, Stony Brook University, Stony Brook, New York*

Cardiovascular disease (CVD) is the main cause of death in the U.S. and Europe, and results in significant medical comorbidities including dementia. Educational attainment is highly correlated with social inequalities in adult health, and with CVD, though reasons for such an association are unclear. Observational data from four birth cohorts with cognition measured in adolescence were used to examine midlife hypertension, CVD, and stroke, as well as incidence of CVD and stroke. Logistic regression and Cox proportional hazards regression were used to model associations between adolescent cognition, education, and CVD risk. Having a university degree and higher childhood cognition were independently associated with lower risk of incident CVD. Despite a documented selection effect linking cognition to improved education, strong educational benefits remained after adjusting for educational propensity, an association that was mediated in part through improved health behaviors.

SESSION 4765 (SYMPOSIUM)

IMPROVING HOSPITALIZATION OUTCOMES: THE TRANSITION FROM OBSERVATION TO INTERVENTION

Chair: A. Zisberg, *University of Haifa, Israel*

Co-Chair: M. Agmon, *University of Haifa, Haifa, Israel*

Negative functional outcomes following hospitalization are widely described; yet, the role of a variety of in-hospital processes that increase the risk for adverse hospitalization outcomes is poorly understood. The goal of this symposium is to discuss research findings from the Hospitalization Process Effects on Functional Outcomes and Recovery (HoPE-FOR) and to introduce the transition of its findings to an intervention study that focuses on improving mobility, the Walk-FOR (Functional Outcomes and Recovery) study.

The first presentation will summarize the main findings from the HoPE-FOR study emphasizing the modifiable

factors and barriers toward the development of future interventions to improve functional outcomes. The second presentation will describe the contribution of organizational factors such as staff skill mix and patients' complexity to hospitalization outcomes, demonstrating how functional status of all hospitalized patients at the unit is related to individual outcomes. The following presentation will focus on a rarely described topic, disruption of patients' routine during hospitalization and its adverse effect on hospitalization outcomes. Recommendations to take into consideration patients' personal routine into interventions aimed at improving hospitalization outcomes will be proposed. The fourth presentation will discuss the dose-response effect of mobility on functional decline. This presentation will present a suggested cut-point for in-hospital step count. Finally, we will introduce the Walk-FOR intervention, developed in accordance with the above mentioned processes aimed to improve hospitalization outcomes.

HOSPITAL ACQUIRED FUNCTIONAL DECLINE: THE ROLE OF IN-HOSPITAL PROCESSES BEYOND PERSONAL RISK FACTORS

A. Zisberg¹, G. Sinoff², N. Gur-Yaish³, O. Tonkikh¹, E. Shadmi¹, 1. *The Cheryl Spencer Department of Nursing Faculty of Social Welfare and Health Science, University of Haifa, Israel, Haifa, Israel*, 2. *Department of Gerontology, Faculty of Social Welfare and Health Sciences, University of Haifa, Israel, Haifa, Israel*, 3. *Center for Research and Study of Aging, Faculty of Social Welfare and Health Sciences, University of Haifa, Israel, Haifa, Israel*

To test a comprehensive model accounting for individual risk factors and hospitalization processes that lead to functional decline (FD) at discharge and one-month follow-up, a prospective cohort study was conducted in two medical centers. A total of 684 participants (70+) interviewed at-admission, during hospitalization, at-discharge and one-month follow-up. In-hospital mobility, continence care, sedative-hypnotic consumption, satisfaction with the hospital environment and nutrition consumption were assessed to model FD from pre-morbid to discharge and one-month post-discharge. In-hospital mobility ($\beta=-.48$, $p<.001$) and continence care ($\beta=-.12$, $p<.001$) were the most dominant process factors directly related to FD at discharge and one-month post discharge, together with personal risk factors accounted for 64% and 32% of the variance, respectively. In-hospital mobility and continence care were inter-correlated ($p=.49$, $p<.001$) proposing shared risk factors and need to address them simultaneously in future interventions. These are potentially modifiable hospitalization risk factors for which practice and policy should be targeted.

TEAM SKILL-MIX AND PATIENT CASE-MIX: ARE THEY RELATED TO HOSPITALIZATION FUNCTIONAL OUTCOMES?

E. Shadmi³, O. Tonkikh³, G. Sinoff¹, Z. Oleg², A. Zisberg³, 1. *Department of Gerontology, Faculty of Social Welfare and Health Sciences, University of Haifa, Israel, Haifa, Israel*, 2. *University of Washington, Seattle, Washington*, 3. *The Cheryl Spencer Department of Nursing, Faculty of Social Welfare and Health Science, University of Haifa, Israel, Haifa, Israel, Israel*

We aimed to test the association between nursing skill-mix and patient case-mix on the functioning of older adults hospitalized in internal medicine wards of general hospitals. We performed a retrospective study of 463 participants of the HoPE-FOR study. The number of nurses/patients and the percent of patients with low functioning of all patients at the unit was assessed for the duration of hospitalization for each participant. Survey data was used to elicit information on participants' functioning and personal risk factors. A total of 224 (48.3%) patients experienced FD. Number of patients at the unit with low functioning and the number of nurses was positively correlated ($r_p=0.69$, $p<0.001$). Percent of unit patients who had low levels of functioning was associated with increased odds of FD of study participants ($OR=1.60$, $95\%CI=1.18-2.16$), controlling for all known risk factors. We conclude that nursing skill-mix should account for the functioning levels of hospitalized patients.

OLDER ADULTS' PERSONAL ROUTINE AT TIME OF HOSPITALIZATION

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This study is the first to explore whether hospitalization disrupts the daily routines of dependent and independent older adults. Data were collected as part of a prospectively designed study from 330 hospitalized older adults age 70+. Patients reported prehospitalization frequency, duration, and timing of basic activities of daily living and leisure activities at hospital admission. Hospital routine was assessed on day of discharge. Results indicated that frequency and duration of most activities decreased during hospitalization; the sharpest decrease was in getting dressed. Showering occurred two hours earlier in the hospital, and getting dressed an hour and a half later. For dependent respondents, the greatest change was in duration; for independent respondents, the greatest change was in frequency. Given the importance of personal routine maintenance to health and well-being, it should be considered a key component for intervention to minimize the adverse functional outcomes and impact recovery.

“NO ONE SIZE FITS ALL”: DEVELOPING A SITE-SPECIFIC, IN-HOSPITAL MOBILITY INTERVENTION—THE WALK FOR®

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The few protocols aimed to improve in-hospital mobility require further work to response to site-specific needs and available resources. The presentation will describe a process of developing a site-tailored mobility intervention

considering local barriers and resources followed by an adoption of aspects from the MOVE-ON® intervention. A Mixed-methods study included in-depth interviews (n=10), assessment of medical team's (n=90) and patients (n=200) attitudes, behaviors and knowledge toward mobility in two internal medical units was conducted. Findings show that patients walked less than their ambulation at home and below their ability during hospitalization. Surprisingly, patients' attitudes toward mobility were more positive than the medical staff's. Mobility was not considered essential to the standard of care. Nursing assistants were recognized as a competent sector to promote patients' mobility. Preliminary results show high satisfaction from the Walk FOR® intervention and mobility increased by more than 50%.

HOW MANY STEPS ARE NEEDED TO PREVENT HOSPITALIZATION FUNCTIONAL DECLINE?

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Mobility during hospitalization is a modifiable predictor of hospitalization acquired functional decline (HAFD). However, the dose-response effect of mobility is yet to be proposed. Prospective cohort study conducted in two internal-medical units in Israel identified steps number that older adults need to walk to prevent HAFD. The number of daily steps walked by 177 older participants was monitored using an activity-monitoring device (Actical®) for 1–3 days. Change in functional ability during hospitalization was assessed objectively and subjectively on admission and discharge. Analysis of covariance compared five theoretically proposed step counts groups (<300, 300–599, 600–899, 900–1999, >1999) identified 900 steps threshold cut-point. Multivariate logistic regression revealed that less than 900 steps per day increases the odds of objective HAFD by 4 folds (95%CI 1.2–13.0) and by 5.6 on subjective HAFD (95%CI 2.4–13.2). To conclude, the 900 steps per day recommendation can serve as a significant cut-off threshold to prevent HAFD.

SESSION 4770 (SYMPOSIUM)

HEALTH STATUS OF OLDER ADULTS AND CAREGIVERS IN DEVELOPING COUNTRIES: INTERNATIONAL SURVEY RESULTS

Chair: H. Xu, *Duke University, North Carolina*
Co-Chair: B. Wu, *Duke University, Durham, North Carolina*

This symposium examines the health status among older adults and their family in developing countries using national and international surveys. The first three papers used the WHO's Study on global AGEing and adult health (SAGE) Wave-1 data in 2010 and the last paper used the Chinese Longitudinal Healthy Longevity Survey 2005 wave and the Family Dynamics Survey. The first paper assessed the association between migration and cognitive function among older adults in China across six groups of residents: urban, rural,

urban-to-urban, rural-to-urban, rural-to-rural, and urban-to-rural. The results demonstrated urban-to-urban residents showed the highest level of cognitive function, followed by urban residents, while rural-to-rural residents showed the poorest cognitive function. The second study investigated the role of migration on the disparities in prevalence of hypertension across different populations in China and found rural-to-rural and rural residents were more likely, whereas urban-to-urban residents were less likely to have hypertension compared to urban residents. The third paper is a cross-national study that explored factors that influencing quality of life (QoL) among older adults in China, India, Russia, Ghana, and South Africa. This study found that not living in South Africa and Ghana (ref: China), better SES, higher level of cognitive and functional status, absence of diabetes, and higher level of social support were positively associated with QoL. The last paper examined association between filial piety and caregiving burden among Chinese adults children caregivers. The results showed filial piety is negatively related to caregiving burden. Urban-rural disparities in perceived caregiving burden were also found.

ASSOCIATION BETWEEN MIGRATION AND COGNITIVE FUNCTION AMONG OLDER ADULTS IN CHINA

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The objective of this study was to assess the association between migration status (urban, rural, urban-to-urban, rural-to-urban, rural-to-rural, and urban-to-rural) and cognitive function among older adults. We used data from the World Health Organization Study on global AGEing and adult health (SAGE) that included adults aged 50 and older from China (N=12937). Global cognitive function was measured by Digit Span Tests, Verbal Fluency, Immediate, and Delayed Recall Tests. Controlling for socioeconomic status and health conditions, significant differences in cognitive function were found across the six migration groups, with urban-to-urban residents having the highest level of cognitive function, followed by urban residents. Rural-to-rural residents had the poorest global cognitive function. The results suggest that early-life migration is independently associated with cognitive function in older age in China.

DISPARITIES IN PREVALENCE OF HYPERTENSION ACROSS DIFFERENT POPULATIONS IN CHINA

Z. Ni¹, H. Xu¹, B. Wu², 1. *School of Nursing, Duke University, Durham, North Carolina*, 2. *Rory Meyers College of Nursing, New York University, New York, New York*

The purpose of this study is to investigate the role of migration on hypertension among older adults in China across six groups of residents: urban, rural, urban-to-urban, rural-to-rural, rural-to-urban, and urban-to-rural. The study was conducted among adults aged 55 years and older from the Study on Global Aging and Adult Health (SAGE) (N=12,937). The study found that rural-to-rural residents had the highest prevalence of hypertension (30.97%), followed by rural residents (29.17%). Urban-to-urban residents had the lowest

prevalence of hypertension (23.37%). Controlling for demographics and health behaviors, rural-to-rural and rural residents were more likely to have hypertension compared with urban residents, whereas urban-to-urban residents were less likely to have hypertension. Other factors related to hypertension were older age, lower level of education, higher income, smoking, and heavy drinking. This study suggests that migration in early life may have an impact on the development of chronic disease in later life.

FACTORS INFLUENCING QUALITY OF LIFE AMONG OLDER ADULTS IN LOW- AND MIDDLE-INCOME COUNTRIES

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Although quality of life (QoL) is an important component for successful aging, contributing factors on QoL among old adults in Low- and Middle- Income Countries (LMICs) have not been fully examined. We examined factors influencing QoL using the WHO's Study on global AGEing and adult health (SAGE) Wave-1 data (2007–2010). Based on the literature reviews, a set of variables were selected as independent variables. The study sample consisted of 19625 participants age 60+ in China, Ghana, India, Russia, and South Africa. Hierarchical multiple linear regression analyses were performed with WHOQoL scores as the dependent variable. Country, married, higher income, having medical insurance, higher level of cognitive and functional status, absence of diabetes, and higher level of social support were positively associated with QoL. There is a need to develop programs to enhance cognitive and functional status and social support, and ultimately to improve QoL among old adults in LMICs.

ASSOCIATION BETWEEN FILIAL PIETY AND CAREGIVING BURDEN AMONG CHINESE ADULTS' CHILDREN CAREGIVERS

J. Wang¹, H. Liang², B. Wu^{1,3,4}, 1. *Duke University School of Nursing, Durham, North Carolina*, 2. *Nanjing University School of Social and Behavioral Sciences, Nanjing, Jiangsu, China*, 3. *Duke University Center for the Study of Aging and Human Development, Durham, North Carolina*, 4. *Duke Global Health Institute, Durham, North Carolina*

The aim of this study was to examine filial piety among Chinese adult children caregivers and its relationship with their self-perceived caregiving burden. We used the data from the Chinese Longitudinal Healthy Longevity Survey 2005 wave and the Family Dynamics Survey. This study included 661 dyads of older adults with functional limitations and their adult children caregivers (417 from rural areas and 244 from urban areas). Caregiving burden was measured by the Zarit's Burden Interview (Chinese) and the filial piety perception was measured by the filial piety scale. The results showed that compared with those in urban areas, caregivers in rural areas tended to report a higher level of caregiving burden ($p < 0.05$). The greater sense of filial piety the adult children reported, the lower level of the caregiving burden they perceived ($p < 0.05$). This study suggests that valuing filial piety might be positively associated with reducing level of caregiving burden.

SESSION 4775 (SYMPOSIUM)

INTERNATIONAL TRANSLATIONAL CARE RESEARCH

Chair: C. Fox, *University of East Anglia, Norwich, Norfolk, United Kingdom*

Co-Chair: M. Boustani, *Indiana University, Indiana, Indiana*

Discussant: M. Austrom, *Indiana University, Indiana, Indiana*

Cognitive impairments, including dementia and delirium are one of the greatest challenges facing the global health and social care community. Dementia is a major risk factor for delirium. Compelling evidence now shows that episodes of delirium constitute a significant risk factor for new onset dementia and more rapid progression of existing dementia. The interrelationships between dementia and delirium mean that these conditions are being viewed as a much more of a continuum. Additionally, delirium superimposed onto dementia is common, serious and a medical emergency.

The exceptional vulnerability of the population affected means they are at high risk of poor standards of health and social care as well as poor physical and mental health management. The challenge of developing innovative sustainable services to support cognitively vulnerable, elderly patients relies on developing good practice care delivery options into integrated pathways capable of transcending health and social care divides. Critical and central to this is the activation of, or opportunity for activation of, carers and patients in partnerships towards creating good and meaningful working relationships.

This symposium will provide a platform for the interrelated work of three international collaborative care research groups (German DZNE, USA-IU and UK (UEA-DRC). Working together since 2010, presenters will showcase how an activation orientation is being used to develop internationally transferable care research. The four papers presented will provide research findings from across primary, acute and community care sectors and demonstrate how activation of patient/carer stakeholder partnerships, amplifies integrated working.

WHAT DO WE LEARN FROM A CLUSTER-RANDOMISED CONTROLLED TRIAL OF DEMENTIA CARE MANAGEMENT IN GERMANY?

J. Thyrian, *German Center for Neurodegenerative Diseases (DZNE), Greifswald, Germany*

In Germany, there is a lack of evidence-based models of healthcare provision for people with dementia (PWD) in primary care. Within the DelpHi- trial (Dementia-life-and-person-centred-help) we adapted and evaluated a collaborative care model into the German health care system.

DelpHi is a two arm General Physician-based, cluster-randomized, controlled intervention trial. The intervention arm received Dementia Care Management (DCM). DCM aims to provide optimum care for PWD. It consists of (a) a comprehensive assessment of the care situation, needs and resources, (b) a computer-assisted development of an individually tailored treatment and care plan (c) a systematic and documented communication with treating GP, (d) support in and monitoring of achieving treatment and care goals. DCM

is provided by specifically trained nurses. Control was usual care.

This paper will discuss findings from the DelpHi-trial, focusing on its efficacy in primary care, translation and activation of patient/carer stakeholder opportunities and subsequent implementation efforts.

USING POPULATION HEALTH MODELS TO IMPROVE PATIENT CARE, REDUCE HOSPITAL STAYS AND ER VISITS

M.A. Boustani, *Indiana University, Indiana, Indiana*

More than 4.7 million Medicare beneficiaries and their families live with dementia. To address their needs and reduce their cost of care, Eskenazi Health (Indianapolis) employs re-envisioned model of care that includes two important distinctions. It provides care for the whole person – mind, body and family – and it expedites the translation of best practices from lab to patient care. This orientation recognises the role and activation opportunities that working closely with family members plays in enabling cognitively impaired individuals to live in the community rather than nursing facilities.

Physicians, nurses, social workers and other staff members work closely with the older adult and family caregivers to deliver care and improve both brain and physical health.

This paper will present results from this research programme, illustrating how reductions Emergency Department visits, in hospitalization stays and annual net cost were achieved and amplified by closer integrated working with patients and their families.

CARING FOR PEOPLE WITH HIP FRACTURE AND COGNITIVE IMPAIRMENTS: FINDINGS FROM PERFECTED

C. Fox, B. Penhale, J. Cross, F. Poland, T. Smith, S.P. Hammond, *Norwich Medical School, University of East Anglia, Norwich, United Kingdom*

The risk of hip fracture for people living with dementia is four times greater than for those without. Providing care for this group of people is challenging, but elements of good care do show beneficial patient and economic outcomes. Specific care treatment pathways which acknowledge differences the presentation and care needs of this complex patient group are proposed to improve clinical and process outcomes for this population.

Within the United Kingdom, the role of family members and informal carers in acute settings has become foregrounded through the innovative research methodologies of the Peri-operative Enhanced Recovery hip Fracture Care of paTiEnts with Dementia (PERFECTED) research programme. This paper will report findings this from; an international telephone survey, ethnographic observations in acute settings and focus groups with healthcare professionals, patients and carers to discuss activation opportunities for involving patient and their carers in integrated care practices across the continuum of cognitive impairment.

DEVELOPING A NEW WORKFORCE TO PROVIDE GERIATRIC DEPRESSION AND DEMENTIA CARE IN COMMUNITY SETTINGS

M. Austrom, *Department of Psychiatry, Indiana, Indiana*

Depression and Behavioural and Psychological Symptoms of Dementia (BPSD) commonly occur outside of long-term care facilities. BPSD can be extremely physically and psychologically draining for people living with dementia and the family members/carers. However, little research evidence exists regarding the development and training for care workers in community settings. This paper will report on a research programme which developed and evaluated a workforce intervention for community dwelling patients with dementia and/or depression and their caregivers.

Sixteen Care Coordinator Assistants (CCAs) were trained in person-centred, collaborative care. CCAs made on average 15 home and phone visits to over 1200 patients. From a qualitative analysis of CCAs case reports themes emerging included patient familiarity and continuity of care. These themes illustrate how interventions can be effectively implemented by well-trained CCAs in the community to improve outcomes for patients and their caregivers.

SESSION 4780 (SYMPOSIUM)

NEW INSIGHTS INTO IMMUNOLOGIC MECHANISMS OF PROTECTION THROUGH VACCINATION IN OLDER ADULTS

Chair: J.E. McElhaney, *Health Sciences North Research Institute, Sudbury, Ontario, Canada*

Co-Chair: G. Kuchel, *University of Connecticut*

Discussant: A. Akbar, *University College London, London, United Kingdom*

A decline in immune function is a hallmark of aging that leads to complicated illness from a variety of infectious diseases and may limit the ability to appropriately respond to vaccination. This decline can be attributed not only to the changes associated with immune senescence, but also the contributions of multiple chronic conditions, chronic infections including cytomegalovirus, and related frailty that are often present in older adults, and increase the risk for functional decline with many infectious diseases. Identifying changes in immune (B and T cell) responses that lead to loss of protection and how vaccines might alter the senescent immune response and defined immune correlates of protection are key to improving vaccine efficacy and preventing disability in older adults.

B CELL SENESENCE IMPAIRS THE INFLUENZA VACCINE RESPONSE

D. Frasca, M. Romero, A. Diaz, B. Blomberg, *University of Miami Miller School of Medicine, Miami, Florida*

The capacity of an individual to mount protective antibody responses after influenza vaccination decreases with age. Objectives We characterized novel contributors to phenotypic and functional changes in aged B cells, which may be associated with a protective antibody response. We determined the percentages of the major peripheral B cell subsets in the peripheral blood of young and older adults, as well as their level of immune activation according to senescence-associated secretory phenotype (SASP) markers, such as pro-inflammatory cytokines, inflammatory micro-RNAs and cell cycle regulators. We found that only memory B cells express SASP markers, and especially the late memory (LM) B cell

subset, which is increased with age. LM B cells also show spontaneous activation of AMP-activated protein kinase (AMPK), the energy sensing enzyme ubiquitously expressed in mammalian cells. LM B cells activate a p38MAPK signaling pathway leading to the expression of SASP mediators, while class switch recombination is downregulated.

ROLE OF IMMUNOSENESCENCE, FRAILTY, CMV AND VACCINE DOSE IN IMMUNE RESPONSES TO INFLUENZA VACCINATION

G. Kuchel¹, L. Haynes¹, J.E. McElhaney², 1. *University of Connecticut School of Medicine, Farmington, Connecticut*, 2. *Health Sciences North Research Institute, Sudbury, Ontario, Canada*

Nearly 90% of flu-related deaths and most new disability occurs in older adults. Beyond chronological age, CMV status and frailty both contribute to decreased influenza vaccine responses and worsening clinical outcomes. Aging, frailty and CMV status have been associated with declining immune function in older adults. Through the validation of our biomarkers of influenza vaccine responses, we wish to identify older adults more likely to benefit from high dose formulations of the influenza vaccine. We show that HAI antibody responses are age-dependent with the standard dose vaccine, resulting in lower responses with aging. High dose vaccine is able to overcome some of these age-related declines. Although basal granzyme B (bGrzB) levels are higher in CMV-positive subjects, inducible (iGrzB) responses are dependent on vaccine dose and are independent of CMV status. Moreover, poor iGrzB responders to flu vaccination are at greater risk of developing influenza illness.

DECREASED ZOSTER VIRUS SPECIFIC T CELL RESPONSES LINKED TO EXCESSIVE INFLAMMATION IN AGED SKIN

A. Akbar, *University College London, London, United Kingdom*

The incidence of varicella-zoster virus (VZV) re-activation increases during ageing. Although the effects of VZV re-activation are observed in the skin (Shingles) the number or functional capacity of skin resident VZV specific T cells have not been investigated. VZV-specific CD4⁺ T cells were significantly increased in the skin compared to the blood, with no age associated differences. In contrast, the number of FoxP3⁺ regulatory T cells (Tregs) and expression of the inhibitory receptor PD1 on CD4⁺ T cells were significantly increased in the skin of older humans. Therefore skin resident VZV-specific CD4⁺ T cells are functionally competent in older but may be restricted by multiple inhibitory influences *in situ*. Excessive baseline inflammation in the skin of older individuals correlates significantly with the decreased cutaneous response to VZV injection. This increased propensity to cutaneous inflammation during ageing induces multiple anti-inflammatory mechanisms that preclude the optimal manifestation of antigen-specific immunity.

MECHANISMS OF PROTECTION AGAINST HERPES ZOSTER AND POST-HERPETIC NEURALGIA THROUGH VACCINATION

J.E. McElhaney, 1. *Health Sciences North Research Institute, Sudbury, Ontario, Canada*, 2. *Northern Ontario School of Medicine, Sudbury, Ontario, Canada*

Herpes zoster (or Shingles) is a painful blistering rash resulting from the reactivation of latent Varicella-zoster virus (VZV), the agent that causes of chickenpox. With the resolution of chickenpox, VZV-specific cytotoxic T lymphocytes (CTL) access the dorsal root ganglion where VZV lives, to keep viral replication in check. VZV-specific CD4⁺ and CD8⁺ T cells are believed to play a central role in latency and reactivation of the virus within the dorsal root ganglion. Reactivation of latent VZV is associated with marked inflammation of the sensory ganglion leading to nerve cell damage and pain that often precedes the onset of the dermatomal rash and persists after the rash resolves. The risk of developing zoster the disabling complication of post-herpetic neuralgia (PHN) dramatically increases with age. These observations highlight the importance of designing vaccines to stimulate cell-mediated immunity to prevent reactivation of VZV and protect against zoster and PHN, rather than the usual focus on antibody responses to prevent infection. Vaccines designed to prevent zoster reactivation and PHN present a significant opportunity for vaccine preventable disability in older adults.

SESSION 4785 (PAPER)

FACTORS IN CARDIOVASCULAR HEALTH

MAPPING LONGITUDINAL BLOOD PRESSURE CHANGE AND ASSOCIATED FACTORS AMONG VERY OLD INDIVIDUALS

B. Weidung, A. Toots, B. Carlberg, P. Nordström, Y. Gustafson, *Umeå University, Umeå, Sweden*

Declining systolic blood pressure (SBP) is common in very old age and it is associated with adverse events, such as dementia. Knowledge of factors associated with SBP change could be used to formulate preventive strategies. This study investigated SBP change and associated factors in a representative sample of very old individuals followed-up after 5 years. The study was based on data from the Umeå85+/GERDA cohort study, containing cross-sectional and longitudinal data on participants aged 85, 90, and ≥95 years. Follow-up was 5 years. Main outcome was absolute SBP change. Factors associated with SBP change were assessed using multivariate linear regression models. Baseline SBP was measured in 1136 first-time participants. Within 5 years, 711 had died. Of the surviving participants, 297 were followed up with SBP measurement. Mean SBP change was -12 mm Hg ± standard deviation 25 mm Hg. Among survivors followed-up with SBP measurement, SBP change was independently associated with changing Barthel p-ADL score during follow-up, and inversely associated with investigation year, baseline SBP level, baseline antidepressant prescription, incident acute myocardial infarction during follow-up, and discontinued or new diuretic prescription during follow-up. In conclusion, SBP seems to be declining among very old individuals. The decline seems to depend on SBP level, investigation year, and health-related factors.

FRAILTY ASSESSMENT AND 6-MONTH FUNCTIONAL STATUS AND MORTALITY AFTER AORTIC VALVE REPLACEMENT

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Preoperative frailty assessment may be useful to predict functional status and mortality in older adults undergoing aortic valve replacement (AVR). We conducted a single-center prospective cohort study to compare frailty phenotype versus comprehensive geriatric assessment-based frailty index (CGA-FI) in predicting 6-month functional status and mortality after transcatheter and surgical AVR. Between February 2014 and December 2015, we assessed frailty phenotype and CGA-FI in patients 70 years or older who underwent transcatheter AVR (N=124) or surgical AVR (N=88). Telephone interviews were performed at 1, 3, and 6 months to assess the ability to perform 22 functional activities. The composite poor clinical outcome, defined as death or functional decline with the New York Heart Association class 3 or 4, occurred in 31 (26%) of 120 transcatheter AVR patients (drop-out: 4) and 8 (11%) of 76 surgical AVR patients (drop-out: 12). The risk of poor clinical outcome did not differ between patients with and without frailty phenotype undergoing transcatheter AVR (24 of 96 [25%] versus 7 of 24 [29%]; $p=0.68$) and surgical AVR (5 of 27 [19%] versus 3 of 49 [6%]; $p=0.11$). However, the risk increased with CGA-FI (≤ 0.20 , $0.21-0.40$, >0.40) in transcatheter AVR (1 of 12 [8%], 12 of 64 [19%], 18 of 44 [41%]; $p=0.01$) and surgical AVR (1 of 29 [3%], 5 of 42 [12%], 2 of 5 [40%]; $p=0.04$). In conclusion, CGA-FI predicts 6-month functional status and mortality after transcatheter and surgical AVR, but frailty phenotype has a limited role in this population with high prevalence of frailty.

THE ELECTROCARDIOGRAM IN CENTENARIANS

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The electrocardiograms in centenarians utilizing current recommended standards, guidelines and nomenclature were reviewed. All hospitalized patients whose age was 100 years or greater were examined. One hundred eighteen patients and two hundred fifteen ECGs were included in this study. "Normal" or "near normal" ECGs were infrequent and were seen in only 7 patients (5.9%). Approximately one third of patients had PACs and 30% had PVCs seen on their initial or follow up ECGs. Atrial fibrillation was common and was present in about one third of all patients. Conduction abnormalities were prevalent. First degree AV block was seen in about one third of the patients and left anterior fascicular block in about 50%. Right and left bundle branch block were present in about 15–20% of patients studied. Acute infarcts were rarely seen, present in only two patients, but "old" or "age undetermined" infarcts were present in approximately 75% of patients. Bradycardia and tachycardia were more a reflection of concurrent medications or the underlying illness and were noted in approximately 10–20% of patients. Arrhythmias, including atrial fibrillation, PACs and PVCs, conduction abnormalities and "old" or "age undetermined" are common in this age group and "normal" or "near normal" ECGs and acute infarcts were infrequent.

PUBERTAL TIMING AND CARDIOVASCULAR AGEING IN MEN AND WOMEN

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Adolescence, a time of rapid physiological and behavioural change, may be a sensitive period in the life course for the development of later life health. Early menarche has been associated with higher rates of cardiovascular disease and type 2 diabetes in women. The mechanisms underlying such associations remain unclear, and the long-term effects of pubertal timing have been much less studied in men. We use data from 1653 men and women from the MRC National Survey of Health and Development, a birth cohort study of individuals born in Britain in 1946, to investigate whether prospectively collected measures of pubertal timing are associated with markers of cardiovascular ageing at 60–64 years. Women reaching menarche early (11 years or younger) had poorer cardiac structure (including higher left ventricular mass) and cardiac function (lower ejection fraction), assessed using echocardiography, than women reaching menarche later, even after adjusting for their higher body mass index (BMI). There was no evidence of any such relationships among men or, for both sexes, with vascular outcomes (carotid intima-media thickness, pulse wave velocity). This was despite associations between earlier puberty and higher BMI in both sexes, poorer lipid profiles in women and higher blood pressure in men which persisted from midlife. Pubertal timing appears to be more important for cardiovascular ageing in women than men. Our findings are consistent with evidence that increased health risks only occur among women with a particularly early menarche, rather than there being a linear relationship across the full range of pubertal age.

STATINS AND INCIDENT DISABILITY IN COMMUNITY-DWELLING OLDER ADULTS—A LONGITUDINAL STUDY

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There are conflicting views regarding the safety of statin use among older adults. Statins have been implicated with diverse adverse effects with potential negative consequences on muscular function, balance, vision, and cognitive function. This study aimed to evaluate whether statins are associated with incident disability in older adults, using a longitudinal cohort design.

Participants of two ongoing cohort studies of community dwelling older adults were recruited between 1993–2015 ($n=3091$). Self-reported disability was assessed using three scales: basic activities of daily living (ADL), mobility, and functions required for independent living (IADL). All medications received by participants were inspected and identified. Demographic characteristics and medical history were obtained by detailed interview and medical examinations.

We used time varying multivariable cox models to assess the association between lipid-lowering medications and incident disability. Models included adjustments for differences in demographics, and cardiovascular comorbidity. Analyses excluded participants with dementia or disability at baseline.

Our study found that individuals receiving lipid-lowering medication, predominantly statins, had reduced risk for the development of disability in ADL and IADL compared with individuals not receiving these medications, after adjusting for differences in age, sex, and education (Hazards Ratios [95% Confidence Interval]: ADL 0.86 [0.76–0.98], IADL 0.85 [0.7–0.98], Mobility 0.91 [0.79–1.04]). Further analyses demonstrated these associations were strengthened after controlling for cardiovascular risk factors and comorbidity (HRs [95% CIs]: ADL 0.74 [0.65–0.86], IADL 0.81 [0.7–0.93], Mobility 0.83 [0.7–0.96]). And remained consistent in analyses specifying exposure to statins, and in analyses restricted to participants aged 80 and over.

SESSION 4790 (PAPER)

IDENTIFYING AND MANAGING DELIRIUM IN OLDER ADULTS II

COGNITIVE ACTIVITIES FOR DELIRIUM SUPERIMPOSED ON DEMENTIA: A RANDOMIZED CONTROLLED TRIAL

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Delirium is common in post-acute care (PAC) patients with dementia; its treatment is not established. We hypothesized that cognitive activities would reduce the duration and severity of delirium and improve cognitive and physical function to a greater extent than usual care. This was an NIH-funded single-blind randomized clinical trial conducted in eight PAC facilities. Participants were 283 community-dwelling older adults with dementia and delirium randomized to intervention or control. The intervention group received cognitive activities daily for up to 30 days. The control group received usual care. Primary outcomes were delirium duration (Confusion Assessment Method), and delirium severity (Delirium Rating Scale). Secondary outcomes were cognitive function (Digits Forward, Montreal Cognitive Assessment and CLOX) and physical function (Barthel Index). There were no differences between the groups for mean percentage of delirium-free days or delirium severity. Significant differences for secondary outcomes favoring intervention were found: executive function: 6.58 (95% CI: 6.12–7.04) vs. 5.89 (95% CI: 5.45–6.33), a difference of -0.69 (95% CI: 1.33– -0.06, $p=0.03$); and constructional praxis: 8.84 (95% CI: 8.83–9.34) vs. 7.53 (95% CI: 7.04–8.01), a difference of -1.31 (95% CI: 2.01– -0.61, $p=0.0003$). After adjusting for baseline constructional praxis the group comparison was no longer significant. Average length of stay was shorter in intervention (36.09 days vs. 53.13 days, SE = 0.15, $p = 0.01$, negative binomial regression. Cognitive activities did not

improve delirium but did improve executive function and reduced length of stay. Resolution of delirium may require more intense non-pharmacological management when the patient has dementia.

IMPROVING RECOGNITION AND SCREENING OF DELIRIUM IN REHABILITATION AND ACUTE CARE SETTINGS

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This study examined the effectiveness of a delirium intervention on nurse recognition, screening and documentation of delirium; patient outcomes; and hospital remuneration in the acute care and rehabilitation settings. Nursing staff participated in an awareness program aimed at increasing delirium knowledge, recognition and management. Nurses were trained in the use of a combined delirium screening tool to be integrated into patient notes, consisting of the Delirium Risk Assessment Tool and the 4AT. A multimodal awareness campaign provided information and resources about delirium to patients, families, carers and staff members. An Inouye chart review was conducted, and ICD-10 codes for delirium noted on hospital administrative data were collated before and after the intervention to calculate a prevalence estimate of delirium in the wards, and assess the efficacy of the intervention. Patient outcomes (medication, specialist referral, environmental modification) for those with delirium were compared before and after the intervention. Nursing staff knowledge and satisfaction was evaluated at the conclusion of the project. Finally, by comparing the frequency of ICD-10 codes for delirium pre and post intervention, billing remuneration for the hospital and an estimate of lost revenue was calculated.

RISK FACTORS FOR PREVALENT DELIRIUM IN OLDER MEDICAL INPATIENTS IN TANZANIA

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The risk factors for prevalent delirium in older adults in Sub-Saharan Africa have been poorly characterised thus far. Delirium in older adults is a common, serious and preventable condition. In this low-resource setting, the ability to identify patients at risk of delirium may allow targeting of limited resources towards expedient prevention.

Consecutive admissions of adults aged ≥ 60 years were recruited to participate in the study. Patients' demographic details, physiological observations and a range of self-reported and objectively measured potential risk factors were measured. Delirium was diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM V) criteria. The study setting was the acute medical wards of Kilimanjaro Christian Medical Centre, a

tertiary referral centre in northern Tanzania. Data were collected between January and July 2015.

Five hundred and seven patients were recruited to the study. Multivariate logistic regression was used to analyse the independent risk factors for prevalent delirium. Older age and self-reported reduced mobility were significant risk factors for delirium on univariate analysis, however became non-significant on multivariate analysis. Male gender, current alcohol use, dementia and illness severity (measured by physiological parameters) remained significant on multivariate analysis.

In conclusion, the risk factors for delirium in the inpatient setting in Tanzania are in keeping with established risk factors in higher income settings. This data could be used to develop a screening tool for older adults in Sub-Saharan Africa, which may lead to improved risk stratification for delirium prevention, improved diagnosis rates and management.

RISK SCREENING FOR DELIRIUM IN THE EMERGENCY DEPARTMENT: THE EDDI TRIAL

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Delirium (acute brain failure) is a medical emergency which is poorly identified and managed in many hospitals. The aim of this study was to test whether a standardised delirium screening algorithm in the emergency department (ED), and use of a risk warning card containing a recommended series of actions, increases delirium diagnosis. We conducted a prospective adaptive trial in patients aged 65 or over presenting to the ED of two tertiary hospitals. At baseline, delirium screening was implemented to determine standard delirium rates. Interventions were then progressively introduced, and rates of delirium detection as well as morbidity and mortality outcomes were measured over time and compared using descriptive statistics. There were 3891 patients enrolled across three phases of the trial, of which 414 (10.6%) were diagnosed with delirium. Patients with delirium had higher mortality (7% vs 3%); more falls, sedation use and rates of new discharge to an aged care facility; and longer hospital stays. A positive ED screen significantly increased the odds of being diagnosed with delirium (OR = 8, LR+ 3.3). The ED warning card increased the rate of delirium detection from 10.1% to 12.1%, but this was not statistically significant (p 0.12) and likely associated with other hospital processes rather than the intervention.

MULTIDISCIPLINARY INTERVENTION MODEL TO PREVENT POSTOPERATIVE DELIRIUM IN A CHINESE HOSPITAL

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OBJECTIVES

Postoperative delirium is a common, life-threatening problem in older adults. However, research on multidisciplinary prevention of delirium in China is limited. We adapted the Hospital Elder Life Program (HELP) for using it on six surgical wards in a Chinese hospital and assessed its effect and feasibility by conducting a cluster randomized trial.

METHODS

We modified the HELP mode by adapting it to Chinese medical environment and culture. It included personnel composition, assignment of responsibility, multidisciplinary intervention protocols, implementation procedure, and personnel training. A total of 261 patients aged 70 and older undergoing elective surgery were recruited. After baseline assessment, eligible patients, in clusters, were randomly assigned to the multicomponent intervention group or usual care group.

RESULTS

Delirium occurred in 12/140 (8.6%) intervention group, versus 25/121 (20.6%) usual-care patients ($P < 0.05$). The length of hospital stay in the control group was significantly longer than that in the intervention group (16.41 ± 4.69 vs. 12.15 ± 3.78 , $P < 0.05$). The score of satisfaction towards hospital service in the intervention group was significantly higher than that in the control group (94.44 ± 6.29 vs. 85.07 ± 5.72 , $P < 0.05$). The severity of delirium between the intervention group and control group showed no difference ($P > 0.05$). The adherence of early movement was highest 74.3%.

CONCLUSIONS

This perioperative multidisciplinary intervention was successfully implemented in a Chinese hospital and it was effective for the prevention of postoperative delirium.

SESSION 4795 (SYMPOSIUM)

INTERPROFESSIONAL GERIATRIC EDUCATION: A TEXAS EXAMPLE

Chair: J. Knebl, *University of North Texas Health Science Center, Fort Worth, Texas*

Co-Chair: J.J. Severance, *University of North Texas Health Science Center, Fort Worth, Texas*

Older adults are among the fastest growing age group in the United States and use many health care services, have complex conditions, and require professional expertise to meet their health care needs. Having a geriatric workforce capable of carefully managing the medical conditions of seniors to assist with healthy independent lifestyles is important. This symposium presents collaboration among a health science center in North Texas, a private university, a county hospital system, and an Area Agency on Aging in creating the Workforce Enhancement in Healthy Aging and Independent Living (WE HAIL) Program. As the only HRSA Geriatric Workforce Enhancement Program awarded in Texas, WE HAIL advances health professional education by aligning learning objectives and activities with community needs. Presentations will provide an overview of the strategy, the multiple learner groups, and lessons learned in the first year of planning and implementation. Jennifer Severance will introduce WE HAIL partnerships and activities. Donald R. Smith will present evidence based programs provided by community organizations. Janice Knebl will address opportunities and challenges of geriatric training for health care students and professionals. Tom Fairchild will focus on leadership training for practicing primary care professionals necessary in emerging healthcare systems. This symposium presents cross-sector approaches of integrating evidence base programs into geriatric health professional training, while

expanding training opportunities for rural areas and underserved populations.

MOBILIZING PARTNERS TO INCREASE THE GERIATRIC WORKFORCE

J.J. Severance, *Center for Geriatrics, University of North Texas Health Science Center, Fort Worth, Texas*

Applying the Plan-Do-Study-Act continuous improvement method, the Workforce Enhancement in Healthy Aging Program develops geriatric training for 1) undergraduate and graduate students; 2) family medicine residents; 3) practicing health care professionals, including physicians, nurses, physician assistants, pharmacists, physical therapists, social workers, and dietitians; and 4) caregivers of older adults. Teams of interprofessional faculty and community organizations build upon existing training programs to integrate geriatric topics and unique learning experiences with community based organizations, and to expand caregiver training in rural communities. Training enhancements focus on community needs in health literacy, falls prevention, medication management, chronic disease self-management and dementia. New programs are proposed for a Geriatric Certificate for Family Medicine Residency Programs, and a Geriatric Professional Leadership Institute. Program evaluation demonstrates expanded partnerships that increase the number of geriatric-trained primary care providers to meet the needs of older adults at individual, community and population levels.

LINKING COMMUNITY NEEDS AND PROGRAMS TO GERIATRIC EDUCATION

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The United Way of Tarrant County's LIVE WELL Initiative addresses the health issues of the aging population and those who care for them. The three core values based on community needs include: 1) 'Care for Caregivers' to provide support for people who take care of loved ones with ongoing health concerns, 2) 'A Healthier Me' to provide services to adults with ongoing health concerns, and 3) 'A Healthier Community' that helps educate and provide information for a healthier community. This presentation reports on the continuation of evidence based programs and programmatic relationships to embed LIVE WELL values across collaborating institutions, and thereby provide the best outcomes for older adults.

GERIATRIC TRAINING FOR INTERPROFESSIONAL TEAMS

J. Knebl, *University of North Texas Health Science Center, Fort Worth, Texas*

The 2008 IOM Report: *Retooling for an Aging America* identified the number of adults in the US aged 65 and older would almost double from 12% to 20% of the population, placing increased demand on the patchwork of US health care services for older adults. The Reynolds Geriatric Education and Training in Texas (Reynolds IGET-IT) Programs were developed as a proactive effort to address the lack of training in medical professionals on geriatric syndromes. The following programs and innovative modules were implemented over an eight year period to address the goals of geriatrics education: an integrated geriatrics curriculum, faculty

development in geriatrics, interprofessional geriatric skills lab and senior mentoring program, a capstone course for senior level health professions students, and E-learning modules for residents and practicing physicians. This presentation will address the impact on medical professions students and professionals, the community partnerships that were built, and advancement of interprofessional education.

GERIATRIC LEADERSHIP TRAINING FOR HEALTH PROFESSIONALS IN EMERGING HEALTH SYSTEMS

T.J. Fairchild, *University of North Texas Health Science Center, Fort Worth, Texas*

The Geriatric Practice Leadership Institute was designed for healthcare professionals including physicians, physician assistants, nurses, pharmacists, physical therapists, dietitians, and social workers. The participants learn about concepts needed to effectively work in and take leadership roles in the emerging health care environments for older adults in primary care. Driven by team project goals, five domains are addressed by the GPLI curriculum: 1) Leading Self, 2) Leading Teams, 3) Leading Organizational Change, 4) Population Health Science, and 5) Aging Network and Healthcare Delivery for Older Adults. The curriculum for each of these areas will be developed with the aim of enhancing each participant's understanding of personal leadership skills and how to create and participate in effective interprofessional teams that provide value-based patient-focused care to older adults in the developing primary healthcare systems.

SESSION 4800 (PAPER)

GERIATRIC ASSESSMENT AND MANAGEMENT IN VARIOUS SETTINGS

GERIATRIC CO-MANAGEMENT PROGRAMS: HOW ARE THEY ORGANIZED AND EVALUATED? A SYSTEMATIC REVIEW

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This systematic review determined what program structure, intervention processes and outcomes have been reported by in-hospital geriatric co-management programs. Primary studies reporting on geriatric co-management of inpatients aged 65 years or older (or mean age of study sample ≥ 75 years), published in English, Dutch, German, French or Spanish were eligible for inclusion. An independent literature search using databases (MEDLINE, EMBASE, CINAHL, Cochrane Central Register of Controlled Trials), reference lists, citation searching and ClinicalTrials.gov was performed in May 2016. Forty-four articles from 6 randomized controlled trials (RCT), 1 non-RCT, 5 prospective before-and-after studies, 18 before-and-after studies with a historic cohort, and 10 cohort studies. The majority of programs consisted out of medical/surgical staff, a geriatrician, physical therapist and social worker. Program interventions focused on early rehabilitation, medical care review and discharge planning, but only 4 studies reported a post-discharge intervention. Around half of the programs reported performing ward rounds for co-management purposes, but only

one third reported using protocols or multidisciplinary team meetings. The majority of studies evaluated length of stay and mortality. Despite a large body of evidence, only a minority of programs were evaluated using a valid design, and the description of interventions were poor. There is substantial clinical heterogeneity between programs and process evaluations are currently missing to adequately explore these differences and their potential for impacting outcomes. For future directions, programs should clearly describe their program theory: which intervention components affect which outcomes in relation to their context.

FUNCTIONAL AND PSYCHO-SOCIAL ISSUES IN ACUTE CARE: DATA FROM THE “NEW” INTERRAI ACUTE CARE

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The interRAI Acute Care is a new assessment system designed to identify functional and psychosocial problems among adult patients admitted to acute care. It comprises 52 clinical observations and a series of algorithms that perform diagnostic and risk screening, measure problem severity (scales) and assess quality of care.

We undertook a study to determine the frequency distributions of the clinical observation among adult patients across 4 hospitals in Australia: A large tertiary hospital, a medium size community hospital, and 2 small rural hospitals. Assessments were performed by trained nurses with 12 hours of admission to an inpatient unit. The sample comprised 837 subjects, of whom 359 (43%) were aged > 70 years.

While the prevalence of these problems was high, as expected, among older patients, there were some problems that were unexpectedly prevalent among younger patients. For example, short term memory problems were present in 6% of patients aged 18–29 and 22% among those aged 40–49, compared to 37% among older patients. Similar patterns of high prevalence was present for mood disturbances, balance problems, falls, pain, sleep disorders and basic activities of daily living.

We concluded that functional and psychosocial problems are sufficiently prevalent among younger hospitalised patients that universal screening is warranted for all adult patients.

VALIDATION OF A COMPUTERIZED, GAME-BASED ASSESSMENT STRATEGY IN PERSONS WITH DEMENTIA

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Exergames are increasingly established for training purpose; however, newly assessment strategies based on the internal data flow are hardly developed and validated. Such assessment strategies provide high-class data with strict focus on applied training goals and programs.

In this study we analyzed construct validity, test-retest reliability, sensitivity to change, and feasibility of the Physiomat® training device, which combines challenging postural motor tasks with cognitive tasks based on established neuro-psychological assessments such as trail making test (TMT) in patients with dementia.

Assessments of 105 multi-morbid patients with mild to moderate dementia (mean age 82.7 ± 5.9) were tested in conditions with increasing complexity level (simple, moderate, complex) for construct validity, test-retest reliability, sensitivity to change of trained Physiomat® tasks, and for feasibility.

Analyses showed moderate to high correlations between established motor as well as cognitive tests and simple ($r_s = -.22-.68$, $P \leq .001-.03$), moderate ($r_s = -.33-.71$, $p \leq .001-.004$), and complex motor-cognitive Physiomat tasks ($r_s = -.22-.83$, $P \leq .001-.30$) indicating a good construct validity. Moderate to high correlations between test and retest assessments were found for simple, moderate, and complex motor-cognitive tasks ($ICC = .47-.83$, $p \leq .001$) indicating good test-retest reliability. Sensitivity to change was good to excellent for Physiomat assessment reproducing significant improvements during an intervention trial (RCT) ($p \leq .001$) with moderate to large effect sizes ($SRM = 0.5-2.0$). Completion time averaged 25.8 minutes, with high completion rate (96%) for initial Physiomat measures. No adverse events occurred during assessment.

The Physiomat® assessment proved a reliable, valid, responsive, and feasible game-based assessment strategy in multi-morbid persons with mild to moderate dementia.

PILOTING THE ADAPTED KIMBERLY INDIGENOUS COGNITIVE ASSESSMENT TOOL WITH INDIGENOUS SENIORS IN CANADA

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Dementia has become a growing public health issue in an aging Indigenous population in Canada. The Canadian Consortium on Neurodegeneration in Aging (CCNA) includes a research team specifically addressing issues related to quality of life for Indigenous people with dementia and their caregivers. A key component of the work encompasses development of a culturally relevant and psychometrically sound cognitive assessment screening tool. Current cognitive assessments present varying degrees of cultural, educational and language bias, impairing their application in Indigenous communities. This paper reports on the piloting and evaluation of an adapted Indigenous cognitive assessment tool in First Nations communities in Canada.

Using community-based participatory methods and a “two-eyed seeing approach,” researchers worked closely with community partners to adapt the Kimberly Indigenous Cognitive Assessment (KICA) for use with Indigenous populations in Northern Ontario, Canada. The KICA was developed to address the gap of culturally appropriate assessment

tools for older Indigenous people in Australia. The adaptation involved an iterative process where an advisory group, expert Anishinaabe language speakers, team members, and a key expert panel analysed each assessment domain and adjusted the questions to reflect the local cultural understandings and nuances within the Anishinaabe language. The adaptation of the KICA produced a culturally relevant cognitive assessment tool that was piloted with Indigenous participants from seven First Nations communities in Ontario, Canada. The assessment was provided in English or Anishinaabemowin. Culturally appropriate diagnosis and screening may lead to earlier, more accurate diagnosis and improved health outcomes for Indigenous people with dementia in Ontario.

UPTAKE AND EFFECTIVENESS OF PREVENTIVE HEALTH ASSESSMENTS: A STUDY OF 11,726 OLDER AUSTRALIAN WOMEN

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In 1999 the Australian Government introduced health assessments for people aged 75 years and older, allowing family doctors to evaluate older patients' health. This study evaluates the uptake of assessments over time by a large cohort of older women, and the impact of the assessments on survival and physical functioning.

Data are for 11,726 women from the 1921–26 birth cohort of Australian Longitudinal Study on Women's Health, who have completed three-yearly postal surveys since 1996, and allowed linkage to universal national administrative data on health care use (Medicare Benefits Scheme), residential aged care, and the National Death Index. The women were aged between 73–78 years when assessments were introduced in 1999, with follow-up to 2013 when surviving women were aged 87–92. Time to event models were used to evaluate uptake of assessments, with death included as a competing event. Time-period and propensity score matching was applied to provide balanced groups of women who did and did not have assessments for comparison of survival and physical function scores.

By December 2013, 61.8% of women had at least one health assessment, with widowed, socioeconomically advantaged women, and those with more doctor visits, being more likely to have assessments and to have them earlier. After propensity-matching, women who had assessments had an advantage for survival, and for survival with higher physical functioning scores.

Our data suggest that health assessments afford benefits in terms of survival and physical functioning.

SESSION 4805 (PAPER)

DEMENTIA/ALZHEIMER'S RISKS AND INTERVENTIONS

MAINTAINING EVERYDAY PRACTICAL AND COGNITIVE COMPETENCIES IN DEMENTIA SUFFERERS IN A HOME SETTING

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The project focuses on the effect of everyday practical and cognitive activation at home on the activities of daily living and cognitive abilities of dementia sufferers.

Intervention: Six days a week, practical activation was performed by relatives based on an individual, tailor-made activation plan. Cognitive activation took place once a week and was done by an external person. The relatives received continuous training and were comprehensively counselled by trained nurses.

Evaluation: A multicentric, randomised controlled trial with total sample size of 72 participants suffer from irreversible dementia (MMSE ≤ 24 and ≥ 12 , SIDAM incl. HIS ≤ 4). 36 participants received everyday practical and cognitive activation and 36 were in the control group: intervention and follow up periods took six month each. Outcome variables: primary: ADL-abilities (E-ADL-test) and cognitive abilities (ADAS-cog); secondary: care dependency (PAS-scale) and geriatric symptoms incl. instrumental abilities (NOSGER-Scale incl. IADL-test), quality of life (WHOQOL-BREF) and strain for the informal caregivers (HPS). The evaluation was made as a pre-postal analysis (t_0/t_1) with multivariate statistical procedures.

Results: After six months persons showed better or stable, but no significant ADL-abilities in the intervention group. Comparing t_0 and t_1 no differences occur in the intervention group, but there was a significant decrease in the control group ($p=0,01$). Area of cognition: no differences between both groups; positive effects regarding care dependency ($p=0,048$) and geriatric symptoms ($p=0,019$); no effects regarding relatives, neither to strain nor to life quality.

Conclusion

Activation of persons suffering from dementia by relatives is possible and effective without increase of strain.

POST-PRANDIAL CHANGES IN ALZHEIMER-RELATED PROTEIN LEVELS IN HEALTHY OLDER ADULTS

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Accumulation of the 42 aa amyloid b protein (Ab42) is a defining feature of Alzheimer's disease (AD). A 1.5 fold increase in Ab precursor (APP) expression is sufficient to cause familial AD (FAD). We hypothesize that the post-prandial increase in limiting nutrients – aa and glucose – will transiently stimulate protein synthesis and by extension APP. Our interprofessional team determined the post-prandial APP and Ab42 changes in plasma of 20 fasting healthy older adults with a normal Mini-cog and without metabolic disorders after consuming a protein-rich beverage. A Comprehensive Metabolic Panel analysis demonstrated that total plasma protein, glucose and liver function markers were not increased 2h after the meal. APP levels increased significantly starting at 1h ($p=0.024$ for difference to 4h). Fasting APP measures were compromised by dehydration-induced platelet

lysis. Post-prandial Ab42 levels increased with a peak at 2h ($p=0.004$) and dropped at subsequent time points. In agreement with literature, fasting Ab42 levels trended to reduce in subjects with a family history of AD/dementia. Subjects with a family history of AD/dementia showed a larger increase in Ab, but the levels also dropped more rapidly, a phenomenon that needs to be systematically evaluated. These data suggest that periodic postprandial increases in APP that saturate the turnover pathways may facilitate the accumulation of Ab associated with AD pathology. Systematic analysis of diets that limit such increases may be useful in prevention of age-related dementia and other proteinopathies.

DEMENTIA AND ALZHEIMER'S DISEASE AMONG OLDER KIDNEY TRANSPLANT RECIPIENTS

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Kidney transplantation (KT) is a growing treatment option for older ESRD patients. Older recipients may develop dementia and Alzheimer's disease (AD) from their long-standing kidney disease and/or neurotoxicity of immunosuppressant agents. We studied 40,918 older (aged ≥ 55) KT recipients (1/1/99-12/31/11) linked to Medicare claims through United States Renal Data System. We estimated the risk (cumulative incidence) of dementia and AD and studied recipient, transplant, and donor factors associated with developing these sequelae using a competing risks model. We estimated the risk of death-censored graft loss and mortality after developing dementia and AD using an adjusted Cox proportional hazards model. Older KT recipients have an estimated 10-year dementia risk ranging from 5% (recipients aged 55–60) to 17% (recipients aged ≥ 75); the 10-year AD risk ranged from 1%–6.7%, respectively. The strongest predictors for dementia and AD were recipient age (5-year increase: dementia HR=1.50, 95%CI:1.45–1.55; AD HR=1.69, 95%CI:1.59–1.80) and diabetes (dementia HR=1.64, 95%CI:1.50–1.78; AD HR=1.32, 95%CI:1.11–1.56). The CNI inhibitors were associated with increased dementia risk: tacrolimus (HR=1.25, 95%CI:1.03–1.51); cyclosporine (HR=1.26, 95%CI:1.05–1.50). The 10-year risk of graft loss (43.1% vs. 28.8%) and mortality (86.7% vs. 46.2%) were greater for those with dementia. Recipients with dementia were at increased risk of graft loss (HR=1.52, 95%CI:1.39–1.68) and mortality (HR=2.74, 95%CI:2.59–2.89); similar results were observed for AD. Among older KT recipients, there is a great burden of dementia and AD and they have profound impact on patient and graft survival. Discussion of dementia and AD should be part of the clinical-decision making process for older KT candidates.

SESSION 4810 (SYMPOSIUM)

WORK, RETIREMENT, AND HEALTH

Chair: D. Segel-Karpas, *University of Haifa, Haifa, Israel*
Co-Chair: S. Agrigoroaei, *Université catholique de Louvain, Belgium*

Discussant: H. Zacher, *University of Leipzig, St Lucia, Queensland, Australia*

Work and retirement are complex processes with important implications for emotional, physical, and cognitive health. Studies tapping into the relationship between work, retirement and health often use different perspectives aiming at measuring similar outcomes. While some studies investigate these relationships from the perspective of the worker/retiree, other studies focus on organizational level predictors, or suggest that national policy has an imminent effect on workers' and retirees' health. Our goal is to allow a better understanding of the interplay between work, retirement and the three facets of health (that is – physical, emotional and cognitive), studied from varied perspectives: macro/national policy level, meso/organizational level, and micro/individual level. This symposium integrates four presentations followed by a discussion. Starting with a macro-meso perspective, Sarah Vickerstaff will present her work examining how employers manage their employees' health, and how recent national policy affects employees' health-related behaviors. From a meso-micro perspective, Florian Kunz and colleagues will present their findings regarding the effects of organizational age diversity and subjective age on employees' psychological health. Focusing on the individual-micro level, Grotz and Adam will present their work about the effect of retirement and adjustment processes on cognitive health, and Segel-Karpas and Agrigoroaei will discuss the effect of work to family spillover on physical health and the moderating role of personality. Hannes Zacher, who is well known for his work on older workers and the transition to retirement, will discuss the different presentations offering his broader perspective on the issues of work, retirement, and health.

MANAGING THE HEALTH ISSUES OF OLDER WORKERS: EXPERIENCE FROM FOUR UK ORGANIZATIONS

S. Vickerstaff, *University of Kent, Kent, United Kingdom*

This paper examines how UK employers are responding to health issues of older workers in the context of rising state pension ages and the abolition of the default retirement age. The discussion is based on four in-depth case studies in very different organizations. Organizational policy interviews were held with HR, pension and line managers, trade unions and a range of employees at different grades. The study shows that the management of health is perceived distinctly according to the setting and diversely for different groups of employee. In some cases the raising of the state pension is encouraging employees to hide health concerns to their personal detriment and potentially that of the organization.

SUBJECTIVE AGE DIVERSITY, AGE DISCRIMINATION CLIMATE AND PSYCHOLOGICAL HEALTH

F. Kunze¹, S.A. Boehm², H. Bruch², 1. *University of Konstanz, Konstanz, Germany*, 2. *University of St. Gallen, St. Gallen, Switzerland*

Age diversity has been shown to be detrimental for organizational performance, as an increasingly age diverse workforce is prone to create mutual discrimination processes, which ultimately lower organizational performance (Kunze et al., 2011). In this study we integrate the discussion on organizational-level age diversity with findings on subjective-age structures in organizations (Kunze et al., 2015). We propose that subjective age structures (i.e., how

old the employees perceive to be) shape the formation of age-based subgroups in organizations more strongly than the chronological age of employees does. Shared perceptions of an age discrimination climate are in turn expected to be positively related to the average level of reported psychological health (measured through burnout perceptions) in organizations, with stronger effects for older compared to younger employees, proposing a moderated-mediation model. Our study hypotheses are tested and supported in a sample of 96 German small and medium-sized companies with more than 16,000 employees.

RETIREMENT AND COGNITIVE FUNCTIONING: A TRICKY ASSOCIATION

C. Grotz, S. Adam, *University of Liège, Liège, Belgium*

While different types of activities are associated with cognition, regardless of past activities, people aged over 60 can still have some control over their cognition through the maintenance of activities (e.g., a 60-year-old individual can delay his cognitive aging by 1.75 year if he engages in charity/voluntary work, or by 1.38 year if he continues employment). Later retirement ages could also delay the onset of neurodegenerative diseases. However, the transition from work to retirement is not simply an objective life event but is also a major life process that is marked by numerous changes (e.g., social networks). Individuals experience the retirement transition and adapt to it in different ways. In this respect, we examined the influence of psychological transition and retirement-related adjustment processes on cognition. Results showed that positive consideration towards work and development of new activities after retirement are determinants of good cognitive functioning at retirement.

SPILOVER AND 10-YEAR CHANGE IN HEALTH: THE ROLE OF PERSONALITY

D. Segel-Karpas¹, S. Agrigoroaei², 1. *Gerontology, University of Haifa, Haifa, Israel*, 2. *Université catholique de Louvain, Louvain-la-Neuve, Belgium*

Balancing between the work and family demands is psychologically demanding, and the transfer of negative affect and worries from work to home was found to harm workers' health and well-being. We used data from two waves of the Midlife in the US national longitudinal study (N=3411) to examine whether work-to-family spillover has negative consequences in terms of 10-year change in physical health, and whether this association is moderated by the Big 5 personality traits. As expected, spillover was significantly associated with residual change in health, operationalized as the number of chronic conditions. Moreover, the negative consequences on health were higher for those with higher levels of Conscientiousness and Agreeableness. In contrast, higher levels of Openness to Experience reduce the effects of spillover on health. The results are discussed with regard to the individual differences in terms of abilities to cope with work to family spillover.

RETIREMENT AND TRAJECTORIES OF CHANGE IN SPEED OF INFORMATION PROCESSING

R. Anel¹, P. Butterworth², N. Cherbuin³, K. Anstey³, 1. *School of Aging Studies, University of South Florida, Tampa, Florida*, 2. *University of Melbourne, Melbourne, Victoria, Australia*, 3. *Australian National University, Canberra, Australian Capital Territory, Australia*

IAGG 2017 World Congress

Retirement signifies a key transitional period. We examined retirement and change in processing speed, a prime indicator of cognitive aging, in 1405 Australians from the community-based Personality and Total Health (PATH) Project. Baseline age was 63 (SD=2) years, 36% were women, average education was 14 years. Symbol Digit Modalities Test was administered four times over 12 years to measure speed. Retirement was a time-varying variable. In random effects models adjusted for baseline age, retirement age, sex, education, self-rated health, and work complexity, retiring was associated with accelerated decline in speed (Estimate=-0.15, $p<.001$). This effect was about 7 times greater than the corresponding effect of years of age (Estimate=-0.02). Retiring due to illness, being laid off, or the desire to pursue other activities did not explain the results. Retirement age did not modify the effect. Transition into retirement may be an important period with respect to the trajectory of cognitive aging.

SESSION 4815 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: NEW EVIDENCE ON COGNITIVE AND BRAIN AGEING FROM THE DISCONNECTED MIND PROJECT

Chair: T. Wright, *Age UK, London, United Kingdom*

Discussant: J. Goodwin, *Age UK, London, United Kingdom*

Building a detailed picture of cognitive and brain ageing is imperative for predicting and ameliorating functional decline in later life. This symposium showcases recent work from the Disconnected Mind project. It centres around the Lothian Birth Cohort 1936, a group of Scottish older people who sat a cognitive test at age 11 in 1947. They were followed up on three occasions, aged 70, 73, and 76 years, the latter two waves including an MRI scan. First, Stuart Ritchie asks whether there is structure in declines across many different cognitive abilities, assessing which lifestyle, genetic, socioeconomic, and health measures are the best predictors of these declines. Second, Simon Cox asks a similar question regarding brain measurements: which variables make predictions of later-life changes in important brain parameters, and how do they interact with one another? Third, Benjamin Aribisala zooms in more deeply on the brain, reporting new analyses of the hippocampus. This memory-linked structure can be imaged in multiple ways, some of which provide better information regarding cognitive decline than others. Finally, Sherif Karama discusses links between cognitive abilities and the thickness of the brain's cortex in later life. He makes a more general point about aging research, one on which the Disconnected Mind project can make a unique contribution: researchers must take into account pre-existing cognitive ability before drawing conclusions regarding later-life cognitive-brain associations. Overall, the seminar gives an overview of recent developments in understanding the process, biology, and determinants of cognitive aging – and their implications for policy and practice.

STRUCTURE AND PREDICTORS OF COGNITIVE CHANGE IN THE EIGHTH DECADE OF LIFE

S. Ritchie¹, E. Tucker-Drob², I.J. Deary¹, 1. *University of Edinburgh, Edinburgh, United Kingdom*, 2. *University of Texas, Austin, Texas*

‘Does it all go together when it goes?’ In this study, we addressed this classic question about whether cognitive abilities change together in later life. In detailed longitudinal cognitive testing data from the Lothian Birth Cohort 1936 study (initial $n = 1,091$), we factor-analysed the aging of thirteen different tests taken at ages 70, 73, and 76 years. We found evidence for a general factor of cognitive ageing explaining around 50% of the variation in change: individuals who declined more in one ability tended to decline in all of them. Next, we tested for predictors of this general cognitive aging process. From a wide variety of potential predictors—including genetic, health, lifestyle, and socioeconomic variables—we found that physical fitness and possession of the *APOE* $\epsilon 4$ allele were the most promising predictors of the general cognitive ageing process.

CONTRIBUTIONS OF APOE VASCULAR RISK AND CORTISOL TO STRUCTURAL BRAIN PARAMETERS IN OLDER AGE

S.R. Cox, *University of Edinburgh, Edinburgh, United Kingdom*

It is of the utmost importance to identify possible determinants of brain ageing. Using valuable data from the Lothian Birth Cohort / Disconnected Mind study, and complementary data from UK Biobank, we report results from several studies investigating associations between key brain MRI and DTI parameters and potential risk factors (genetic status, vascular risk, cortisol). We use the large cross-sectional UK Biobank data to accurately characterise age differences in white matter tract microstructure (WMTM) and brain macrostructure, and identify selective relationships between these measures with *APOE* status and vascular risk. In the Lothian Birth Cohort studies, WMTM mediated associations between elevated reactive cortisol and cognitive ageing differences across 60 years. Additionally, selective vascular risk factors interacted with *APOE* status to predict 3-year growth in white matter hyperintensity volume. These results highlight potential targets for the amelioration of specific aspects of brain ageing.

HIPPOCAMPAL INTEGRITY AND COGNITIVE ABILITY IN AN AGING POPULATION USING QUANTITATIVE MRI TECHNIQUES

B.S. Aribisala, *Lagos State University, Ojo, Nigeria*

The hippocampus is involved in cognitive tasks such as learning, memory, emotional behaviour, stress regulation and spatial navigation. The structural integrity of hippocampus is commonly quantified using volumetric measurements derived from conventional anatomical brain Magnetic Resonance Imaging (MRI) techniques. Previous investigations of hippocampal volume and its association with age-related cognitive decline have produced inconsistent findings. Quantitative imaging techniques such as relaxometry, magnetization transfer and diffusion tensor MRI can detect subtle brain tissue changes not identifiable on conventional structural MRI. Here we investigate hippocampal integrity, characterised using multiple quantitative MRI techniques, and its association with cognitive ability in a large group of community-dwelling subjects in their 70s. Quantitative multi-modal MRI revealed stronger association between

imaging biomarkers in the hippocampus and age-related cognitive decline than the conventional volumetric approach. This suggests that quantitative MRI techniques are more sensitive at detecting age-related cognition-hippocampal integrity associations than are volumetric measurements.

ASSOCIATIONS BETWEEN CHILDHOOD COGNITIVE ABILITY AND BRAIN CORTICAL THICKNESS IN OLD AGE

S. Karama, *McGill University, Montreal, Quebec, Canada*

Preservation of cortical brain tissue is often viewed as the foundation of successful cognitive aging. However, this association could instead reflect a lifelong association between cognitive ability and cortical tissue. We analyzed cortical data on 588 subjects from the Lothian Birth Cohort 1936 who have IQ scores from the same test available at 11 and 70 years as well as brain MRI at 73 years. Childhood IQ accounted for more than two-third of the association between IQ and cortical thickness in old age. This warns against ascribing a causal interpretation to the association between cognitive ability and cortical tissue in old age based on assumptions about, and exclusive reference to, the aging process. Without early-life measures of cognitive ability, it would have been tempting to conclude that preservation of cortical thickness in old age is a foundation for successful cognitive aging when, instead, it is a lifelong association.

SESSION 4820 (SYMPOSIUM)

IMPACT OF CHRONIC VIRAL INFECTION IN HUMAN IMMUNOSENESCENCE: A GLOBAL HEALTH PROBLEM

Chair: R.B. Effros, *University of California, Los Angeles, Los Angeles, California*

G.P. Pawelec, *University of Tübingen, Tuebingen, Germany*

It is becoming increasingly apparent that infection with agents that establish latency may have serious occult impacts on health and longevity, many of which may be mediated by effects on host immunity. At one extreme, HIV can establish latency in elite controllers or by virtue of anti-viral treatment but nonetheless appears to accelerate the ageing process. At the other extreme, the recently-discovered torque-teno viruses require constant immune surveillance but development of viremia in immunosuppressed individuals appears symptom-free. In contrast, persistent CMV rarely causes any symptoms in healthy adults but can be a powerful and fatal acute pathogen in immunosuppressed people. Epidemiological and other studies suggest that long-term effects of controlled persistent infection with CMV, as well as HIV and other agents may 1) not be trivial and 2) may be additive. This Symposium addresses these important issues in presentations covering the impact of replicative senescence/telomere-telomerase dynamics in HIV disease, persistent immune activation and carotid atherosclerosis in HIV-Infected people receiving antiretroviral therapy, the long-term immune and non-immune impacts of CMV infection in humans, and the impact of chronic multi-pathogen infection (CMV, HSV, HBV, *Helicobacter*) on health and longevity

IMPACT OF REPLICATIVE SENESCENCE AND TELOMERE-TELOMERASE DYNAMICS IN HIV DISEASE

R.B. Effros, *Pathology and Laboratory Medicine, University of California, Los Angeles, Los Angeles, California*

The presence of CD8 T cells with multiple features of replicative senescence is associated with accelerated immunological aging in HIV-infected persons. Moreover, the abundance of senescent T cells early in the infection is predictive of the rate of disease progression. This presentation will review the features of replicative senescence, including *in vivo* modulators of the senescence trajectory. The role of senescent T cells in bone loss and cardiovascular changes in HIV disease will also be discussed. Finally, data will be presented showing that immune features detected in peripheral blood, which contains only approximately 2% of the total body lymphocyte population, may differ from characteristics in gut-associated lymphoid tissue (GALT), the most extensive lymphoid organ in the body and houses up to 60% of total body lymphocytes.

HIV INFECTION, CO-INFECTIONS, IMMUNE ACTIVATION, AND CHRONIC COMORBIDITIES IN RURAL UGANDA

M. Siedner, *1. Medicine, Massachusetts General Hospital, Boston, Massachusetts, 2. Harvard Medical School, Boston, Massachusetts*

In the United States and Europe, suppressed HIV infection is associated with persistent chronic immune activation, systemic inflammation, and an approximately 50% increased risk of atherosclerosis and other pro-inflammatory states. In sub-Saharan Africa, home to over 25 million people with HIV infection, differences in the prevalence of co-infections and lifestyle characteristics are likely to alter the mechanisms of immune activation, as well as the resulting co-morbidities for HIV-infected persons. Soil transmitted helminth and cytomegalovirus infections, which are highly prevalent, induce immune dysregulation and chronic inflammation independently of HIV infection. Similarly, biomass cooking fuel exposure and dietary-induced alterations in the gut microbiome are both correlates of immune activation. We present data from a mixed cohort of treated HIV infected persons and matched HIV-uninfected comparators in rural Uganda to help define the pathophysiology of immune dysregulation and chronic comorbidities, and to discern how region-specific factors impact aging in this population.

CAN CYTOMEGALOVIRUS INFECTION ACT AS A MAJOR DRIVER OF VASCULAR PATHOLOGY IN OLDER PEOPLE?

P. Moss, *University of Birmingham, Birmingham, United Kingdom*

Cytomegalovirus (CMV) is a member of the human herpesvirus family and establishes a state of chronic infection which is present in most humans. The CMV-specific immune response is exceptionally strong and increases further with age such that the T cell immune response to CMV can represent over 10% of all T cells.

CMV infection increases the risk of death from vascular disease in older people. We showed that infection leads to a stiffening of arteries in a process termed 'arteriosclerosis' and

this increases systolic blood pressure by 3mmHg in people aged 70+ years. This increases the risk of vascular disorders and we have been investigating the use of anti-viral medication to suppress viral replication and suppress immunopathology. Initial results indicate that this has the potential to limit the development of arteriosclerosis and could thus have a significant impact on improving health in the elderly.

THE IMPACT OF PATHOGEN BURDEN ON HEALTH AND LONGEVITY

A.E. Aiello, *UNC Gillings School of Global Public Health, Chapel Hill, North Carolina*

Numerous persistent pathogens, including cytomegalovirus and other herpesviruses, have been implicated in chronic disease and associated mortality. Some research suggests that multiple herpesviruses may synergistically cause damage to various tissues and organs of the body via direct and indirect immunological pathways. Our earlier research has suggested that cumulative damage resulting from exposure to multiple persistent pathogens may play a larger role in mortality than the contribution of any single pathogen. We hypothesized that leukocyte telomere shortening may be one pathway by which herpesvirus pathogen burden may synergistically influence longevity. This presentation will first describe the state of the literature on pathogen burden and survival. Next, we will present novel data linking multiple persistent herpesviruses to shorter telomere length using data from multiple large-scale studies. Our studies provide key insights on the role of multiple persistent infections and biological aging.

SESSION 4825 (SYMPOSIUM)

AWARENESS OF AGE-RELATED CHANGE: WHAT HAVE WE LEARNED SO FAR AND WHERE ARE WE GOING?

Chair: M.K. Diehl, *Colorado State University, Fort Collins, Colorado*

Co-Chair: H. Wahl, *Heidelberg University, Heidelberg, Baden-Wuerttemberg, Germany*

Discussant: M.E. Lachman, *Brandeis University*

In 2010, Diehl and Wahl introduced the construct of Awareness of Age-Related Change (AARC) into the social gerontology literature. The primary objective of this new concept was to theoretically and empirically enhance the area of subjective aging research and also to provide an integrative framework that could enrich this field of inquiry. According to Diehl and Wahl (2010), AARC refers to all those experiences that make a person aware that his or her behavior, level of performance, or ways of experiencing life have changed as a consequence of having grown older (i.e., increased chronological age). Since 2010, a body of theoretical and empirical work has emerged addressing several objectives. A first aim has been to clarify the theoretical status of the AARC construct vis-à-vis other subjective aging constructs. A second aim has focused on the psychometric assessment of AARC, and a third aim has focused on generating data to clarify the empirical status of AARC in comparison to other subjective aging constructs. In this symposium, we will provide an update and evaluation of what has been achieved so far. This critical review will also include a look forward and will

discuss areas and questions where AARC may be able to make constructive contributions in the future. In addition, we integrate most recent work with the intent to further differentiate the construct and expand its empirical scope.

SUBJECTIVE AGING RESEARCH AND THE CONSTRUCT OF AWARENESS OF AGE-RELATED CHANGE

M.K. Diehl¹, H. Wahl², 1. *Human Development & Family Studies, Colorado State University, Fort Collins, Colorado*, 2. *Heidelberg University, Heidelberg, Baden-Wuerttemberg, Germany*

How do adults perceive their own aging? And do these self-perceptions matter? Motivated by these questions, Diehl and Wahl (2010) proposed the construct of Awareness of Age-Related Change (AARC) as an extension of existing research on subjective aging. Our major goals with the AARC research program have been to deepen the understanding of individuals' self-perceptions and self-reflections on aging theoretically and empirically by linking adults' AARC with developmental outcomes, and by exploring the plasticity of AARC. We present the theoretical foundation of this fairly new construct and argue that AARC represents a key feature of the aging self. We describe AARC measurement approaches and provide evidence of the multi-dimensionality of the construct. We also review existing AARC-based studies and discuss the contributions that these studies have made, in particular, with regard to predicting developmental outcomes. New findings on AARC-related interventions will round out the presentation.

MEASURING AWARENESS OF AGE-RELATED CHANGE: DEVELOPMENT OF A MULTIDIMENSIONAL QUESTIONNAIRE

A. Brothers¹, M. Gabrian², H. Wahl², M.K. Diehl¹, 1. *Human Development and Family Studies, Colorado State University, Fort Collins, Colorado*, 2. *University of Heidelberg, Heidelberg, Germany*

We developed and evaluated a multidimensional questionnaire to assess the construct awareness of age-related change (AARC). An initial version of the questionnaire, developed from a large pool of items generated in focus groups and daily diaries, was tested with a cross-cultural sample of 819 adults from the U.S. and Germany, aged 40–95. Exploratory and confirmatory factor analyses yielded a two-factor structure, representing the awareness of positive and negative age-related changes, respectively named AARC-Gains and AARC-Losses. A shortened version of the questionnaire was then tested with a subsample of 425 returning participants 2 years later. The two-factor structure was confirmed. Evidence was found for item and scale reliability, as well as convergent, divergent, and predictive validity. The availability of a reliable and valid assessment tool for measuring AARC advances subjective aging research by capturing adults' positive and negative self-perceptions of aging.

ASSOCIATIONS AMONG AWARENESS OF AGE-RELATED CHANGE, DEPRESSIVE MOOD, AND THE ROLE OF SELF-REGULATION

A.J. Dutt, M. Gabrian, H. Wahl, *Heidelberg University, Heidelberg, Germany*

We examined associations among awareness of age-related change (AARC) and depressive mood based on two measurement occasions 2.5 years apart in a sample of 423 participants between 40 and 98 years of age at T1. In addition, modes of self-regulation, operationalized as tenacious goal pursuit (TGP) and flexible goal adjustment (FGA), was assessed at T2. AARC was cross-sectionally and longitudinally associated with self-regulation. Perceptions of loss-related aging experiences were negatively correlated with TGP and FGA, whereas the associations for perceptions of gain-related aging experiences were positive. These associations were significant even after controlling for subjective age. Perceived age-related gains and FGA interacted to predict depressive symptoms: When perceived gains were low and FGA was high, fewer depressive symptoms were reported. Perceived age-related losses predicted depressive symptoms independent from levels of self-regulatory attempts. These findings underscore the relevance of the dimensions of AARC in terms of self-regulation and developmental outcomes.

FUTURE TIME PERSPECTIVE AND AWARENESS OF AGE-RELATED CHANGE: TEMPORAL ORDER AND MUTUAL INFLUENCES

M. Gabrian¹, A. Brothers², H. Wahl¹, M.K. Diehl², 1. *Heidelberg University, Heidelberg, Germany*, 2. *Colorado State University, Fort Collins, Colorado*

Subjective perceptions of lifetime are inseparably tied to a personal past and future, which together motivate human action. This study examines how different subjective timeframes, i.e. Future Time Perspective (FTP) and Awareness of Age-Related Change (AARC), may interact to predict psychological well-being. Analyses were conducted within a structural equation modeling framework on a cross-national, 2.5-year longitudinal sample of 537 adults (40–98 years old). FTP mediated the longitudinal effect of AARC-Losses on well-being. Furthermore, AARC-Gains buffered the effect of FTP on well-being. Regarding the temporal order, findings suggest that age-related loss experiences sensitize individuals to perceive their future lifetime as more limited. Furthermore, perceived age-related gains represent a resource for psychological well-being, in particular when time is perceived as running out. We argue that it is important to consider mutual influences between subjective perceptions of lifetime and aging in order to better understand the mechanisms linking subjective aging to developmental outcomes.

AN ULTRA-SHORT SCALE ASSESSING AWARENESS OF AGE-RELATED CHANGE IN LARGE-SCALE SURVEYS

R. Kaspar¹, M. Gabrian², A. Brothers³, H. Wahl², M.K. Diehl³, 1. *Cologne Center for Ethics, Rights, Economics, and Social Sciences of Health, Cologne, Germany*, 2. *Department of Psychological Aging Research, Heidelberg University, Heidelberg, Germany*, 3. *Department of Human Development and Family Studies, Colorado State University, Fort Collins, Colorado*

Awareness of Age-Related Change (AARC) may play a key role in maintaining physical health and psychological well-being in later life. Thus, incorporating the concept of AARC into large-scale population-based surveys of well-being and health is relevant to gain a better understanding of its relevance. Hence, a brief measure that recognizes

the multi-dimensionality of the construct (i.e. gain-related vs. loss-related self-perceptions) is needed. Based on multi-dimensional item response (MIRT) analyses of AARC responses from a total of 819 community-residing individuals aged 40–89 from the United States and Germany, a 10-item scale is presented that offers a valid, reliable, and effective measurement of AARC gains and losses across this segment of the adult life span. This scale will be used for the first time in a representative population survey of adults aged 80 and older, the NRW80+ Study, conducted in the state of North Rhine-Westphalia in Germany.

SESSION 4830 (SYMPOSIUM)

MEANINGFUL AGING: NEW CONCEPTUAL AND EMPIRICAL INSIGHTS

Chair: P. Derkx, *University of Humanistic Studies, Geldermalsen, Netherlands*

Co-Chair: A. Machielse, *University of Humanistic Studies, Utrecht, Netherlands*

This symposium focuses on how ‘aging’ people experience their lives as existential and socially situated processes from the perspective of a meaningful life course. Meaning-in-life is a comprehensive construct that is broadly conceptualised (Baumeister & Vohs, 2005; Brandstätter et al., 2012; Derkx, 2013; Stillman, et al., 2009). In this symposium a meaningful life is understood as a life in which basic needs for meaning are fulfilled, such as purpose, moral worth, self-worth, competence, comprehensibility, connectedness and excitement. The presented papers show the results of philosophical and empirical research into meaning-making in the life of older adults.

Derkx conceptualises a humanistic meaning frame that acknowledges and promotes the autonomous and responsible role of individuals in shaping their existence meaningfully. Duyndam reflects on personal uniqueness as a key concept of meaningful aging. Machielse provides insights into the relationship between meaning-making and social connectedness, using data from a qualitative study on urban elderly. Bos explores the experiences of meaning-in-life in an anthropological study on elderly people, aging in a rural orthodox-protestant community in the Netherlands. Duppen focuses on the experience of frail older adults’ meaning-in-life and their connectedness with their social environment in Belgium.

HUMANISM AND MEANING IN LIFE

P. Derkx, *University of Humanistic Studies, Geldermalsen, Netherlands*

Starting from Baumeister’s theory (Baumeister & Vohs, 2005) a theory of a meaningful life has been developed involving seven needs for meaning: needs for purpose, moral worth, self-worth, competence, comprehensibility, connectedness and excitement (Derkx 2013). More than Baumeister’s theory this one strikes a balance between agency and communion. After outlining the theory the value and relevance of a meaning perspective for aging well will be shown. Issues that will be dealt with in this context are: (1) the difference between a happy life ($\Rightarrow$ well-being) and a meaningful life, (2) continuity, disengagement and activity,

(3) the social construction and institutionalisation of a standard life course, (4) individualistic coherence (identity) and ‘lateral’ (relational) integration, (5) resilience as recovery, resistance and reconfiguration (transformation), (6) the role of religion and worldview in relation to suffering, and (7) views of death, finitude, afterlife and (vertical and horizontal) transcendence.

MEANING IN LIFE AND SOCIAL CONNECTEDNESS

A. Machielse, *University of Humanistic Studies, Utrecht, Netherlands*

This paper focuses on the relationship between meaning in life and social connectedness, the experience of belonging and relatedness between people. It is assumed that positive personal attachments contribute substantially to the capacity of making sense of one’s life. In turn, the experience of a meaningful life protects against the damaging effects of major life changes in various life domains, which tend to occur more often as people age. Our research provides valuable insight in ways older adults cope with losses, social impoverishment and disembeddedness, and how this influences their experience of a meaningful life. The data from a longitudinal study on 50 socially isolated older adults in the Netherlands are used to explore whether and how these elderly persons try to bring meaning into their lives and to what degree they succeed. The findings will centre upon the dimensions self-worth, competence and comprehensibility.

MEANING IN LIFE FOR FRAIL OLDER ADULTS: RESULTS FROM A QUALITATIVE STUDY

D. Duppen¹, L. De Donder¹, D. Verté¹, A. Machielse², D-SCOPE Consortium¹, 1. *Vrije Universiteit Brussel, Brussel, Belgium*, 2. *Universiteit voor Humanistiek, Utrecht, Netherlands*

Frailty in later life is mostly associated with health decline and a greater risk in adverse events. Despite their situation, these frail older adults often manage to age in place and often play an active role in their family or community. This paper focuses on the experience of frail older adults’ meaning in life and their connectedness with their social environment. 121 semi-structured qualitative interviews of older adults in Belgium were analysed. 101 Respondents (aged 60 and over) were mildly or severely frail in the physical, social, psychological or environmental domain.

Findings indicate that, even severely frail older adults, experience a positive meaning in life. Key-dimensions of meaning in life were self- and moral worth, competence, purpose, connectedness, excitement and sense of coherence. The discussion highlights the various interpretations of the outcomes, while taking different frailty types and the social environment into account.

QUALITATIVE (ETHNOGRAPHIC) RESEARCH ON MEANING IN LIFE OF RURAL ELDERLY IN THE NETHERLANDS

P. Bos, *University of Humanistic Studies Utrecht, Utrecht, Netherlands*

This paper is an anthropological investigation and based upon in-depth interviews and thick descriptions (participant observations) collected among elderly persons in a rural orthodox protestant area (1600 citizens) in the Netherlands.

Data are collected from people who are 75 or older and who are ageing in a context where families traditionally live in inter-generational households (extended families). Our findings are centred upon dimensions such as purpose, moral worth, self-worth, competence, comprehensibility, connectedness and excitement. Hence, the paper explores meaning in life of people who are embedded in a family-, religious- and village-community.

SESSION 4835 (SYMPOSIUM)

WELL-BEING AS A PATHWAY TO REACHING THE EXTREMES OF HUMAN LIFESPAN

Chair: S.L. Andersen, *New England Centenarian Study, Boston, Massachusetts*

Co-Chair: D.S. Jopp, *University of Lausanne, Lausanne, Schweiz, Switzerland*

Discussant: M. Ardel, *University of Florida, Gainesville, Florida*

Genetics have been found to account for only a portion of the ability of long-lived individuals and their family members to remain in good health. Therefore other factors, such as psychosocial dimensions, may play a role in increased health spans and longevity. In particular, well-being has been associated with mental and physical health and social and environmental relationships. Higher well-being including lower stress levels and positive mood are associated with favorable biological processes, positive health outcomes, and reduced mortality. Therefore cohorts of long-lived individuals present a unique opportunity to study the association and interaction of well-being with longevity and other psychosocial variables.

This symposium addresses several facets of well-being among long-lived individuals. In the Fordham Centenarian Study meaning in life and will to live had more significant effects on well-being than health factors. Among centenarians from two Portuguese Centenarian Studies, spontaneous recollection of the past was common and generally positive, however, some centenarians avoid reminiscing due to negative effects of this behavior on their well-being. Better scores on indices of successful aging were found among elders from an area of Sardinia noted for exceptional longevity. Furthermore, it was determined that social desirability was an important factor affecting indices of successful aging in this unique cohort. The New England Centenarian Study found that centenarian offspring have higher levels of purpose in life than the general population indicating that well-being may be an important factor throughout the life course rather than just at the end of life for individuals predisposed to longevity.

MEANING IN LIFE AND WILL TO LIVE AS PREDICTORS OF WELL-BEING IN CENTENARIANS

D.S. Jopp, C. Meystre, C. Lampraki, *Institute of Psychology, University of Lausanne, Lausanne, Schweiz, Switzerland*

Existential factors such as meaning in life and will to live are assumed to be important factors for well-being in very old age, yet only few studies have examined these variables in centenarians to date. The present study investigates the effect of meaning in life and will to live in the context

of age-associated health restrictions (number of diseases, subjective health, health restrictions), using data from the Fordham Centenarian Study (N = 119, Mage = 99.25 years). Regression findings indicated that both meaning in life and will to live had strong direct effects on well-being, including life and aging satisfaction. Health factors were, in comparison, less important or non-significant. Significant mediation or moderation effects were not found. In sum, findings underscore the important role of existential factors in very advanced age and underscore the importance of addressing these factors to ensure high quality of life in very old age.

REMINISCENCE AND WELL-BEING IN CENTENARIANS

O. Ribeiro^{1,2,3}, R.A. Afonso⁴, J. Serrano Selva⁵, L. Teixeira¹, L. Arajo⁶, 1. *University of Porto - CINTESIS, Porto, Portugal*, 2. *ISSSP, Porto, Portugal*, 3. *University of Aveiro, Aveiro, Portugal*, 4. *University of Beira Interior - CINTESIS, Covilhã, Portugal*, 5. *Universidad Castilla-La Mancha, Albacete, Spain*, 6. *Higher School of Education, Viseu, Portugal*

Recollecting past experiences and events is expected to be spontaneous and frequent in old age, and is potentially related to a feeling of wellbeing and contentment. Few studies however have explored the emotions present in such an activity in centenarians. This quanti-qualitative study draws from the Portuguese Centenarian Study (PT100) and describes the frequency of spontaneous reminiscence activities, its elicited emotions, functions (e.g. ego-integrity), and associated psychosocial variables (valuation of life, satisfaction with life, depression, anxiety, loneliness) in a sample of 78 centenarians aged 100 to 108 years (M=101.0; SD=1.5). Results show that for most centenarians (n=43) thinking about the past is a regular and positive activity but significantly associated with feelings of loneliness; a subgroup of centenarians present an active avoidance of the activity, as it is embedded in negative and/or ambivalent feelings that influence current perceived wellbeing. These findings highlight the need for carefully planning reminiscence interventions in very advanced ages.

SARDINIAN ELDERS: SUCCESSFUL AGEING AND PSYCHOSOCIAL CORRELATES DESPITE RESPONSE BIAS

P. Hitchcott, M.C. Fastame, S. Desogus, R. Conti, M. Penna, *Department of Pedagogy, Psychology, Philosophy, University of Cagliari, Cagliari, Italy*

Extreme variance in the prevalence of successful ageing (SA) has been observed raising concern over the generalizability of findings. The study of populations characterized by SA is one solution to this problem. A total of 226 cognitively healthy community-dwelling participants aged 75–103, from the Blue Zone region of Sardinia were recruited and completed a range of indices of SA. Putative psychosocial correlates of SA were also assessed along with a measure of social desirability. After controlling significant social desirability bias, multiple indices of SA were found to be high relative to Italian cutoffs and differed between age groups and genders. A significant proportion of the variance in SA indices was explained by social desirability, perceived physical health,

gender, cognitive failures and gardening. Superior SA was evident in Sardinian elders. The data underscore a need to control social desirability bias when exploring the basis of SA.

PURPOSE IN LIFE AMONG CENTENARIAN OFFSPRING

S. Marone², L. Nussbaum³, P. Sebastiani³, T.T. Perls^{1,2}, S.L. Andersen^{1,2}, 1. *New England Centenarian Study, Boston, Massachusetts*, 2. *Boston University School of Medicine, Boston, Massachusetts*, 3. *Boston University School of Public Health, Boston, Massachusetts*

Purpose in life (PIL), a feeling of meaning and direction in life, is associated with favorable health outcomes including lower mortality and reduced risk of disease, disability, and cognitive impairment. Since centenarian offspring have been shown to have longer health spans we sought to examine whether they have higher PIL than the general population. We compared scores from the Ryff Scales of Psychological Well-Being in New England Centenarian Study offspring (N=296, mean age=81.6 years) with a Health and Retirement Study referent group (N=4916, mean age=70.4 years). Regression analyses adjusted for age, sex, education, and marital status indicated higher PIL scores ($p < .001$) among centenarian offspring than referents, although, this difference decreased with age. This indicates that PIL is associated with the ability to delay age-associated illnesses and functional decline. PIL and its association and interaction with other psychosocial variables and health behaviors should be further investigated in this cohort.

SESSION 4840 (SYMPOSIUM)

SOCIAL SUPPORT OF CHINESE OLD ADULTS—FINDINGS FROM THE CHINESE LONGITUDINAL AGEING SOCIAL SURVEY

Chair: W. Zhang, *Renmin University of China, Beijing, China*

Co-Chair: P. Du, *Institute of Gerontology, Renmin University of China, China*

The rapid modernization in China has changed the lives of its senior citizens more than ever before. In order to capture the current quality of life of the Chinese elderly, a baseline of Longitudinal Ageing Social Survey (CLASS) was conducted in 2014, covered 28 out of 31 Provincial areas of China (n=11,511). The survey collected information on health, mental health, intergenerational relations, and social care resources of the elderly aged 60+. CLASS provides detailed information on social support of older adults in China, which enables further analysis on its role in enhancing of the well-being of older persons. In this panel, five researchers from China and United States will introduce their findings using the baseline data from CLASS to address a different social and health issue namely: social isolation, social and intergenerational support, hospital service utilization of Chinese elderly.

The first paper explored intergenerational support from grandparents to grandchildren and its effect on the quality of life. The second paper also found supports from grandchildren to grandparents and proved the supports could be the substitution of ageing support from adult children. The third

study reported the hospital utilization patterns and found that social support as one of the significant predictors for hospital utilization. The fourth paper revealed types of social support and its determinants. The fifth study focused on the social network of the older adults in urban China, the prevalence of social isolation has been explored and compared between floating and non-floating older adults.

GRANDPARENTS RAISING GRANDCHILDREN IN CHINA AND ITS EFFECTS ON THE QUALITY OF LIFE OF OLDER PEOPLE

J. Sun, *Institute of Gerontology, Renmin University of China, Beijing, China*

Based on the data of “China Longitudinal Aging Social Survey” in 2014, this study explores situation and characteristics of the Chinese elderly who taking care of their grandchildren as well as its effects on the quality of life of older people in the Chinese cultural context.

The results show that 34 percent of the Chinese elderly caring their grandchildren. The older groups with younger age, with spouse, higher educational attainments, better physical health and living in urban areas are more likely to care their grandchildren. The empirical results show that taking care of grandchildren do not improve the older grandparents’ economic benefits. However, the finding also supports that the care may enhance older grandparents’ positive psychological feelings and life satisfaction. This study indicates that the older people who provide care for grandchildren especially those live in the rural left-behind families and skipped-generation families should be supported and compensated.

GRANDCHILDREN AS SUPPORT AND CARE PROVIDERS TO OLDER ADULTS IN CHINA

M. Silverstein¹, L. Xu², 1. *Sociology, Syracuse University, Syracuse, New York*, 2. *University of Texas at Arlington, Arlington, Texas*

Increased life expectancy among older adults in China implies that grandparents increasingly survive long enough for their grandchildren to reach adulthood and take on elevated importance, even as smaller family size reduces the number of children and grandchildren available. This paper examined the family conditions under which grandchildren provide support and care to their grandparents. The data for our analysis derive from the 2014 wave of the Chinese Longitudinal Aging Social Survey, limited to 13.4% of respondents (n=1,551) who reported requiring personal assistance to perform daily activities. Logistic regression revealed that grandparents were more likely to receive care from grandchildren when they had no son available or had daughters who did not provide care. These findings support the compensatory or substitution role of grandchildren as sources of care for their grandparents. We conclude that grandchildren may take on elevated importance as smaller single-gender families become more common in China.

HOSPITAL UTILIZATION AMONG CHINESE OLDER ADULTS – PATTERNS AND PREDICTORS

I. Chi¹, H. Chen², R. Liu¹, 1. *School of Social Work, LA, California*, 2. *Department of Social Work, Fudan University, Shanghai, China*

China's population is aging rapidly and its healthcare cost has increased tremendously in recent years. It is critical to understand the hospital utilization pattern and the predictors of utilization among older Chinese adults. This study used a national sample aged 60 and older ($n=11,511$) who were the respondents from the China Longitudinal Aging Social Survey in 2014. About 25% of the respondents were hospitalized in the previous year. We applied the Anderson Model of Health Services Utilization, step-wise logistic regression models to identify the predictors of hospital utilization. The results showed level of literacy, social support, negative perception of aging, and rural residency significantly predicted hospital utilization. Separate models were run for rural and urban samples with significant differences in the utility of predicting hospitalization for age, social network, ADL and IADL disability. In addition, there are variations cross provinces in the hospitalization. Policy and practice implications are discussed accordingly.

PATTERNS OF SOCIAL SUPPORTS OF CHINESE ELDERLY AND ITS DETERMINANTS

J. Lu, L. Zhang, *Department of Sociology, Peking University, Beijing, China*

Early literature turn out that the patterns of social supports of the elderly in western nations are quite different from those of Chinese elderly, which indicates that more social supports for Chinese elderly depend mainly on their children and relatives. However, accompanied with process of the modernization and industrialization, the traditional patterns of social supports of Chinese elderly have changed. This study employed the CLASS data to identify the current patterns of social support and its determinants by using Logistic model. Our results show that factors such as schoolings, occupation before retirement, residence, social pension, etc., could affect the choice of social support of Chinese elderly, which urges both central and local governments to provide more social service and care for Chinese elderly in the rapid process of population ageing in China.

SOCIAL ISOLATION OF OLD PEOPLE IN URBAN CHINA

W. Zhang, R. Liu, *The Institute of Gerontology, Renmin University of China, Beijing, China*

With the development of urbanization in china since 1980's, a great number of floating people become elderly, and many of migrants brought their parents into urban communities, all above changes increasing the migration of the elderly. The migration changes the social environments of the elderly, increases the probability of social isolation. Employing the data of China Longitudinal Aging Social Survey (CLASS), this study descried the situation of social isolation of the elderly in urban China, and identified differences between floating people and local citizens. A Logistic regression analysis has been conducted to reveal the determinants of social isolation, and a comparison between the non-floating elderly and floating elderly has been done. The results indicated that the living arrangement is the most important predictive factor for the family isolation, while the participation in social activities is

major determinant variable for the friend isolation of the older floating people.

SESSION 4845 (SYMPOSIUM)

MASCULINITY IN THE REALM OF CARE

Chair: S. Solimeo, *Department of Veterans Affairs, Center for Comprehensive Access & Delivery Research and Evaluation (CADRE) Iowa City VA HCS, Iowa City, Iowa*
Co-Chair: E.H. Thompson, *College of the Holy Cross, Broadview Heights, Ohio*

Discussant: L.W. Kaye, *University of Maine*

The canon that men should be self-reliant coupled with a feminization of self-care and the labor of caring for others diminishes many men's perceived capability to engage in preventive care as well as devalues the care work they do. The research discussed in this symposium explores the gendered nature of older men's care, for self or for others, and the consequences of such gendering for the men. The first three presentations engage the performance and meaning of self-care among men. Clark and Bennett discuss how older Canadian men actively draw upon masculinity scripts of physical competency and strength to resist negative perceptions of aging bodies. Leibing's study of older Canadian men who had embraced experimental stem cell treatment for their heart disease identifies how the men's cardiac recovery also embraced common masculinity scripts. Smith's interviews with US veterans incarcerated in maximum-security prison underscore the men's unmet health needs, and resistance to self-care in a macho culture thick with violence-enforced gender performances. The final presentation addresses the performance and meaning of men's care work for others. Seaman's work studies illustrate how men's caregiving labor is routinely erased, even in caregivers' own narratives of their labor. Finally, Kaye's discussion addresses how men's self-care and care work are obscured when later life masculinities are ignored, or when gender remains equated with the 1950's sex role model of separate spheres.

I DO LIKE THE WAY I LOOK: OLDER MEN'S PERCEPTIONS AND EXPERIENCES OF AGING AND BODY IMAGE

L.C. Hurd Clarke, R. Mahal, *The University of British Columbia, Vancouver, British Columbia, Canada*

This paper examines the body images of older Canadian men, focusing on their perceptions of and feelings about their changing, aging bodies. We draw upon data from in-depth interviews with 22 community-dwelling men, aged 65 to 89, who were diverse with respect to marital status, level of education, employment history, and household income. Our thematic analysis revealed three key ways that the men perceived and assessed their bodies. First, our participants were either pleased with their overall appearances or unconcerned about how their looks had altered over time. Second, the men emphasized the importance of bodily function over aesthetics as they highlighted their functional qualities (e.g. strength, independence, etc.) and physical activities (e.g. leisure pursuits). Finally, the men articulated concerns about future losses to their health and how such changes might undermine their independence. We consider our findings in

relation to the socio-cultural theorizing about gender, health, and body image.

SELF-CARE AND MASCULINITIES: ON CARDIAC DISEASE AND STEM CELL TREATMENT AMONG OLDER CANADIAN MEN

A. Leibing, *University of Montreal, Montreal, Quebec, Canada*

Cardiac diseases are responsible for a high number of premature deaths and disabilities, especially among older men. And although there exists now a “misery of choice” (Jones 2013) regarding the manifold kinds of interventions targeting heart diseases, about 50% of individuals die within 5 years after a severe cardiac incident. Stem cell treatments provide major hope for these patients, despite thin evidence for its effectiveness in humans. I present findings from interviews with older men who had undergone experimental stem cell treatment for severe heart disease as subjects in a randomized blind control trial. Men’s accounts demonstrated their major trust in the experimental stem cell procedure and they also revealed that cardiac recovery was tightly linked to common ideals of masculinity: The regeneration of the damaged organ meant the rebuilding of a masculine identity closely intertwined with physical activity and productivity.

INCARCERATED VETERANS: THE CARE OF A ‘MISSING IN ACTION’ POPULATION

R. Smith, *Muhlenberg College, Allentown, Pennsylvania*

The population of incarcerated American veterans—estimated at roughly 150,000—has unique health needs given the stressors presented from incarceration, any combat-related injuries (both physical and psychological), and experiences prior to contact with either the military or the criminal justice system itself. This paper explores the care and community shared by a group of older Vietnam-era veterans in Pennsylvania. Like other groups of veterans, these men are socialized to downplay their own health needs, despite being an especially vulnerable group given their extended periods of incarceration and their older ages. Based on participant observation and interview data from incarcerated veterans and formerly incarcerated veterans who advocate on their behalf, this paper explores the gendered carework done by veterans for other veterans.

CAREGIVING ACROSS THE GAP: MALE CAREGIVERS AND FEMALE CAREGIVING

A. Seaman, *University of Iowa, Iowa City, Iowa*

Growing scholarly attention to male caregivers has articulated the gendered nature of their labor and the burdens they experience. I build on this research by examining how male caregivers experience and reconcile the gap between the gender with which heterosexual, cisgendered men associate themselves and the female-gendering of caregiving labor. I draw upon 26 months of ethnographic research conducted in the Midwestern US with spousal caregivers of people living with early-onset dementia, using a case study approach to illustrate how people understand and give or deny the value of men’s caregiving. Particular attention is paid to the ways in which men’s caregiving labor is erased, notably in the caregivers’ own minds. As men make sense of their own caregiving experiences, they incorporate gendered understandings of

caregiving. Doing so renders certain, often intimate aspects of their own labor invisible and devalues the work they do acknowledge as less legitimate caregiving labor.

SESSION 4850 (SYMPOSIUM)

HEALTH TRAJECTORIES IN LATER LIFE IN JAPAN AND UNITED STATES

Chair: S. Shinkai, *Tokyo Metropolitan Institute of Gerontology, Itabashi, Tokyo, Japan*

Co-Chair: J. Liang, *University of Michigan*

Discussant: B.A. Shaw, *SUNY at Albany*

Although health inevitably declines with advancing age, the pattern of health changes varies from person to person. To analyze health changes in old age, the analysis of longitudinal data is essential. In this symposium, five speakers from Japan (Murayama H, Shinkai S, Taniguchi Y) and United States (Liang J and Botoseneanu A) will report findings on health trajectories by using longitudinal data from nationally representative cohorts of older adults (the National Survey of Japanese Elderly in Japan and the Health and Retirement Study in U.S.) as well as community-based studies (the Kutsu Longitudinal Study on Aging and Health in Japan, KLSAH; Piedmont Dental Study in U.S., PDS). KLSAH is a longitudinal study, which entailed 2,000 community dwelling older adults assessed annually on functional health. PDS involved repeated observations of 810 dentate individuals aged 65 and over in North Carolina from 1988 to 1994. Using such data, each speaker will examine patterns of trajectories including cognitive function, oral health, and physical performance such as gait speed and muscle strength. They will also show the relative contribution of life-style related diseases such as cardiovascular disease and aging-related pathologies such as sarcopenia to different trajectory pattern of functional health. Finally, Shaw B (USA) will discuss how these findings contribute to a better understanding of health in later life and their implications for public health.

TRAJECTORIES OF BODY MASS INDEX AND THEIR ASSOCIATIONS WITH MORTALITY AMONG OLDER JAPANESE

H. Murayama¹, J. Liang², B.A. Shaw³, A. Botoseneanu², E. Kobayashi⁴, T. Fukaya⁴, S. Shinkai⁴, 1. *Institute of Gerontology, The University of Tokyo, Tokyo, Japan*, 2. *University of Michigan, Ann Arbor, Michigan*, 3. *University at Albany, State University of New York, Rensselaer, New York*, 4. *Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan*

This study examined the association between the trajectories of body mass index (BMI) and all-cause mortality in old age. Data came from the National Survey of the Japanese Elderly, which included 4,869 adults aged 60 and over, with up to seven repeated observations between 1987 and 2006. Four distinct BMI trajectories were identified: “low-normal weight, decreasing” (baseline BMI=18.7; 23.8% of sample), “mid-normal weight, decreasing” (baseline BMI=21.9; 44.6% of sample), “high-normal weight, decreasing” (baseline BMI=24.8; 26.5% of sample), and “overweight, stable” (baseline BMI=28.7; 5.2% of sample). Survival analysis showed that, relative to those with

mid-normal decreasing BMI, those with stable overweight trajectory had the lowest mortality, whereas those with low-normal, decreasing BMI had the highest mortality. In a sharp contrast with prior observations from Western populations, BMI changes primarily lie within the normal-weight range and virtually none are obese among older Japanese. The association between BMI trajectories and mortality varies according to the distribution of BMI within the population.

TRAJECTORY PATTERN OF MINI-MENTAL STATE EXAMINATION SCORE AND DEMENTIA IN KLSAH

S. Shinkai², Y. Taniguchi², H. Amano², H. Murayama¹, S. Seino², M. Nishi², Y. Yokoyama², A. Kitamura², 1. *Institute of Gerontology, The University of Tokyo, Tokyo, Japan*, 2. *Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan*

This study used repeated measures analysis to identify potential Mini-Mental State Examination (MMSE) score trajectory and determine whether MMSE trajectory was associated with incident dementia among community-dwelling older Japanese. 1,724 older residents in Kusatsu participated in annual geriatric health assessments during 2002–14. The total number of observations was 6,755 and the average number of follow-up was 3.9. A review of municipal database in the Japanese public long-term care insurance system revealed that 205 (11.9%) participants developed dementia until the end of 2014. As a result, we identified 3 distinct MMSE score trajectory patterns (high, middle, and low). Participants with middle (42.8%) and low (5.1%) MMSE trajectories showed multi-variate adjusted hazard ratios of 2.46 (95% CI, 1.64–3.68) and 10.73 (95% CI, 4.91–23.45), respectively, for incident dementia, as compared with those in the high (52.1%) trajectory group. Present data help us to construct the strategy for prevention of dementia in the community.

COURSES OF CHANGE IN PERIODONTAL DISEASE AMONG OLDER AMERICANS

J. Liang³, B. Wu¹, B.L. Plassman¹, J.M. Bennett³, C. Hybels¹, L. Landeman¹, J. Beck², 1. *Duke University, Durham, North Carolina*, 2. *University of North Carolina, Chapel Hill, North Carolina*, 3. *University of Michigan, Ann Arbor, Michigan*

This research depicted distinct courses of periodontal disease among older Americans and ascertained how these trajectories were associated with chronic diseases (i.e., hypertension, heart disease, stroke, diabetes, and cancer). Data came from the Piedmont Dental Study, which involved repeated observations of 810 dentate individuals aged 65 and over in North Carolina from 1988 to 1994. Attachment loss (AL) and pocket depth (PD) were clinically assessed. While group-based, semi-parametric mixture models (Proc Traj) were used for data analysis. Our data showed four distinct courses of change in periodontal disease over a five-year period. Whereas prior research has shown that oral health predicts heart disease and diabetes in old age, our findings suggest that these diseases may increase the risk for poor oral health as well.

TRAJECTORIES OF GRIP STRENGTH, CARDIOMETABOLIC RISK FACTORS, AND DISABILITY ON OLDER ADULTS

A. Botosaneanu², B.A. Shaw³, H. Murayama¹, J. Liang², 1. *Institute of Gerontology, The University of Tokyo, Tokyo, Japan*, 2. *University of Michigan, Ann Arbor, Michigan*, 3. *University at Albany, State University of New York, Rensselaer, New York*

Objective. To examine cardiometabolic risk factors as potential intervening mechanism in the association between trajectories of grip strength and functional disability in older adults.

Methods. Data came from ~3200 adults (≥65 years of age) from the HRS Study observed for up to 8 years. Hierarchical linear models assessed how changes in grip strength and cardiometabolic factors (HDL-cholesterol, HbA1c, C-reactive protein, and cystatin-C) are associated with a combined ADL/IADL index of functional disability. Analyses were performed stratified by gender.

Results. GS declined over 8 years following a linear trajectory. Decline in grip strength predicted an increase in the burden of functional disability in both men and women. Cardiometabolic factors (except cystatin-C) were associated with the rate of decline in grip strength and partially mediated the association with functional disability.

Implications. Cardiometabolic factors should be investigated as potential targets for reducing the burden of disability associated with muscle weakness in older adults.

PROSPECTIVE STUDY OF TRAJECTORIES OF PHYSICAL PERFORMANCE AND ALL-CAUSE MORTALITY

Y. Taniguchi², H. Murayama¹, S. Seino², M. Nishi², H. Amano², Y. Fujiwara², A. Kitamura², S. Shinkai², 1. *Institute of Gerontology, The University of Tokyo, Tokyo, Japan*, 2. *Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan*

This prospective study used repeated measures analysis to identify potential physical performance measures (PPM) trajectory patterns, and determine whether PPM trajectory patterns were associated with all-cause mortality in Kusatsu Longitudinal Study on Aging and Health. Among 1524 adults aged 65 years or older who participated in a baseline survey, 1048 adults (mean [SD] age, 71.6 [5.4] years; women, 57.0%) were followed-up at least once. The total number of observations was 4,747, and the average number of follow-up assessments was 4.5 during. The PPMs studied were hand-grip strength, usual gait speed, and one-leg standing time. We checked local registries to identify deaths from any cause; 89 (8.5%) participants died during follow-up. We identified 3 distinct trajectory patterns (high, middle, and low trajectory groups) for each PPM. After adjusting for important confounders, the trajectory groups for hand-grip strength and one-leg standing time were independent predictors of all-cause mortality.

SESSION 4855 (SYMPOSIUM)

CLINICAL PHARMACOLOGY TO GUIDE THERAPEUTICS IN FRAIL OLDER MEN AND WOMEN

Chair: S.N. Hilmer, *The University of Sydney and Royal North Shore Hospital, St Leonards, New South Wales, Australia*

Co-Chair: D. Abernethy, *Johns Hopkins Medicine and FDA, Baltimore, Maryland*

Frail older people often receive multiple concurrent medicines, despite limited evidence of effectiveness and growing evidence of the harms of medicines in this population and in combination. This international symposium, led by the geriatric pharmacology subcommittee of the clinical division of the International Union of Basic and Clinical Pharmacology (IUPHAR), will showcase innovations in all phases of drug evaluation that can inform more effective and safe use of medicines by frail older people. IUPHAR is a non-government organization in official relations with the WHO with the mission of improved health through pharmacology education and research. In this symposium Prof Hilmer (Australia) will highlight novel pre-clinical models that can be used to evaluate relevant exposures for older people, such as polypharmacy and deprescribing, as well as relevant outcomes such as healthspan and frailty. Clinical evaluation of drugs in frail older people using new techniques, such as population pharmacokinetic modelling and pharmacogenomics, will be described by Prof Schwartz (USA). Prof Abernethy (USA) will describe regulatory issues such as the representativeness of clinical trial populations. Prof Le Couteur (Australia) and Prof Thuermann (Germany) will demonstrate novel approaches to pharmacovigilance in frail older people. All speakers will consider the effects of age, frailty and sex on clinical pharmacology and safe, effective therapeutics.

PHARMACOKINETICS AND PHARMACODYNAMICS OF FRAILTY AND POLYPHARMACY: PRECLINICAL INSIGHTS

S.N. Hilmer, *Medicine, The University of Sydney and Royal North Shore Hospital, St Leonards, New South Wales, Australia*

Pre-clinical studies form the foundation for pharmacology and therapeutics in humans. There have been recent calls for pre-clinical studies in aged animals and in both male and female animals to better reflect the older people who are commonly treated. There are opportunities to test effects of real life exposures in aged animals to inform therapeutics. For example, short term treatment with therapeutic doses of five commonly used medicines (polypharmacy) impairs physical function in aged but not young adult male mice. Objective models of important outcomes for older people, such as healthspan and frailty, have recently been developed. These are being measured as outcomes of treatments for disease or aging itself in pre-clinical studies, with differential effects observed by sex. The effect of frailty on pharmacokinetics, pharmacodynamics and toxicity of commonly used medicines (e.g. acetaminophen) is now being investigated in frail animals, to guide treatment of frail older people.

CLINICAL PHARMACOLOGY OF AGE, SEX AND FRAILTY: INSIGHTS FROM CLINICAL AND POPULATION STUDIES

J.B. Schwartz, *1. Medicine, University of California, San Francisco, San Francisco, California, 2. Jewish Home, San Francisco, San Francisco, California*

This presentation will discuss areas of agreement and disagreement, and identify gaps in knowledge of age, sex and frailty-related effects on drug clearance and responses. Agreement exists that renal clearance decreases with age, sex and possibly frailty, yet, there remains disagreement about the best way to estimate renal drug clearance to adjust medication doses in older people and in frail vs. non-frail. For oxidative CYP-mediated drug clearance, consistent decreases have been seen with aging in vitro and in vivo yet results from clinical populations do not detect consistent effects. Human data on age and frailty effects on transporters to guide dosing in clinical populations have yet to emerge. Evidence for a prominent role of polypharmacy in medication problems seen in clinical populations will be discussed as well as the altered pharmacodynamics reserve associated with older age and/or frailty that may underlie altered responses to medications.

REPRESENTATIVENESS OF CLINICAL TRIAL POPULATIONS: ARE THESE THE PATIENTS THAT GET TREATED?

D. Abernethy, *1. Office of Clinical Pharmacology, FDA, Annapolis, Maryland, 2. Johns Hopkins Univ. School of Medicine, Baltimore, Maryland*

Concern is frequently expressed that there is insufficient understanding of drug effects and side effects at the time of drug approval, as the patients in whom the drug will be used are not well represented in the drug registration package. A number of evaluations have indicated that this is so particularly for older patients with multimorbidity, as they are either underrepresented or excluded from drug registration trials. Regulatory authorities have tried to address this matter with a Guideline for inclusion of older patients in drug approval packages (US FDA), and an International Committee on Harmonization (ICH) question and answer document. A review of recent drug approvals in the United States of selected drugs that are likely to be prescribed to older patients with co-morbid illness, the characteristics of the patients studied, and how this compares to drug use in the community for drugs that are marketed for the same indication will be presented. Patient age will be compared by decade of age. This may provide an update of how pharmaceutical company sponsors of new drugs are responding to the regulatory guidelines and public concern.

PHARMACOVIGILANCE: ADVERSE EVENTS ASSOCIATED WITH PSYCHOTROPIC DRUG USE IN NURSING HOMES

P. Thuermann¹, S. Bergner², J. Stingl², *1. Clinical Pharmacology, University of Witten/Herdecke, Wuppertal, Germany, 2. Federal Institute for Drugs and Medical Devices, Bonn, Germany*

A high proportion of nursing home residents (NHR) receive - among many other drugs - psychotropics, particularly neuroleptics and sedatives. Clinical trials are usually conducted in younger populations. We aimed to analyze the

type and frequency of ADE occurring under psychotropic drug use in NHR and to compare them with ADE from spontaneous reports.

We conducted a prospective cohort study in 18 nursing homes in Germany, written informed consent was obtained from 888 NHR (74 % females, mean age 84 years). Research pharmacists collected data on drug prescriptions and ADE by chart review and interviews with NHR, nurses and physicians. Mean no. of drugs/day was 11 ± 4 , 69 % of NHR received psychotropics. During a 1-month observation period 18 % of NHR suffered an ADE, almost half of them related to use of psychotropics. Data obtained will be compared with SPCs and spontaneous reports from Germany.

SESSION 4860 (PAPER)

SOCIAL NETWORKS AND SOCIAL SUPPORT: CONTEXTUAL CONSIDERATIONS

SOCIAL CAPITAL AND HAPPINESS: AN INTERNATIONAL COMPARISON ACROSS THREE GENERATION GROUPS

Y. Wang, H. Weng, Y. Zhu, L. Lu, S. Huang, *National Cheng Kung University, Tainan City, TAINAN, Taiwan*

Happiness of the people is an important index of social development. This study focuses on the correlation between social capital and happiness and the comparison of international data. Three data sources are used. Samples are taken from the International Social Survey (ISSP) across 30 countries, providing a total of 49,504 people who are divided into three age groups: the young (20–34 years old), the middle-aged (35–64 years old), and the elderly (over 65 years old). This study uses hierarchical linear modeling to measure the cross-level effects of the happiness from different age groups (young, middle-aged, elderly) in 30 countries. The results find that of the 30 countries, there is a significant difference in the happiness level of the three age groups in 25 of these countries. The score of the elderly's happiness is shown to be the lowest out of the three age groups in 20 of the countries. The elderly's happiness is affected the most by country factors, about 14% in the three age groups. There is significant positive effect that factors in the national level have on the elderly's happiness. Social capital acts as a buffer against the adverse effects of urbanization and educational degree on the mental well-being of the elderly.

VARIATIONS IN RELATIONSHIPS ACCORDING TO PARTNER PERCEPTIONS: DATA FROM THE NSHAP PROJECT

J.J. Benson¹, T.S. Killian², *1. Human Development and Family Science, University of Missouri, Columbia, Missouri, 2. University of Arkansas, Fayetteville, Arkansas*

Previous research suggests that romantic relationships are intertwined with aging well. We used data from 2,013 persons who reported having a romantic partner or spouse in the first wave of the National Social Life, Health, and Aging Project (NSHAP) to examine how their perceptions of their relationships varied across relationship status, as well as a number of demographic variables and measures of health. The NSHAP interview included five indicators of

relationship perceptions: time spent, perceptions of openness, ability to rely on, demands made from, and criticism from one's partner. We used latent class analyses to examine unobserved heterogeneity in participants' responses on these items. Our model fit analyses suggested a three class model provided the best fit. Class one (15.9%) was characterized by moderate responses on time spent with, demands from, and criticism from partner, while scoring low on being open with their partners and high on relying on their partners. Class two (13.3%) was characterized by scoring relatively low on all perceptions except relying on partner. Class three (70.8%) was characterized by high scores on all perceptions. We next examined how probabilities of class membership were related to relationship status, demographics, and health. We found significant differences across race, age, sex, marital status, relationship length, and health. We did not find significant differences in class membership by cohabitation status. In summary, these analyses helped us identify variations in relationships using participants' perceptions of their relationships. We also found significant variations in relationship perceptions across several demographic variables and health.

SOCIAL SUPPORT AND EMERGENCE OF FUNCTIONAL IMPAIRMENT: SABE STUDY EVIDENCES

T. Brito⁶, D. Nunes², L.P. Corona³, T. Alexandre⁴, Y. Duarte¹, M. Lebrão¹, *1. University of São Paulo, São Paulo, Brazil, 2. Federal University of Tocantins, Palmas, Brazil, 3. UNICAMP, Campinas, Brazil, 4. UFSCar, São Carlos, Brazil, 6. Federal University of Alfenas, Minas Gerais, Brazil*

Aim: To verify the association between the characteristics of social networks of the elderly people and the emergence of functional impairment. **Method:** This is a longitudinal population-based study, which used the 2006 ($n = 1,413$) and 2010 ($n = 990$) cohorts of the Health, Well-Being, and Aging (SABE) Study. To characterize the social networks, the following variables were used: number of members in the network; living arrangements; sex and age of the members; coresidence with children or only elderly individuals; satisfaction with the relationships; and receiving and offering social support (financial, material, emotional, performing tasks inside and outside the home, providing companionship, and personal care). Logistic regression was used to analyze the data. All ethical guidelines were followed. **Results:** The social networks of the elderly people had an average of 8.15 members and consisted predominantly of family members aged between 15 and 59 years. Dependent elderly people received more material support, help in performing household tasks and those outside the home, and personal care, while the independent elderly people received more emotional support and companionship. Provision of social support ($OR = 0.32$, 95%CI 0.14 – 0.71) decreased the chances of developing dependency, independent of sociodemographic and health conditions. **Conclusion:** The strengthening of social networks in old age should be encouraged since confidence in informal care offered, mainly by families, may not be the best option for dealing with the growing demand for care that accompanies the aging of the population.

ACCULTURATION AND DEPRESSION AMONG OLD CHINESE IMMIGRANTS: SOCIAL SUPPORT AND NEGATIVE INTERACTIONS

L. Xu¹, F. Tang², L.W. Li³, X. Dong⁴, 1. *The University of Texas at Arlington, Arlington, Texas*, 2. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 3. *University of Michigan, Ann Arbor, Michigan*, 4. *Rush University Medical Center, Chicago, Illinois*

Immigration is a stressful experience. Social support from and negative interaction with relatives/friends play an important role in the health and well-being of immigrant older adults. This study examines the association between acculturation and depressive symptoms among old Chinese immigrants in the United States, and also investigates the roles of social support and negative interactions with relatives/friends in the association. We used data from the Population Study of Chinese Elderly (PINE), a population-based survey of community-dwelling Chinese older adults in the Greater Chicago area ($N = 3,158$). Depressive symptoms were measured by PHQ-9 and acculturation, social support and negative interactions with family/friends were all measured by standard scales. Negative binominal regression models were used to examine the relationships of acculturation and depressive symptoms. Results show that acculturation was associated with higher level of depressive symptoms ($IRR = 1.02$, $p < .01$) after controlling for age, gender, marital status, education, income, health, living arrangement, and years in the U.S. Negative interactions ($IRR = 0.99$, $p < .05$) had significant interaction effects with acculturation, whereas social support had direct effects, on depressive symptoms. The study findings suggest that older Chinese immigrants in the United States with low levels of acculturation are vulnerable to having depressive symptoms, and negative interactions with relatives/friends exacerbate the effect of acculturation on depressive symptoms. Community services to help older Chinese immigrants' acculturation and coping with negative interactions may be effective depression prevention in this population.

TACTILE INEQUALITY: NEIGHBOURHOOD SES AND THE FREQUENCY OF CARING TOUCH IN LATER LIFE

M. Schafer, L. Upenieks, *University of Toronto, Toronto, Ontario, Canada*

Touch is an important element of human social interaction. Scholars from a variety of disciplines increasingly recognize that supportive physical contact supports health and maximizes older people's sense of well-being. The investigation of touch, however, has yet to penetrate the field of neighborhood-effects research. Left unexamined, for instance, is whether contextual conditions are associated with patterns of person-to-person contact above and beyond person-level explanations. Drawing from ecological theories in the Chicago school tradition, the present study proposes that neighborhood socioeconomic disadvantage erodes local social ties and cohesion. We hypothesize that these dynamics should produce gaps in supportive touch activity between senior residents of advantaged and disadvantaged communities. Data come from Wave 1 (2005–2006) of the National Social Life, Health and Aging Project (NSHAP), a nationally-representative study of adults age 57–85 ($n=3,005$).

Neighborhoods were defined at the level of census tracts and NSHAP survey data were linked to records from the U.S. Census. Multivariate ordinal logistic regression analyses indicate that seniors living in neighborhoods characterized by low education, low income, high poverty, and high public assistance reported the lowest levels of supportive contact, net individual-level socioeconomic status, personal network size, health, and other covariates. At the same time, seniors who lived in predominantly Black neighborhoods were more likely to experience frequent touch, net other characteristics. Findings suggest a previously unrecognized form of environmental inequality experienced by older adults—tactile inequality—while also pointing to the importance of sub-cultural variation in touch related to racial/ethnic neighborhood composition.

SESSION 4865 (SYMPOSIUM)

INTERNET FRAUD AND SCAMS: A GROWING FORM ON ELDER FINANCIAL EXPLOITATION

Chair: M.A. Creedon, *A.T. Still University*

Co-Chair: G.M. Gutman, *Simon Fraser University, Vancouver, British Columbia, Canada*

Discussant: R.C. Long, *Wells Fargo Advisors, St Louis, Missouri*

The older adult population is increasing rapidly throughout the world. This surge in numbers is accompanied by a rapid increase in the use of the Internet as a communication tool by elders. This allows scam and fraud perpetrators to reach older adults with schemes for winning lotteries, requests for financial aid from “Nephews” on travel, and other strategies for accessing bank account information and other resources. While 1–10% of seniors in middle and high income countries are estimated to be victims of elder abuse, by definition (WHO/INPEA 2002) perpetrated by persons with whom they have a trust relationship, and financial abuse is among the most common types of elder abuse worldwide, financial exploitation by strangers such as occurs via the Internet is estimated to be far greater in terms of dollars lost. “According to the FBI, 80% of all scams in the USA target people between the ages of 55–85” says Richard Goraliewicz, author of *The Little Black Book of Scams*. Similar patterns are seen in other developed countries. This symposium will provide information about current research related to Internet Fraud and Scams targeting seniors that is being conducted in the USA, Canada, the United Kingdom, and Ireland. It will also provide information about the strategies being undertaken by government agencies, major senior advocacy groups, financial organizations, and other bodies seeking to reduce the frequency of such incursions into the savings and resources of elders.

ENHANCING CYBER-SECURITY FOR OLDER ADULTS: RESEARCH AND STRATEGIES IN THE UK

L. Fenge, *NCPQSW, Bournemouth University, Bournemouth, United Kingdom*

A review will be given of current developments in the UK of the increasingly recognised risks posed by financial abuse/financial scamming. Recent legislation, including the Care Act (2014) will be considered in terms of agency responsibility to

protect vulnerable older adults at risk from financial scams. In particular there will be a focus on the implications for the financial industries such as retail banking and insurance, and how action in this area most vulnerable to financial scams. For example this may include an agreement that that organisations should only share information to other organisations via a clear opt in rather than opt out process to help avoid 'suckers lists', and that the banking sector should adopt a 24hour delay process on transactions above a defined threshold for those citizens who feel at risk of financial scamming. . Examples of research in the UK will be considered as well as the practical measures, in terms of partnerships and collaborations, which have been pursued to mitigate the prevalence and potential for financial abuse in the older population. These relationships include academic researchers working with Royal Mail, the police, social workers, trading standards organisations and others. Recommendations for interventions to reduce the prevalence and impact of financial abuse will be made.

NGO INVOLVEMENT IN ELDER FINANCIAL ABUSE RESEARCH AND PREVENTION: AN IRISH EXAMPLE

N. Feely, E. Timmins, *Age Action, Dublin, Ireland*

Age Action is one of Ireland's leading NGOs for older people. It has a long track record of research and campaigning to raise public awareness of elder abuse and improve early detection and prevention. In 2011 it published results of peer-led research into older people's understanding of elder abuse, which shed light on measures they believed could reduce abuse. The research involved older people in both the Republic of Ireland and Northern Ireland and was carried out in conjunction with the University of Ulster, Queen's University, Belfast, the South Eastern Health and Social Care Trust and the Social Policy and Ageing Research Centre. The focus of the symposium presentation will be on a current two-year project, funded by the Ulster Bank Community Impact Foundation, to raise awareness among older people and bank staff about financial elder abuse and how older people can protect themselves against online fraud and scams.

MASS MARKET FRAUD AND SCAMSTARGETING OLDER AMERICANS

R. Goldberg, *Dept of Justice Consumer Protection Branch, Washington, District of Columbia*

This presentation will review current U.S. Department of Justice Consumer Protection Branch (CPB) data on internet based financial abuse of older adults. The CPB has 40 attorneys focused on criminal and civil cases, many of them affecting older adults. Richard Goldberg, Director of CPB, will discuss the increasing complexity of fraud against elders over the past decade including more involvement of foreign nationals operating from other countries. He will review recent data from the FBI Internet Fraud Complaint Center, including data on five specific types of fraud and scams. He will present information on new trends including Tech Support Scams, IRS Scams, Jamaican Lottery Scams, Mass-mailing Frauds, and Unauthorized Withdrawals. Strategies that can assist elders to resist Internet frauds and scams will be presented.

ECONOMIC FRAUD AND MARKET PLACE ABUSES: HOW THE FTC PROTECTS AMERICA'S SENIORS

L. Griesman, *Federal Trade Commission, Washington, District of Columbia*

The U.S. Federal Trade Commission (FTC) is on the front line of protecting elders from a wide range of economic fraud and market place abuses. Bogus online health products, "grandparent" and IRS imposter scams, and investment frauds are just some of the areas where its enforcement and educational efforts touch interests of older consumers. Mindful that many seniors are online and tech savvy, the FTC reaches older consumers through traditional as well as electronic media, including its *Pass it On* educational campaign, which empowers elders to educate their peers. The FTC also works closely with international colleagues to protect consumers - old and young - from emerging threats in the marketplace.

PROTECTING OLDER CANADIANS AGAINST CYBER-CRIME AND SCAMS

G.M. Gutman, *Gerontology, Simon Fraser University, Vancouver, British Columbia, Canada*

Financial exploitation by persons in trust relationships and fraud and scams by strangers are among the commonest forms of elder maltreatment worldwide. A 2015 national prevalence study estimates 2.5% of community-dwelling Canadians age 55+ are financially abused. Rates of elder cyber-victimization are likely higher given that Canadians are the world's highest Internet users. This paper tracks interventions federal and provincial government agencies, NGOs and the financial industry in Canada have developed to address the problem. These include a recent financial industry example that offers online training to all staff and another that features bankers volunteering their time/expertise to offer seminars to groups of 10+ local seniors. Analysis focuses on changes over time in the content, format and method of delivery of awareness raising and preventive messaging and training, highlighting the trend towards enhancing consumer financial literacy in mainstream as well as among cultural minority seniors.

SESSION 4870 (SYMPOSIUM)

BUILDING THE POLICY RESPONSE TO DEMENTIA WORLDWIDE

Chair: A. Kalache, *International Longevity Centre Brazil, Rio de Janeiro, Brazil*

Co-Chair: S. Greengross, *International Longevity Centre UK, London, United Kingdom*

The number of people living with dementia worldwide is expected to triple by 2050 (from 47 million in 2015 to 132 million). Dementia is gaining high prominence as a global public health priority, as illustrated by the convening of the First WHO Ministerial Conference on Global Action Against Dementia in 2015. The personal, familial, social and economic consequences of dementia are prompting a range of actions across regions and cultures.

Sally Greengross, Co-President of the ILC Global Alliance, will give detail of the Global Parliamentary Action Group on Alzheimer's and Dementia, a key outcome initiative of the

2014 G7 Dementia Summit, and describe the progress toward achieving higher levels of global attention and collaboration. She will present a short summary of the issues facing UK legislators and describe the UK's first Dementia Research Institute, the Prime Minister's Challenge on Dementia 2020 and the outcomes of the National Dementia Strategy. She will also relate how the 2010 Equality Act and the 2014 Care Act conferred new rights on both patients and carers. Additionally, she will elucidate how the Care Quality Commission, the independent regulator of all health and social services in England, has shone a light into poor standards.

Following this Symposium keynote, there will be an overview of current policy responses and practices from the member countries of the Global Alliance of ILCs with a view to strengthen supranational and multi sectorial cooperation.

REGIONAL PERSPECTIVES: EUROPE AND ISRAEL

D. Halimi^{1,2}, S. Carmel^{3,4}, S. Greengross⁵, I. Holmerova^{6,7}, M. van der Waal^{8,9}, 1. *International Longevity Centre France, Paris, France*, 2. *Paris Descartes University, Paris, France*, 3. *International Longevity Centre Israel, Beer-Sheva, Israel*, 4. *Ben-Gurion University of the Negev, Beer, Israel*, 5. *International Longevity Centre UK, London, United Kingdom*, 6. *International Longevity Centre Czech Republic, Prague, Czech Republic*, 7. *Charles University Prague, Prague, Czech Republic*, 8. *International Longevity Centre Netherlands, Leiden, Netherlands*, 9. *Leyden Academy, Leiden, Netherlands*

International Longevity Centers (ILC-GA) are promoting healthy and active aging. Dementia is a severe and widespread health problem in Europe, with 6.4 Million patients. Two European health initiatives call to address the special needs of dementia patients, their families, and caregivers, while ensuring the sustainability of health and social security systems: The 2011 European Initiative which calls to see dementia a health priority and urges Member States to develop appropriate national plans, and the 2015 European Council's conclusions on « Supporting people living with dementia: improving care policies and practices ». The role of prevention, health promotion, risk reduction and early detection, as well as the promotion of the rights of dementia people, and intensification of research are clearly stated in these initiatives.

Relevant policies and interventions in France, the Netherlands, Czech Republic, UK and Israel will be reviewed.

ADDRESSING DEMENTIA IN NORTH AMERICA: CURRENT STATUS AND FUTURE DIRECTIONS

Linda Garcia², M. Gillis¹, 1. *International Longevity Centre Canada, Ottawa, Ontario, Canada*, 2. *University of Ottawa, Ottawa, Ontario, Canada*

Alzheimer's Disease and related dementias constitute a major and growing challenge to the wellbeing of individuals, families and society in the United States and Canada. The prevalence of dementia in the US is projected to almost triple from 5 million persons now to 14 million by mid-century. In Canada, the number of persons affected will nearly double from about 750,000 to 1.4 million. Actions underway in Canada in research, caregiver support and community intervention will be presented. Using the US National Dementia Plan as a model, it will be argued that a comprehensive and multi-sectoral approach is necessary that includes: public

awareness and community and workplace interventions; basic and applied research leading to better prevention, diagnosis, treatment and eventually, a cure; quality clinical care and support for affected individual and families.

DEMENTIA IN THE ASIA PACIFIC REGION

S. Harding^{1,2}, J. Byles^{3,4}, D. Peng⁵, J. Umranikar⁶, K. Mizuta⁷, 1. *International Longevity Centre Singapore, Singapore, Singapore*, 2. *Tsao Foundation, Singapore, Singapore*, 3. *International Longevity Centre Australia, Callaghan, New South Wales, Australia*, 4. *The University of Newcastle, Callaghan, New South Wales, Australia*, 5. *International Longevity Centre China, Beijing, China*, 6. *International Longevity Centre India, Pune, India*, 7. *International Longevity Centre Japan, Tokyo, Japan*

Asia Pacific region is now home to more than 17 million persons with dementia (PWD) (ADI, 2014). By the middle of this century, more than half of PWD will live within our midst. In terms of costs, the region is now spending US\$185 billion, with 70% of this amount being spent by the developed countries. For sure, this cost will continue to increase as the number of PWD increases. The need to push for the development of a national dementia action plan in every country within the region is never more urgent but this will require research into the health and care systems and a review of the overall health policy. The more developed and middle income countries within the region have been experimenting and piloting at the community level which could be developed further to become best practices that can be shared at the regional level.

REGIONAL PERSPECTIVES: LATIN AMERICA AND SOUTH AFRICA

L. Daichman², R. Pereyra³, J.R. Hoffman⁴, S. Kalula⁴, A. Kalache¹, 1. *International Longevity Centre Brazil, Rio de Janeiro, Brazil*, 2. *International Longevity Centre Argentina, Buenos Aires, Argentina*, 3. *International Longevity Centre Dominican Republic, Santo Domingo, Dominican Republic*, 4. *International Longevity Centre South Africa, Vanderbijlpark, South Africa*

The 60 plus population in Latin America and the Caribbean is projected to increase by 71% by 2030. The projection for Africa is 64%. Already underway, this is one of the fastest global ageing processes in human history. The number of individuals in these regions living with dementia will increase exponentially within the context of fast-moving social changes such as urbanization, greater female participation in the labor market, low fertility rates and an insufficiency of family care. This presentation will focus on examples of good practice on care and dementia prevention from Argentina, Brazil, the Dominican Republic and South Africa.

SESSION 4875 (SYMPOSIUM)

TOWARD A STRONG EVIDENCE BASE FOR CARER-FRIENDLY SYSTEMS IN THE EUROPEAN UNION

Chair: E.J. Hanson, *Linnaeus University, Kalmar, Sweden*
Co-Chair: S. Yghemonos, *Eurocarers, Brussels, Belgium*

Discussant: J.C. Tronto, *University of Minnesota, Twin Cities, Minneapolis, Minnesota*

80% of care across Europe is provided by the spouses, relatives and friends of older, sick or disabled people. There are over 100 million carers in Europe, probably an underestimate given the difficulty of (self-) recognition among carers. As population ageing generates growing demand for care, the intensity of caring roles is increasing. This symposium presents current policy and examples of research, highlighting gaps in knowledge. It is based on research priorities agreed by the Eurocarers Research Working Group to strengthen the evidence base for carer-friendly systems in Europe. An EU-wide NGO working for carers, Eurocarers has exceptional breadth of knowledge and comparative capacity.

The Symposium will start with an overview of the EU policy context concerning carers, care and caring and present Eurocarers' research priorities. Our second presentation will assess the impact and effectiveness of support for carers provided through public funding and NGOs, exploring which carers benefit from these approaches. The third presentation will focus on how new technologies support carers of older people, discussing the Eurocarers' hub 'InformCare', an outcome of the EU 'InnovAge' project. Our fourth speaker will focus on carer health and well-being, presenting conceptual findings derived from analysis of learning networks. The final presentation will debate methodological issues in conducting comparative research on informal care, inviting discussion of opportunities for wider, inter-continental, collaborative analysis.

The discussant will distil key themes from the presentations and reflect on future scope to recognise the roles/rights of carers and support their claims for quality of life.

RECOGNISING AND SUPPORTING THE ROLE OF INFORMAL CARERS ACROSS THE EUROPEAN UNION

S. Yghemonos, *Eurocarers, Brussels, Belgium*

Europe's increase in life expectancy and ageing demographics is generating a growing incidence of diseases and demand for care. In Europe, 80% of this care is provided by family, friends and neighbours. The contribution of these 'informal' carers constitutes a great resource and a pillar of the WHO approach towards people-centred care systems. Yet, their fundamental role is still not widely recognised across the European Union.

This presentation looks at the issues facing carers across the EU and highlights the entry points that exist in policy agendas to ensure carers' role is recognised, valued and supported.

The presentation outlines the potential and challenges of EU policy debates on:

- The inadequate provision and coverage of care systems
- The insufficient female labour participation
- The sustainability of care systems

The presentation concludes with the research priorities identified by Eurocarers in order to develop the evidence-base needed to help inform EU policy-making.

SUPPORT FOR CARERS IN EUROPE: WHAT WORKS WELL AND WHY?

S. Yeandle, *Sociological Studies, University of Sheffield, Sheffield, United Kingdom*

This presentation assesses evidence on support for family/friend carers of older and disabled people in Europe, drawing on the expertise of Eurocarers Research Working Group members and evaluation studies led by the author which were introduced with significant UK government funds in support of a 'national carers' strategy'. The presentation reviews the impact and effectiveness of publicly-funded and NGO-led initiatives developed in the past decade. These aimed to promote carers' health and wellbeing, address their social and financial exclusion, help them identify the skills they need, and acquire, in their caring roles, and obtain the help they need to combine their unpaid care with paid jobs or careers. The presentation includes discussion of the characteristics of carers who have, and have not, benefitted from this type of support, and explains the role of carers' advocacy organisations in campaigning for improvements and greater accessibility in carer support.

UNDERSTANDING CARER HEALTH AND WELL-BEING

E.J. Hanson^{1,2}, L. Magnusson^{1,2}, 1. *Health and Caring Sciences, Linnaeus University, Kalmar, Sweden*, 2. *Swedish Family Care Competence Centre, Kalmar, Sweden*

Research has mainly focused on carer burden with scant attention being paid to concepts such as carer's satisfaction, resilience and wellbeing. This presentation explores the complex concept of carer's health and wellbeing, drawing on literature review findings, the expertise of Eurocarers Research Working Group members and an analysis of findings from learning networks involving carers. Emerging factors that appear to influence carer's health and wellbeing will be discussed. Namely, i) the degree of availability of appropriate support from both the formal sector and informal caring networks; ii) the role played by personal belief systems about the nature of caring, such as its level of perceived meaningfulness or not; iii) the nature of previous relationships with the cared-for member; iv) carers' personal repertoire of coping resources and strategies, and v) the level of intensity of caring. Finally, ways forward are considered, including routine health check-ups for carers and holistic carer assessment.

HOW NEW TECHNOLOGIES SUPPORT CARERS OF OLDER PEOPLE: THE EUROCARERS' INFORMCARE PLATFORM

G. Lamura¹, F. Barbabella^{2,1}, F. Andréasson³, H. Döhner⁴, E.J. Hanson², A. Poli⁵, B. Salzmann⁴, 1. *Centre for Socio-Economic Research on Ageing, INRCA - National Institute of Health and Science on Ageing, Ancona, Marche, Italy*, 2. *Linnaeus University, Kalmar, Sweden*, 3. *Swedish Family Care Competence Centre, Kalmar, Sweden*, 4. *wir pflegen, Hamburg, Germany*, 5. *National Institute for the Study of Ageing and Later Life (NISAL), Norrköping, Sweden*

This presentation discusses how new technologies support family carers of older people with reference to the Eurocarers' hub 'InformCare', the web-platform of support services for carers of older people co-funded by the European Union within the INNOVAGE project. After highlighting the

status of technology-based services for carers in Europe, the main features of InformCare will be demonstrated. Tested in three European countries (Germany, Italy and Sweden), this tool provides a standardised, integrated, multilingual and culturally adapted set of on-line information and interactive services addressing carers' needs and preferences which are available for the first time in 27 Member States. The implementation followed a pilot test with 117 carers, showing improvements in carers' self-awareness and empowerment over a 3 month period. However, to ensure optimal benefit from InformCare, appropriate training and promotion campaigns are needed in order to overcome low digital literacy skills and lack of self-recognition characterising many carers.

METHODOLOGICAL ISSUES IN CONDUCTING COMPARATIVE RESEARCH ON INFORMAL CARE

V. Hlebec, *Faculty of Social Sciences, University of Ljubljana, Ljubljana, Slovenia*

Measuring and evaluating informal care in Europe remains a challenge despite a number of cross-national studies that at least partially address these issues. The last cross-national study that focused specifically on informal care in Europe – EUROFAMCARE is more than ten years old. Currently, only Ireland, England and Luxembourg have up-to-date national statistical sources designed to describe the provision of informal care. Thus, it remains unfeasible to precisely determine the number of informal carers in EU-28, measure their characteristics, and assess the extent and type of care they provide. This presentation will provide an overview of what is measured in a European cross-national context in terms of informal care and discuss the advantages and limitations of current cross-national studies. Further, opportunities for enhancing the usability of current cross-national surveys for purposes of measuring informal care in Europe will be proposed, concluding with an invitation to discuss opportunities for wider, inter-continental, collaborative research.

SESSION 4880 (SYMPOSIUM)

HOSPICE AND END-OF-LIFE CARE PRACTICES FOR RESIDENTS IN U.S. NURSING HOMES

Chair: D.J. Dobbs, *University of South Florida, Tampa, Florida*

Quality of end-of-life care should be a priority for older adults who reside in nursing homes (NHs) in the U.S., yet the results are mixed as to whether the majority of NHs achieve this objective. Gaps in care have been reported to exist in NHs related to pain management, and communication about health care decisions. Another issue is transitions near the end of life in and out of the NH. One common factor that has consistently been found to improve care at the end-of-life for NH residents is hospice use. This symposium will include papers that address hospice care for NH residents as well as other end-of-life care practices such as pain management and transitions to the emergency room for NH residents. The first paper highlights the lack of preparation for end-of-life care in NHs based on the perspective of emergency medical technicians and paramedics who responded to 911 emergency calls from NHs. The second paper examines the use of hospice services upon admission to

an NH in a national sample of community-based older adults. The third paper identifies the clinical characteristics and communication patterns associated with hospice care within the last six months of life in NH residents. The fourth paper examines the issue of pain management and identifies significant predictors of narcotic and non-narcotic analgesic use in NH decedents. The discussant will put the studies in context to the current state of hospice use, pain management and end-of-life care transitions for NH residents in the U.S.

PREDICTORS OF USE OF HOSPICE IN THE NURSING HOME

J.P. Reinhardt, *Research, The New Jewish Home, New York, New York*

The use of hospice in the nursing home has been growing which is important given its association with improved quality of care for patients at the end of life including symptom management, reduced hospitalization and higher family satisfaction. This study identified the clinical characteristics and communication patterns associated with hospice care within the last six months of life in nursing home residents. Data are from medical records of 300 nursing home decedents in a large healthcare system. Results showed that sixty-two percent of decedents were on hospice, and 92% of deaths occurred in the nursing home. Higher likelihood of hospice utilization in this setting was associated with dementia diagnosis, poorer cognitive function, weight loss, having a care goals discussion, and use of a greater number of medications. Findings emphasize the importance of hospice use in this setting.

HOSPICE AND PAIN MANAGEMENT IN THE NURSING HOME: PREDICTORS OF ANALGESIC USE

T.L. Marshall, J.P. Reinhardt, *Research, The New Jewish Home, New York, New York*

Undertreated pain in the nursing home is well documented. Residents may express pain verbally, or through disruptive behaviors and rejection of care if they cannot verbalize their pain. Improvement in identification and management of pain in the nursing home is needed. This study identified significant predictors of narcotic and non-narcotic analgesic use in nursing home decedents. Predictor variables included age, cognitive status, diagnoses, rejection of care, behavioral symptoms, pain rating, and receipt of hospice care in the nursing home. Outcome variables were medications for provide pain relief, narcotic and non-narcotic analgesics. Results showed greater use of non-narcotic analgesics was associated with younger age, poorer cognitive status, having arthritis, having cancer, rejection of care, and hospice use. Greater use of narcotic analgesics was associated with only two predictor variables, greater report of pain, and hospice use. Hospice use was the only variable associated with both narcotic and non-narcotic management of pain.

DYING IN PLACE? HOSPICE UTILIZATION AND CARE TRANSITIONS FROM THE COMMUNITY TO THE NURSING HOME

A. Holup, H. Meng, D.J. Dobbs, K. Hyer, *Aging Studies, University of South Florida, Tampa, Florida*

The use of hospice services upon admission to the nursing home (NH) raises questions about the potential for

residents admitted from home/assisted living communities to receive end-of-life care in the community and age-in-place until death. Because the Institute of Medicine recommends limiting transitions near the end-of-life, this study examined the use of hospice services on admission to a NH. Resident assessments from the Minimum Data Set were examined for NH residents admitted directly from home or an assisted living community. In 2008, a total of 139,262 NH residents were admitted from the community (representing approximately 10% of the total NH population). Seven percent of residents received hospice services on admission. Analyses suggests that older adults who were receiving hospice services in the community transitioned to the NH to receive end-of-life care. The capacity of hospice to maintain persons until the end of life in the community will be discussed.

EMERGENCY CALLS TO THE NURSING HOME AT LIFE'S END: PROVIDERS' PERSPECTIVES

D.P. Waldrop¹, J. McGinley¹, B. Clemency², 1. *University at Buffalo, Buffalo, New York*, 2. *Emergency Medicine Department, Erie County Medical Center, Buffalo, New York*

Nursing home (NH) residents account for over 2.2 million Emergency Department (ED) visits yearly; the majority are transported by Emergency Medical Services (EMS). The purpose of this study was to investigate how EMS providers respond to 911 calls when imminent death is from a chronic—non-acute condition. Surveys were conducted with 178 EMS providers and follow-up interviews with 43. Survey results indicated that 96% reported NH calls at least monthly - 48% on every shift; 58% report receiving at least monthly requests to transport an actively dying resident to an ED. Nearly half (46%) endorsed the need for interdisciplinary interventions between EMS, hospice, and NHs to address challenges. Interview themes illustrated contributing factors as: Limited staff training, experience; Dying-related fear, panic, distress; Staff shortages; and Organizational protocols promoting 911 calls. The findings illuminated the lack of comprehensive advance care planning for NH residents who are frail and approaching life's end.

SESSION 4885 (SYMPOSIUM)

REDEFINING THE GOALS OF AGE-FRIENDLY INTERVENTIONS

Chair: A. Glicksman, *Philadelphia Corporation for Aging, Haverford, Pennsylvania*

Co-Chair: L. Ring, *Philadelphia Corporation for Aging, Philadelphia, Pennsylvania*

Discussant: A.J. Lehning, *University of Maryland, Baltimore, Maryland*

Defining the goals of age-friendly interventions is a challenge to both policy and research. Interventions designed to make communities more age-friendly have targeted aspects of transportation, housing, food access, and strengthening social ties among others. Menec et. al. (2011) have suggested that the basic benefit of age-friendly communities is social connectivity, which is associated with these health outcomes. In 2015 a group of researchers came together to discuss and comment on Menec's framework. This group considered Menec's framework as it applies to age-friendly

efforts, research, and policy. This panel is a follow up to the original discussion. Each presentation represents next steps in considering the implications of the framework for the future of age-friendly efforts. DeLaTorre and Neal, who have been involved with age-friendly efforts for 10 years, compare Menec's framework to the work being done in Portland Oregon. They consider both similarities and differences in two approaches. Frochen and Pynoos Address housing policy and how housing fits into the age friendly framework. Ring, Glicksman, Kleban and Norstrand present a new methodological approach designed to support Menec's focus on an ecological framework by using two types of environmental measures – spatial and self-report, to better understand health outcomes. Finally, Lehning and Greenfield will respond by placing the three presentations into a larger policy perspective.

Verena Menec et. al.. (2011). Conceptualizing Age-Friendly Communities. *Canadian Journal of Aging*, 479–493

ECOLOGICAL APPROACHES TO AN AGE-FRIENDLY PORTLAND

A. DeLaTorre, M.B. Neal, *Portland State University, Portland, Oregon*

Researchers at Portland State University's Institute on Aging (IOA) have been involved in age-friendly research in Portland, Oregon since the initial 2006–07 Age-friendly Cities project of the World Health Organization. Since the initial qualitative baseline assessment was completed and findings were shared locally and globally, an advisory council, coordinated IOA researchers, has continued to translate research into action. Many of the implications for research and policy detailed in Menec et al.'s framework – integrating ecological principles, interdisciplinary research and mixed methods, policy advocacy across domains – have been addressed by Portland's age-friendly initiative within the unique context of local stakeholders, policies, and practices. This presentation will highlight the similarities to the proposed age-friendly ecological model (e.g., research approaches, challenges with translating research to policy), the differences that seem to exist (e.g., an expansion of domains, rather than a contraction), and whether social connectivity is *the* common connector of age-friendly domains in Portland.

HOUSING FOR THE ELDERLY: ADDRESSING GAPS IN KNOWLEDGE THROUGH THE LENS OF AGE-FRIENDLY COMMUNITIES

S. Frochen, J. Pynoos, *University of Southern California, Los Angeles, California*

As our society ages, there is increasing concern about housing for older adults. Although the last decade has brought expanded research in this area, major gaps in knowledge remain in this field. This paper presents a literature review of the elderly housing research, examining the limitations in knowledge and categorizing the most salient research gaps identified in the literature. These include gaps that have been previously defined and persist since the inception of environmental gerontology as well as new research opportunities, namely, age-friendly communities. In our review, we found seven categories that characterize the gaps in knowledge in housing for older adults: age-friendliness; aging in place; conceptualization of home; falls; housing as it

relates to disability and health; person-environment fit; and housing programs and policy initiatives. Identification and review of these limitations provide a roadmap for investigation for researchers and areas to be strengthened for clinicians and policy makers.

THE ECOLOGICAL DIMENSION OF THE MENEC FRAMEWORK

L. Ring¹, A. Glicksman¹, M.H. Kleban², J. Norstrand³,
1. *Philadelphia Corporation for Aging, Philadelphia, Pennsylvania*, 2. *Polisher Research Institute, North Wales, Pennsylvania*, 3. *Independent Researcher, Newton, Massachusetts*

The Menec framework relies on a set of ecological principles that determine the level of social connectivity, including the person-environment fit. Environment can be measured either in terms of self-reported barriers or as geographical based measures of the physical and social environment. We used both types of measures to determine how they relate to one another and to key health outcomes. Building on our previous model that showed the association of self-reported environmental barriers to health outcomes, we added a measure of neighborhood distress that includes number of murders, vacant properties and corner stores. The distress measure was linked with each case at the Census Tract. Findings reveal an association of distressed neighborhood to health outcomes while the self-reported measures also remain significantly associated with these outcomes. We conclude that using multiple types of environmental measures can better describe the association between the individual and their environment.

SESSION 4890 (SYMPOSIUM)

THE CIRCLE OF CARE: IMPROVING CARE TRANSITIONS TO ENHANCE CARE QUALITY

Chair: S. Spohr, *JPS Health Network, Fort Worth, Texas*

Discussant: J. Idoine-Fries, *JPS Health Network, Fort Worth, Texas*

Successful care transitions, in which a patient shifts from one care setting to another, can have significant impacts on patient well-being and care quality. Previous research indicates that poor care coordination or inefficient care transitions can lead to unnecessary complications and preventable hospital readmissions resulting in significant amounts of wasteful spending. This symposium describes two 1115 Medicaid Waiver DSRIP (Delivery System Reform Incentive Payment) programs being implemented in two acute care settings in Texas. DSRIP programs have the capacity to transform healthcare processes and improve patient care through quality innovation. Both programs target the improvement of care transitions and care coordination for long-term care patients. Interdisciplinary teams work to build the linkages needed to support the patient and optimize transitions between acute care settings, post-acute care facilities, and an eventual return to home. Implementation of evidence-based strategies to reduce readmissions include tools from INTERACT and Project BOOST. Education in both the acute and post-acute environment is necessary to support the evolving and complex needs of this patient population. Care transitions strategies

including improved communication and information sharing via electronic medical record systems, integrated clinical support for transition management, and ongoing coordination of hospital services for patients in post-acute care settings have the capacity to improve patient care and satisfaction, reduce hospital readmissions and increase cost savings.

REDUCING READMISSION BY IMPROVING TRANSITIONS: PROCESS AND OUTCOMES

T.G. Michael, M. Raji, D. Villarreal, J. Torres, *University of Texas Medical Branch, Galveston, Texas*

Hospital readmission rates are well documented indicators of quality of care transition from hospital to skilled nursing facilities (SNF). We describe our DSRIP project whose goal is to develop and implement programs to improve transition and coordination of care from inpatient to SNFs and from SNF to home health, for patients aged 65 and older. The overall outcome is a reduction of 30-day re-hospitalizations. Processes implemented to improve these transitions include: (1) Evidence-based identification of seniors at highest risk of re-hospitalization based on chronic conditions, socioeconomic factors, and patient characteristics; (2) Program coordination and patient, staff and caregiver education led by Master-level Nurse practitioner; (3) Education of patient/caregiver dyads to increase their roles in managing their health; (4) Education addressing indications and early side-effects of medications, and (5) Development of "What to Expect" transitional care documents aimed at preparing patients/families as they transition to different healthcare settings. We used tools used developed by Project BOOST (Better Outcomes for Older adults through Safe Transitions) and Interact (Interventions to Reduce Acute Care Transfers), including the "8P's" score and the "Stop and Watch Early Warning Tool". Collaboration with stakeholders such as SNF administrators and home health agencies help to identify areas in transitions that require improvement. Preliminary data indicate a steady increase in patients' satisfaction score, timeliness of discharge information and a decline in re-hospitalizations to our Acute Care for Elders unit. Challenges (e.g. readmission from non-SNF sites) and opportunities identified during the implementation of the project will be discussed during the symposium.

EFFECTIVENESS OF A CARE TRANSITIONS PROGRAM TO REDUCE READMISSIONS AMONG SKILLED NURSING PATIENTS

S. Spohr^{1,2}, S. Mandapati^{1,2}, J. Sanchez¹, M. Barber¹,
J. Idoine-Fries¹, 1. *Long Term Care, JPS Health Network, Fort Worth, Texas*, 2. *University of North Texas Health Science Center, Fort Worth, Texas*

Effective care transition strategies are increasingly important as pay-for-performance programs continue to place strain on safety net hospitals to reduce readmissions and avoid penalties. In particular, patients transferring to skilled nursing facilities (SNF) are at increased risk of readmission due to disease status, comorbidities, and age. This project aimed to implement evidence-based care transition strategies between a safety net hospital and seven local SNF partners to reduce potentially avoidable readmissions. Historical patient data was abstracted from electronic medical records for 1,687 inpatient encounters discharging

to SNF in 2014–2015. All-cause 30-day readmission rates were compared among partner and non-partner SNFs at baseline and during the first year of implementation. Chi-square tests were used to compare the difference in readmission rates between groups. While the hospital is demonstrating an overall increase in readmissions, there was a significant reduction in all-cause 30-day readmissions among partner SNFs compared to non-partner SNFs ($\chi^2=8.9$, $p < 0.003$). There was a 4.1% decrease in readmissions among partner SNFs engaging in the care transitions program (2014–14.6%; 2015–10.5%), conversely, there was a 4.1% increase in readmissions from non-partner SNFs (2014–9.2%; 2015–13.3%). Evidence-based care transitions strategies between acute care providers and SNFs have the ability to reduce 30-day all-cause readmissions. The quality improvement efforts initiated with partner SNFs improved care transitions by supporting patient handoff from inpatient to SNF to home, providing feedback to hospital Case Management, and linking patients back into a medical home. Improved partnership and collaboration between hospitals and SNFs demonstrate benefits towards patient care and community health.

HOSPITAL AND SKILLED NURSING FACILITY PARTNERSHIPS REDUCE READMISSIONS AND HEALTHCARE SPENDING

S. Spohr^{1,2}, M. Barber¹, Y. Hardin¹, J. Idoine-Fries¹, 1. *Long Term Care, JPS Health Network, Fort Worth, Texas*, 2. *University of North Texas Health Science Center, Fort Worth, Texas*

Long-term care (LTC) facilities house over 1.5 million Americans each year. Quality incentive payment programs increase the need for improved care transitions between healthcare providers. An 1115 Medicaid Waiver DSRIP project targeted the development of care transitions partnerships between a safety net hospital and external LTC providers to transform healthcare processes and care across the continuum. A navigator service model was employed with seven partner LTC providers to improve patient access to the proper level of care while improving communication and care coordination for skilled nursing facility patients. LTC facilities underwent training and implementation activities of evidenced-based tools (INTERACT) for reducing readmissions to increase staff capacity and improve care outcomes. Historical encounter level patient data was collected to assess readmission rates and patient level predictors of 30-day readmissions. Average all-cause 30-day readmission rates declined 7% among the seven LTC partners compared to the pre-implementation year (Pre- 22%, Post- 15%). Compared to their pre-implementation rates, LTC partners prevented approximately 210 hospital readmissions in the first 15 months. The estimated average cost to the hospital per 30-day readmission is \$9,387, leading to a potential cost savings of \$2.0 million. Evidence-based strategies to improve care transitions implemented in LTC facilities has the ability to reduce 30-day readmissions for both acute and post-acute care providers. Improved partnership between hospitals and LTC providers allows for standardized communication and information sharing via Epic CareLink, integrated clinical support for transition management, development of a quality scorecard, and

ongoing coordination of hospital services for patients in LTC settings.

HOME VISITS FOR HOMEBOUND PATIENTS REDUCE HOSPITAL UTILIZATION

J. Idoine-Fries¹, S. Spohr^{1,2}, S. Mandapati^{1,2}, Y. Hardin¹, M. Barber¹, 1. *Long Term Care, JPS Health Network, Fort Worth, Texas*, 2. *University of North Texas Health Science Center, Fort Worth, Texas*

Nearly 4 million people in the US are considered to be homebound. Most homebound patients have chronic illnesses, multiple comorbidities, functional limitation, and cognitive impairment and do not have access to regular primary care. These conditions are manifested in high utilization of emergency department (ED) visits and inpatient (IP) admissions. Home visit programs have the ability to provide consistent primary care and divert patients from unnecessary ED and IP utilization. Historical patient data was abstracted from electronic medical records for 79 homebound patients receiving care in the home by a physician or nurse practitioner. Data were collected for the number of ED and IP visits in the three and six months pre- and post-enrollment in the home visit program. Wilcoxon Signed Rank test was used to determine the difference between pre and post ED and IP visits. Homebound patients enrolled in the home visit program completed an average of three visits in the home. Compared to the three months prior to enrollment in the home visit program, there was a 38% reduction ($p = 0.002$) in ED visits and 58% reduction ($p = 0.0001$) in IP admissions at three month follow-up. The reduction in ED and IP utilization was maintained at 6 month follow-up ($p < .05$). The home visit program provides needed access to healthcare among a vulnerable homebound population. Receiving primary care visits in the home demonstrates an effective way to prevent both ED and IP visits, thereby avoiding unnecessary hospital utilization, improving patient outcomes, and reducing healthcare costs.

SESSION 4895 (SYMPOSIUM)

IMPROVING MUSCLE, MIND AND MOBILITY THROUGH EXERCISE AND NUTRITION IN OLD AGE

Chair: R.M. Daly, *Deakin University, Melbourne, Victoria, Australia*

Co-Chair: G. Duque, *University of Melbourne, St. Albans, Victoria, Australia*

Mobility and cognitive deficits are prevalent as we age and may coexist in the same individual. Mobility decline is linked to osteoporosis and sarcopenia, which often coexist (hence the term 'osteosarcopenia') and collectively have been associated with a greater risk for incident disability, falls, fractures and frailty. Similarly, cognitive function also plays a central role. Indeed, it has been suggested that there is a bidirectional relationship between mobility and cognition: factors causing physical frailty or sarcopenia may contribute to impaired cognitive function and/or factors leading to cognitive impairment may also reduce physical function or contribute to muscle loss. However, many interventions to date have only targeted physical or cognitive function, and thus there is a need to identify strategies that can simultaneously improve both factors. Exercise is one strategy that can

concurrently have a positive effect on nearly all physical and cognitive functions, but not all forms are equally effective, with the benefits being modality and intensity-dependent, and reliant upon adequate nutrition. In addition, dual-task training that combines exercise with cognitive-motor tasks may provide some added benefits, but the available data is limited. This symposium aims to provide an overview of the current evidence related to the type and dose of exercise that may be most effective for preventing and managing sarco-osteoporosis, falls, fractures, frailty and cognition decline. Evidence-based nutritional approaches focusing on treatment with vitamin D in different dosages and the combination of exercise and nutrition to enhance physical and cognitive health and function will also be reviewed.

AN EXERCISE IN PRESCRIPTION FOR PREVENTING SARCO-OSTEOPOROSIS, FALLS AND FRACTURES

R.M. Daly, *Institute for Physical Activity and Nutrition, Deakin University, Melbourne, Victoria, Australia*

Exercise is the only strategy that can concurrently affect all fracture parameters (sarcopenia, fall risk, fall impact, bone strength), if it is appropriately prescribed. It is evident from the available literature that the effects of exercise are modality and intensity-dependent, and reliant upon adequate nutrition. Regular walking has little or no effect on preventing bone and muscle loss, and may increase falls and fracture risk. Multi-component interventions incorporating weight-bearing exercise and progressive resistance training (PRT) appear most effective for preserving bone health, with no apparent adverse effects of cartilage/joint health. Traditional slow speed PRT can improve muscle mass and strength in older adults and the frail elderly, which may be enhanced through the provision of additional dietary protein and vitamin D. However, PRT alone has mixed effects on balance and falls prevention. High-velocity PRT, which involves rapid muscle contractions, appears more effective at improving functional outcomes in older adults. Similarly, high-challenging balance training performed for at least 50 hours in total (eg. twice a week for 25 weeks) appears to be most effective for preventing falls. However, dual-task training, which combines exercise with challenging cognitive-motor tasks, has emerged as a novel approach to improve functional dual-task performance which is important as many older people fall whilst performing a secondary task. This presentation will review the latest evidence with regard to the optimal type and dose of exercise to prevent and manage osteo-sarcopenia, falls and fractures, and outline exercise-nutrient interactions that may optimize musculoskeletal health and function in the elderly.

INTEGRATING EXERCISE AND NUTRITION INTO AGED CARE TO REDUCE FRAILTY

G. Duque, *Australian Institute for Musculoskeletal Science (AIMSS), The University of Melbourne, Melbourne, Victoria, Australia*

Frailty is a common clinical syndrome in older persons that has been associated with an increased risk for poor health outcomes including falls, incident disability, hospitalization, and mortality. Physical inactivity, vitamin D deficiency and poor nutrition accelerate the progression of frailty. Despite strong consensus on the importance of identifying and treating frailty, therapeutic choices for frailty are limited. In this presentation

we will review the current state of knowledge about frailty and will analyze preventive measures and therapeutic interventions that can benefit both conditions simultaneously. We intend to go over the translational aspects of frailty research and highlight expected outcomes from different interventions for this condition. We will initially review the mechanisms contributing to frailty including metabolic and cell signalling changes. For example, we will analyze how changes in protein and amino acid intake as well as muscle wasting could be associated with frailty. Then, we will discuss evidence-based therapeutic interventions that pose promising opportunities for frailty focusing on nutritional interventions and physical activity. Finally we will translate this information into practical approaches that can improve care and decrease disability and poor outcomes in old frail individuals.

MULTIMODAL INTERVENTIONS TO PREVENT AND MANAGE COGNITIVE FRAILTY

M. Montero Odasso, *1. Gait and Brain Laboratory, Parkwood Institute, Lawson Health Research Institute, London, Ontario, Canada, 2. Department of Epidemiology and Biostatistics, University of Western Ontario, London, Ontario, Canada, 3. Department of Medicine and Division of Geriatric Medicine, Schulich School of Medicine & Dentistry, University of Western Ontario, London, Ontario, Canada*

Exercise training is beneficial for cognition even in frail older adults and in those with low mobility. Animals and humans studies have demonstrated that aerobic exercise may have neuroprotective and neurorestorative effects. The rationale of combining aerobic and progressive resistance training as a multimodal exercise intervention is supported by research that has revealed potential beneficial effects on insulin-like growth factor-1, insulin sensitivity, and anti-inflammatory and brain-derived neurotrophic factor pathways, which are related to both sarcopenia and cognitive decline. Multimodal exercise interventions have shown positive effects on muscle/lean mass, cognition and brain volume. In addition, vitamin D deficiency has been linked to cognitive dysfunction, dementia and mobility decline. Besides its very well-known effects on muscle and bone physiology, vitamin D is considered a neurosteroid hormone which exhibits neuroprotective attributes through anti-oxidative mechanisms, neuronal calcium regulation, immunomodulation, enhanced nerve conduction and detoxification mechanisms. Compelling evidence from animal models and epidemiological studies supports a potential beneficial role for vitamin D on cognitive function. We will review the available evidence supporting that combining vitamin D supplementation with physical exercise will have a synergistic effect in improving or stabilizing cognitive function.

SESSION 4900 (SYMPOSIUM)

SOCIAL GERONTOLOGY WITHOUT BORDERS? NEW PERSPECTIVES FROM INTERNATIONAL RESEARCH

Chair: T. Scharf, *Newcastle University, United Kingdom*

Co-Chair: A. Lowenstein, *Max Stern Yezreel Valley College*

Discussant: N.C. Keating, *Global Social Initiative on Ageing, Seoul, Korea (the Republic of)*

As a field of study, social gerontology increasingly reaches across national borders, reflecting the need to understand key issues concerning the processes and outcomes of demographic ageing within a global context. This symposium addresses the growing trend towards cross-national research in social gerontology within the context of COST, the longest-running European framework supporting trans-national cooperation among researchers. A bottom-up networking program driven by the research community, COST Actions foster large-scale international research collaborations. In recent years, European researchers have secured support for four COST Actions relating to core topics of gerontological concern. Papers in this symposium present emerging ideas and insights from each of these Actions.

(1) Intergenerational Family Solidarity across Europe (INTERFASOL), involving researchers from 28 nations, responds to societies' need to develop mechanisms, programmes and policies that foster and nurture solidarity between the generations. (2) Reflecting evidence concerning the negative consequences of ageism at individual, familial, and societal levels, the Ageism COST Action engages collaborators from 34 nations in drawing on scientific knowledge to challenge the practice of ageism. (3) Gender and health impacts of policies extending working life in western countries (GENDEREWL) connects researchers from 32 nations in efforts to advance knowledge about the gendered impacts of extended working life on the health and economic well-being of older workers. (4) Responding to growing risks of social exclusion in later life, Reducing Old-Age Social Exclusion: Collaborations in Research and Policy (ROSEnet) engages researchers and policy-makers from 32 nations in deepening understandings of the complex nature of old-age exclusion.

INTERGENERATIONAL FAMILY SOLIDARITY ACROSS EUROPE (INTERFASOL)

M.I. Broese Van Groenou, *VU University, Amsterdam, Netherlands*

INTERFASOL aims to synchronize, integrate and improve European research in the field of intergenerational family solidarity (IFS), its benefits in key life domains (education, work, health and wellbeing) and the ways in which it can be strengthened across generations. Since 2014, researchers from 28 countries strive towards a) a meta-analytic overview of the relationship between IFS and key life domains, b) comparison of nationally funded research activities and evidence relating to IFS, c) development of a framework organizing best practices to facilitate IFS at micro, meso and macro level, and d) identifying key policy issues and stakeholders that are most effective in securing the benefits of IFS and developing strategies for effective knowledge dissemination. The paper will provide an overview of the main outcomes of the four working groups so far, and discusses methods and instruments that facilitate international collaboration in COST Actions.

AGEISM FROM A MULTI-NATIONAL, INTERDISCIPLINARY PERSPECTIVE

L. Ayalon¹, C. Tesch-Roemer², *1. Bar Ilan University, Tel Aviv, Israel, 2. German Centre of Gerontology, Berlin, Germany*

COST IS1402 on ageism aims to enhance scientific knowledge and attention to the topic of ageism by integrating the

different disciplines and schools of thought, by developing collaborations with public policy officials, non-academic professionals, civil society NGOs and older adults, by stimulating scientific and public interest, and by developing a new generation of researchers in the field. This COST Action aims to consolidate and harmonize existing measures and empirical evidence in the field in order to generate new directions and collaborations for research and practice. We have collaborated on an international book on ageism and a special section on ageism. We also have collaborated with policy makers both locally and internationally on bringing attention to issues concerning age and ageism. This presentation will provide a broad overview of some of our activities conducted in more than 34 countries by over 200 researchers and policy makers.

COST ACTION IS1409: GENDER AND HEALTH IMPACTS OF POLICIES EXTENDED WORKING LIFE IN WESTERN COUNTRIES

A. NiLeime, *NUI Galway, Galway, Ireland*

This paper discusses key findings arising from the scientific programme of COST Action IS1409, entitled Gender and Health Impacts of Policies Extended Working Life in Western Countries. The Action is an international network established to identify key issues related to extended working life from gender and health perspectives, to provide a comparative policy analysis across 32 countries and to identify data-bases and appropriate policy proposals. The issue of extending working life is a topical policy issue of pressing concern, given that populations are ageing, there is a concern about sustaining public pension costs and many people are living longer healthier lives. This paper interrogates the wisdom of adopting these typically undifferentiated policies from a gendered political economy of ageing perspective, drawing on findings from a cross-national review of policies in 16 countries (Phase 1 of the Action's policy review) focusing on workers in physically-demanding occupations and those with caring responsibilities.

OLD-AGE EXCLUSION: LONG-STANDING DISADVANTAGE AS A NEW GLOBAL CHALLENGE FOR GERONTOLOGY

K. Walsh, *Irish Centre for Social Gerontology, National University of Ireland, Galway, Galway, County Galway, Ireland*

While older adults are disproportionately affected by multiple forms of exclusion, research and policy concentrate on those of working age, those with low-income, and children. The lack of consensus in Europe as to older adult experiences during the economic crisis has marginalised concerns for old-age disadvantage even further. Social exclusion has emerged redefined from this period as a policy that almost explicitly does not consider later life. It is within this context that the ROSEnet (Reducing Old-Age Social Exclusion in Europe) COST Action aims to critically investigate the construction of life-course old age exclusion, refocusing scientific research on older adult disadvantage in Europe and beyond. This paper presents a conceptual framework derived from state-of-the-art international knowledge on old-age exclusion. The analysis will identify key mechanisms of exclusion in today's global context and explore the relative nature of old-age

exclusion as an empirical and conceptual challenge in cross-national ageing studies.

SESSION 4905 (SYMPOSIUM)

FARMING FOR HEALTH: LESSONS LEARNED FROM GREEN CARE FARMS FOR DEMENTIA CARE

Chair: S. de Bruin, *National Institute for Public Health and the Environment, Netherlands*

Co-Chair: H. Verbeek, *Maastricht University, Netherlands*

Discussant: J. Schols, *Maastricht University, Maastricht, Netherlands*

Over the last years, several innovations in dementia care have taken place, both for people with dementia using community-based services and those living in nursing homes. An example is the “green care farm (GCF)”, a farm that combines agricultural activities with care services for a variety of client groups, including people with dementia. The vast majority of GCFs provide adult day care services for people with dementia. New are GCFs providing 24-hour nursing care, as alternative for nursing homes. The number of GCFs is gradually increasing worldwide, with initiatives in Europe, Japan and the United States. Also the number of studies characterizing GCFs and their visitors, and evaluating their value for people with dementia and their family caregivers are increasing. This symposium provides insight into the experiences with green care farming so far, and the components that could also be implemented in other dementia care settings. The first presentation shows which components of Norwegian day care services at GCFs for other user groups are relevant for people with dementia. The second presentation focuses on experiences with transplanting the GCF model to the USA. During the third presentation the impact of 24-hour nursing care at GCFs as alternative for nursing homes for people with dementia is central. During the fourth presentation, lessons that other dementia care settings can learn from GCFs will be outlined.

KEY COMPONENTS OF FARM-BASED DAY CARE SERVICES FOR PEOPLE WITH DEMENTIA

I. Pedersen, G. Patil, *Department of Public Health Science, Norwegian University of Life Sciences, Aas, Norway*

Farm based day care services for people with dementia in Norway are aiming to provide meaningful activities and coping experiences. Nowadays, 43 care farms in Norway offer such adapted and quality based welfare services in collaboration with local health authorities. Studies have identified key components of Norwegian care farming services for other user groups to be; a social community, a structured everyday setting, a close relationship and support from the farmer, encouraging physical activity, offering a diversity of activities and work tasks, and the possibility to experience nature and having close contact with animals. Many of these components are also relevant for people with dementia, and will be beneficial for this target group. Findings from a qualitative study identifying relevant components of care farm services for this group will be showed during this presentation.

EXPERIENCES WITH GREEN CARE FARMING IN THE UNITED STATES

K.A. Anderson¹, M. Fischer², *1. School of Social Work, University of Montana, Missoula, Montana, 2. A Plus Health Care, Kalispell, Montana*

Despite decades of effective implementation in Europe, the Green Care Farm (GCF) model of care has only recently arrived in the United States (US). In the US, differences in health care approaches, funding systems, liability issues, and societal attitudes toward older adults and individuals with disabilities create substantial challenges to replicating the GCF model. In this session, we will explore the past, present, and future of the GCF model in the US. First, a program director from the Netherlands will discuss his past five years of experience in transplanting and growing the GCF model in Montana. Next, a researcher will provide findings from a qualitative study ($N = 19$) exploring the views and experiences of participants, family members, farmers, and administrators involved with the Montana GCF program. Finally, both presenters will explore the practice and policy implications associated with expanding the GCF model in the US.

THE PHYSICAL ENVIRONMENT OF GREEN CARE FARMS: A COMPARISON WITH EXISTING NURSING HOMES

B. de Boer, J. Hamers, S. Zwakhalen, H. Verbeek, *Maastricht University, CAPHRI Care and Public Health Institute, Department of Health Services Research, Maastricht, Netherlands*

Green care farms (GCFs) that provide 24-hour nursing care are developing. The environment of a GCF has unique characteristics such as the combination of care and agricultural activities, and the presence of gardens and animals. This study investigated the physical environment of 18 nursing home units, including 5 GCFs, 4 traditional nursing home wards, 6 small-scale living facilities on the terrain of a nursing home and 3 stand-alone small-scale living facilities. The OAZIS-Dementia was used, an observation tool indicating the potential of a care environment to have positive effects for people with dementia on 7 domains. GCFs scored higher than existing nursing homes on privacy and autonomy, sensory stimulation, view and nature, orientation and routing, and domesticity ($p < .05$). No differences were found on safety and facilities. GCFs allow residents to initiate activities and go outside whenever they want, which can be beneficial for their quality of life.

WHICH LESSONS CAN OTHER DEMENTIA CARE SETTINGS LEARN FROM GREEN CARE FARMS?

S. de Bruin¹, B. de Boer², Y. Buist¹, H. Verbeek², *1. National Institute for Public Health and the Environment, Bilthoven, Netherlands, 2. Maastricht University, Maastricht, Netherlands*

Earlier studies suggest that green care farms (GCFs) are a valuable addition to other dementia care services. We explored which lessons from GCFs could be implemented by regular long-term care institutions (RLTCIs) and which barriers and facilitators were expected. First, key lessons were identified by secondary data analysis addressing the following issues: 1. Aligning care with preferences and needs of people with dementia; 2. Making active use of stimulating

elements in the care environment and 3. Implementing a different care philosophy and vision. Second, semi-structured interviews (n=33) were conducted with professionals from RLTCs and GCFs. Barriers and facilitators were identified at three interrelated levels; context (financial, organizational, social, professional), dementia care setting and client group. At GCFs, a holistic, integrated way of working was implemented in everyday care compared with a more task-oriented approach in regular care. These results may inspire care institutions to develop more person-centered dementia care environments.

SESSION 4910 (SYMPOSIUM)

SOCIAL AND ECONOMIC INEQUALITIES: THE MARGINALISATION OF OLDER PEOPLE

Chair: C. Waldegrave, *Family Centre Social Policy Research Unit, Lower Hutt, Wellington, New Zealand*

Co-Chair: C. Cunningham, *Massey University, Wellington, New Zealand*

This symposium will explore differing dimensions of social and economic inequalities and their impacts on the health and wellbeing of older citizens across differing countries and contexts. As the evidence concerning the impact of social relationships on morbidity and early death has grown in recent years, the challenge for researchers has been to understand its dimensions and the pathways that lead to positive rather than negative outcomes. Such research can be expected to have profound implications for positive health status and substantially reduced health and welfare budgets.

The four presentations by researchers from Canada, New Zealand, Ireland, England and Poland will provide research data that addresses gender dimensions, urban and rural differences, multi-dimensional measurement constructs, social relationships, health, wealth, neighbourhood characteristics, area deprivation, discrimination and abuse to identify obvious and hidden aspects of the ways in which older people are often marginalised in their communities. These multiple domains of investigation will produce findings that can inform better quality service provision for older people and enable smart evidence based policy interventions to be developed.

After attending this symposium, participants will have an informed understanding of the many forms of social and economic marginalisation and their negative impact on health and longevity. Additionally, participants will appreciate the multi-dimensional aspects of social and economic inequalities and ways to measure them. They will also be informed of risk and mitigating factors that will enhance the provision of services and evidence based policies that increase social inclusion for older citizens and reduce marginalisation.

SOCIAL AND ECONOMIC EXCLUSION IN LATER LIFE IN POLAND: A GENDER PERSPECTIVE

J. Perek-Bialas^{2,3}, M. Wilinska¹, 1. *Jönköping University, Jönköping, Sweden*, 2. *Jagiellonian University, Krakow, Poland*, 3. *Warsaw School of Economics, Warsaw, Poland*

Gender remains one of the primary structures that affects quality of life in old age. Recent research demonstrates a variety of ways in which age and gender may interact, not to mention their relations with other power structures. In

this paper, we comparatively examine men and women at different ages to observe the differential impact of age and gender on their lives and to identify spaces of exclusion in old age in Poland. We use data from the large scale national representative survey of the Social Diagnosis from the years 2000–2015 and intersect gender, age, socio-economic status, disability and education in our analysis. The results point at two particularly disadvantaged groups: older women and low-educated older men who also dominate various spaces of exclusion. We use these findings to problematize the understanding of exclusion in later life and to argue for an inter-sectional approach in ageing policies promoting social cohesion.

INDIVIDUAL AND AREA INFLUENCES ON THE DEVELOPMENT OF SOCIAL EXCLUSION AMONG URBAN ELDERLY

J. Prattley¹, T. Buffel¹, A. Marshall², J. Nazroo¹, 1. *MICRA Manchester Institute for Collaborative Research on Ageing, University of Manchester, Manchester, United Kingdom*, 2. *University of St Andrews, St Andrews, United Kingdom*

Social exclusion in later life is associated with decreased quality of life and poorer health outcomes. Reducing the number of people at risk of exclusion is a key theme in social policy but there is limited understanding of the relationship between neighbourhood characteristics, area deprivation and the level and development of social exclusion amongst older urban dwellers. Multilevel growth curve models for predicting exclusion are fitted to seven waves of data from the English Longitudinal Study of Ageing. Repeated observations of an individual's health, socioeconomic status and wealth are considered along with measures of neighbourhood and area deprivation. This multilevel structure has not previously been applied to studies of social exclusion in the United Kingdom and allows for the investigation of causal mechanisms linking area deprivation and exclusion. This research contributes new insight into the development and predictors of exclusion pathways across diverse groups of elders in urban environments.

THE DARKER DIMENSIONS OF SOCIAL INEQUALITIES: DISCRIMINATION AND ELDER ABUSE

C. Waldegrave, *Family Centre Social Policy Research Unit, Lower Hutt, Wellington, New Zealand*

Older people who are discriminated against or abused often experience it over and above other forms of marginalisation which renders them doubly vulnerable. This presentation will provide results from the New Zealand Longitudinal Study of Ageing (NZLSA). Amartya Sen's capabilities approach has formed the conceptual basis of the theoretical framework of this research programme (Sen, 1999). Two survey waves of a national random sample in excess of 3,000 older New Zealand citizens aged between 50 to 86 years have been carried out, which include a scale for discrimination and a screening scale for abuse alongside various questions and other scales on health, well-being and social connections. The results demonstrated statistically significant negative relationships between both discrimination and abuse on one hand, and health, well-being and social

connections on the other. The human rights and policy implications of these findings will be explored.

VOLUNTEERING, SOCIAL ISOLATION AND AGEING IN RURAL COMMUNITIES

M. Skinner¹, K. Walsh², T. Scharf³, C. Cunningham⁴,
1. *Trent Centre for Aging & Society, Trent University, Peterborough, Ontario, Canada*, 2. *Irish Centre for Social Gerontology, National University of Ireland, Galway, Ireland*, 3. *Institute of Health & Society, and Newcastle University Institute for Ageing, Newcastle University, Newcastle upon Tyne, United Kingdom*, 4. *Massey University, Wellington, New Zealand*

This paper examines how older rural adults connect to their rural communities via volunteering. The purpose is to extend current understandings of rural old-age exclusion as a complex, interdependent and place-embedded process involving interactions between older people and their place of residence. The paper conceptualizes the relationships between social exclusion and voluntarism as they relate to the lives of older rural people and then examines, empirically, the manifestation of these relationships in the context of rural ageing. Findings from an interview-based Irish case study of older adults and community stakeholders are interrogated with respect to multiple domains and mediators of age-related social exclusion, revealing the nuanced ways older people may be more or less included in or excluded from their communities based on their involvement in and capacity for voluntaristic activities. Implications for rural ageing policy and for addressing the broader problems of social isolation and loneliness are discussed.

SESSION 4915 (SYMPOSIUM)

BIG DATA—OPPORTUNITIES, CHALLENGES, AND PITFALLS

Chair: M. Gogol, *Lindenbrunn Hospital, Coppenbruegge, Germany*

Co-Chair: A. Simm, *Martin-Luther-University Halle-Wittenberg, Halle (Saale), Germany*

The progress in basic biological ageing research as well as its clinical applications has the potential for successful intervention. While ageing itself is the strongest risk factor for development of chronic diseases as well as chronic diseases accelerate ageing the growing knowledge may give the opportunity for earlier effective prevention and better treatment. This possibilities based on big data and new tools, e.g. precision medicine, computational biology, systems biology, and others, create new questions and inherited the risk for overdiagnosis and overtreatment as this new developments are not fully understood yet and effective strategies for preempting and prediction, prevention and countermeasures must be tested biologically and clinically. In general the upcoming possibilities to preempt, predict and prevent (or delay the occurrence) include the risk of overdiagnosis and overtreatment in a manifold way and must be outweighed against the risk and burden, individual and societal costs. On the other side the promise of precision medicine include also a more targeted therapy which may reduce overdiagnosis and overtreatment as well as underdiagnosis and undertreatment.

BIG DATA: FROM BIOMARKERS TO AN AGE SCORE

A. Simm, *Martin-Luther-University, Halle, Germany*

Many candidate biomarkers of human ageing have been proposed but in all cases their variability in cross-sectional studies is considerable, and therefore no single measurement has proven to serve a useful marker to determine, on its own, biological age. A plausible reason for this is the intrinsic multi-causal and multi-system nature of the ageing process. The recently completed MARK-AGE study was a large-scale integrated project supported by the European Commission. The major aim of this project was to conduct a population study comprising about 3200 subjects in order to identify a set of biomarkers of ageing which, as a combination of parameters with appropriate weighting, would measure biological age better than any marker in isolation. The strategy and use of hypothesis-free, data-intensive approaches to explore cellular proteins, miRNA, mRNA and plasma proteins as healthy ageing biomarkers, using ageing models and directly within samples from adults of different ages are described.

BIG HEALTH DATA COMBINED WITH SMALL HEALTH DATA—A FRAMEWORK FOR A PERSONAL HEALTH DATA BANK

M. Martin, *Universität Zürich, Zürich, Switzerland*

The existing data protection laws hinder the efficient use and combination of “big” (anonymized, clinic-owned) and “small” (non-anonymized, individually owned) health data. We suggest a framework to make the combination of big and small health data in an individualized health data bank possible and acceptable to patients, health care providers, politicians, and the public at large. Such an infrastructure is needed for the inclusion of real life health outcome measures for determining the effects of treatments.

Reimbursement of health-related costs in any health care system must be based on empirical evidence concerning safety, efficacy and cost-effectiveness of medical interventions. A limiting factor in evidence-based health care decision is that empirical evidence should apply to the individual patient. Large amounts of “Small health data” combined with Big Health Data offers new opportunities to optimize health care decisions by centering them around the individual patients’ needs. The combination of “big” with “small” data can provide systematic empirical evidence for patients and health care providers to inform treatment decisions. This requires a publicly controlled individualized health data bank (iHealthDB) that allows for the combination of big and small health data. This data bank should allow to upload individualized health data in different data formats (“small data”) and to combine these with anonymized personal data (“big data”).

Beyond the envisaged establishment of an individualized health data bank, the framework may also be applied for the setting up of a framework for electronic patient files. In addition, the goals of the project are in line with the WHO (2015) call for individualized evidence and care provision as well as the Swiss Federal Office of Public Health’s strategy “Health 2020” that emphasizes the importance of organizing health care around the needs of individuals.

ADVANCING PREDICTIVE AND PRECISION MEDICINE USING HUMAN NEURAL ORGANOID MODELS OF BRAIN DISEASES

R. Anand, *Ohio State University College of Medicine, Columbus, Ohio*

We have engineered neural organoids (containing the retina, cortex, midbrain, hindbrain, brain stem and spinal cord) from normal, Alzheimer's disease (APP gene duplication) and tuberous sclerosis (TSC2Arg1743Gln) patient skin cells. Whole genome transcriptomic results remarkably show comprehensive and accurate correlation of the dysregulated expression of hundreds of genes previously correlated with the clinical symptoms and/or pathologies of both of these diseases. For Alzheimer's disease these include genes for lipid homeostasis, inflammation, metal ion homeostasis, water homeostasis and longevity. For tuberous sclerosis these include genes for tumor formation, autism, blood pressure regulation, Zn++ ion homeostasis, Pb++ ion toxicity, round worm infections, and cholesterol metabolism among others. Our results suggest that synchronous dysregulation of the temporal coordination of these genes cause these diseases. These genes possibly define disease-specific functional architecture of the human genome.

CHALLENGES UNDERSTANDING AGING THROUGH BIOMARKERS ACROSS POPULATIONS: THE EXAMPLE OF CALCIUM

A. Cohen¹, V. Legault¹, T. Fulop¹, G. Fuellen², L.P. Fried³, L. Ferrucci⁴, 1. *University of Sherbrooke, Sherbrooke, Quebec, Canada*, 2. *Rostock University, Rostock, Germany*, 3. *Columbia University, New York, New York, 4. US National Institute of Aging, Baltimore, Maryland*

Increasing availability of large clinical datasets including laboratory results raises the prospect of studying aging through these rich sources of biomarker data. However, substantial caution is warranted: most individual biomarkers fluctuate for many different reasons, and changes can have different interpretations in different contexts. This problem compounds with differences in population composition across data sets. Here, we illustrate this problem using the example of calcium. Using data from three cohort studies and sub-populations thereof, we show that calcium increases with age in some populations and decreases in others, and differs in its associations with mortality and frailty across populations. Different patterns emerge when considering calcium levels versus deviations from the normal values. Multivariate biomarker scores may partially mitigate these problems, but extreme caution is still warranted. More broadly, we should expect many findings about biomarkers and aging to be population-specific and should generalize only after empirical verification.

SESSION 4920 (SYMPOSIUM)

HEALTHY AGEING: FROM EPIDEMIOLOGY TO POLICY. CHALLENGES AND UPDATES FROM THE ATHLOS PROJECT

Chair: J. Bickenbach, *Swiss Paraplegic Research, Nottwil, Switzerland*

Co-Chair: M. Prina, *King's College London, United Kingdom*

Discussant: M. Huisman, *VU University Medical Center*

Although there is an overwhelming evidence of a rapidly increasing proportion of older people across the world, people age differently. The ATHLOS (Ageing Trajectories of Health: Longitudinal Opportunities and Synergies) project is a consortium of 15 partners across Europe who are working together to understand patterns of healthy ageing trajectories, and to seek the factors that determine those patterns. An in-depth understanding of how we age will give us insight into the individual and population interventions that can alter ageing pathways in ways that promote healthy ageing. The specific objectives of the project are to: 1-produce a harmonised dataset of over 18 international longitudinal studies of ageing; 2-identify patterns of healthy ageing trajectories and their determinants (including cohort effects); 3- determine and operationalise a more valid definition of 'older age' based on characteristics of people that change with age rather than chronology alone; 4- translate the findings, by means of knowledge translation methodologies and micro-simulation exercises, into evidence-informed policy recommendations. The five talks of this symposium will provide an insight into the work that we are carrying out, spanning from epidemiology to social science, from biostatistics to policy and knowledge translation. The first talk will set the scene and introduce the project, followed by more detailed and technical talks on the achievements and challenges we are facing during the analysis stages of the project. The final talk will specifically focus on the policy and knowledge translation phase of ATHLOS.

OVERVIEW OF THE ATHLOS PROJECT

B. Olaya^{1,2}, M. Bobak³, M. Prince⁴, J. Ayuso-Mateos^{7,2}, S. Scherbov^{6,2}, W. Sanderson^{6,8}, S. Chatterji⁵, J. Haro^{1,2}, 1. *Research, Teaching and Innovation Unit, Parc Sanitari Sant Joan de Déu, Sant Boi de Llobregat, Barcelona, Spain*, 2. *Centro de Investigación Biomédica en Red de Salud Mental (CIBERSAM), Madrid, Spain*, 3. *University College London, London, United Kingdom*, 4. *King's College London, London, United Kingdom*, 5. *World Health Organization, Geneva, Switzerland*, 6. *International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria*, 7. *Universidad Autónoma de Madrid, Madrid, Spain*, 8. *Stony Brook University, New York, New York*

ATHLOS aims to identify healthy ageing trajectories, the main determinants, the time when changes in trajectories are produced, and to propose timely interventions to optimise healthy ageing. Moreover, a new definition of 'old age' based on many characteristics rather than just chronological age will be used for calculating projections and guide policy recommendations. A harmonised dataset with over 341,000 individuals from existing longitudinal studies of ageing will be created, including information on physical and mental health, life styles, social environment, among others. A single metric of healthy ageing using Item Response Theory will be used. Trajectories will be defined with techniques such as Structural Equation Modelling or Growth Curve Mixture Modelling and cohort effects using Age Period Cohort. Interventions both at the clinical and population level will be designed based on our results. Finally, the impact of those interventions on healthy ageing will be assessed with micro-simulations.

A SYSTEMATIC REVIEW OF THE DETERMINANTS OF HEALTHY AGEING

C. Kralj, C. Daskalopoulou, M. Prince, M. Prina, *King's College London, London, United Kingdom*

Many papers have assessed which factors are associated with healthy ageing, yet this research area has not yet been summarised properly, partly due to the heterogeneity of the studies, and the scale of the task. During this talk, we will present findings from a systematic review of the determinants of healthy ageing (socio-demographic, biological, behavioural and psychological and social). We aimed to: 1-Identify the key determinants of healthy ageing; 2-Qualify and quantify the direction of associations; 3-Summarise research trends across the last decades; 4-Identify knowledge gaps. A review protocol was registered on Prospero before the start of the project (ID=CRD42016037935). Only longitudinal cohort studies were included. No language or time limits were used. The initial title & abstract screening included 92747 papers, whereas 2341 articles were retained for full text screening. Results will be presented, together with a discussion of the research and policy implications of this evidence synthesis.

DATA HARMONIZATION OF LONGITUDINAL STUDIES ON HEALTHY AGEING: THE ATHLOS PROJECT

A. Sanchez-Niubo¹, S. Tyrovolas¹, M. Moneta¹, M. Prina², D. Panagiotakos³, F. Caballero⁴, I. Fortier⁵, 1. *Sant Joan de Déu Research Foundation, Sant Boi de Llobregat, Barcelona, Spain*, 2. *King's College London, London, United Kingdom*, 3. *Harokopio University, Athens, Greece*, 4. *Universidad Autónoma Madrid, Madrid, Spain*, 5. *P3G Consortium, Montreal, Quebec, Canada*

Harmonizing datasets from existing research studies has many benefits: it increases sample size, improves the generalizability and comparability of results, and provides opportunities for collaborative research. However, this process is not always straightforward. Studies are usually very heterogeneous regarding study design, variables collected and follow-up time/number of waves. One of the aims of the ATHLOS project is to create of a harmonized dataset with over 341,000 individuals from 20 existing longitudinal studies of ageing using a rigorous process. This will include information on health status and functional limitations, lifestyles, social environment, among others. The harmonization framework is supported by Maelstrom-Research, an international research program who develops tools and platforms to ensure a systematic and rigorous harmonization activity. In order to explain this comprehensive process, during this symposium, we will present the challenges and successes of this phase of the project, together with a thorough explanation of the harmonization platform.

DEVELOPING A SINGLE METRIC OF HEALTH USING MODERN DATA ANALYTICAL METHODS

D. Panagiotakos³, F. Caballero³, H. Arndt⁴, S. Chatterji⁵, G. Soulis², M. Prina¹, J. Haro⁶, 1. *King's College London, London, United Kingdom*, 2. *Harokopio University, Athens, Greece*, 3. *Universidad Autónoma de Madrid, Madrid, Spain*, 4. *Spring Techno, Bremen, Germany*, 5. *World Health Organization, Geneva, Switzerland*, 6. *Parc Sanitari Sant Joan De Deu, Barcelona, Spain*

One of the aims of the ATHLOS project is to develop a single metric of healthy ageing. Using as a paradigm the ELISA study – English Longitudinal Study on Aging (n= 11,906 participants, entry 1998–2001, last follow up 2011–12, 6 waves) - and applying the Item Response Theory (IRT) approach and multi-level Factor Analyses the metric of healthy aging was developed as a composite score of functioning measures. Exploratory Factor Analysis was conducted to detect the latent structure among items. After conducting the EFA and obtaining evidences for unidimensionality, a global health score was generated by means of IRT. Then, a Machine Learning (ML) approach was applied to explore patterns of healthy aging. Based on these modern analytical methods various socio-demographic and lifestyle behaviors revealed as determinants of healthy aging. Combining classical statistical approaches with machine learning methodologies, the derived pattern recognition is less biased and the conclusions more robust.

POLICY AND KNOWLEDGE TRANSLATION IN THE ATHLOS PROJECT

M. Bobak¹, J. Bickenbach², I. Gheno³, A. Zaidi⁷, S. Chatterji⁶, M. Prina⁵, J. Haro⁴, 1. *Epidemiology and Public Health, University College London, London, United Kingdom*, 2. *Swiss Paraplegic Foundation, Nottwil, Switzerland*, 3. *Age Platform Europe, Brussels, Belgium*, 4. *Parc Sanitari Sant Joan de Déu, Barcelona, Spain*, 5. *Kings College London, London, United Kingdom*, 6. *World Health Organization, Geneva, Switzerland*, 7. *University of Southampton, Southampton, United Kingdom*

An essential part of the ATHLOS project is the translation of the ATHLOS findings, integrated with outcomes of previous research, into prevention and intervention measures. This work stream includes: (i) alternative scenario analysis and microsimulations to examine the economic and social consequences of policy decisions and to identify population-level or clinical interventions to alter ageing trajectories; (ii) exploration with stakeholders of the implications of different approaches to healthy ageing; (iii) identification of major barriers for the optimal implementation of the ATHLOS recommendation; (iv) policy recommendations for health and social policies, clinical practice and prevention and address inequalities in ageing outcomes. To achieve these ambitious goals, this work package includes multi-disciplinary and multi-sectoral team working closely with stakeholders (including policy makers, healthcare services, clinicians, public institutions, international partnerships and organisations, social care services, and the general population) and focusing on strengthening the clinical practice, public health and health care systems.

SESSION 4925 (SYMPOSIUM)

BUNDLED PAYMENT—THE GOOD, THE BAD, AND THE ALARMING

Chair: U. Ohuabunwa, *Emory University*

Co-Chair: W. Horn

The Bundled Payments for Care Improvement (BPCI) initiative was introduced in 2013 under the Affordable Care Act and over 1.500 providers voluntarily participated including acute care hospitals, skilled nursing facilities, physician

group practices and home health agencies. Building on the success of the program, in April 2016 CMS implemented the Comprehensive Care for Joint Replacement (CJR) model which requires over 800 hospitals nationwide to be financially responsible for the quality and care of patients undergoing lower extremity joint replacements (LEJR). This symposium will explore the care of older adults with both LEJR and hip fractures and the role of geriatrics in providing integrated comprehensive care across the continuum. The care of complex geriatrics patients requires development of multidisciplinary partnerships between the geriatrics team and other clinicians such as surgical specialists, physiatrists and post-acute care providers including certified home health agencies (CHHA) and skilled nursing facilities (SNFs).

The target audience includes:

1. Physicians- internists and subspecialists
2. Nurses, social workers, physical therapists, geriatrics case managers
3. Trainees in all of these fields- students, residents and fellows.

COMPREHENSIVE CARE FOR JOINT REPLACEMENT PATIENTS: HISTORY AND NEW ACHIEVEMENTS

U. Ohuabunwa¹, E. Ng², 1. *Emory University, Atlanta, Georgia*, 2. *Montefiore, New York, New York*

Talk #1 Content Outline: Bundle Payment Model is a mechanism to accelerate the health care system's transition to alternative payment model and value-based care. Bundle payment aims to align incentives between payers and the various providers and suppliers to improve quality, outcomes and reduce costs. The importance of coordinated care across provider settings is a critical component of care transformation. The session will provide insights as to the experience in the Montefiore Health system in the implementation of the Bundled Payment program and lessons learned.

Talk #1 Speaker Expertise:

Eliza Ng, MD, MPH is a Senior Medical Director, Care Management Organization, Montefiore Health System, Adjunct Professor New York University School of Medicine

Dr Ng provides leadership in medical and population health management of the ACO and Value Based Care Programs. She provides management leadership in Montefiore's BPCI for joint and the Oncology Care Model Program, a CMS demonstration project in oncology bundle payment,

A GERIATRICIAN'S PERSPECTIVE ON CARING FOR BUNDLE PAYMENT JOINT REPLACEMENT PATIENTS

U. Ohuabunwa¹, W. Horn², 1. *Emory University, Atlanta, Georgia*, 2. *Montefiore, New York, New York*

Title Talk #2: From preoperative evaluation to discharge and transition of care – a geriatrician's perspective on caring for bundle payment joint replacement and hip fracture patients.

Talk #2 Content Outline: The talk will focus on educating clinicians from different specialties on the utility of creating an interdisciplinary team for better outcomes of elderly hip and knee replacement patients under the The Bundled Payments for Care Improvement initiative (BPCI); Preoperative evaluation for hip fracture patients using the ACS National Surgical Quality Improvement Program® (ACS NSQIP®);

Hip and knee replacement patients and their multidisciplinary care from hospital to 90 days postoperative.- prehospital academy, inpatient management and disease management system centered around the home; Team approach and residents education for Comprehensive Care for Joint Replacement (CJR) model patients

Talk #2 Speaker Expertise: Dr. Horn is the Director of Geriatrics Inpatient Service and Director of Geriatrics Hip Fracture Service at Montefiore Medical Center, a busy urban academic hospital in the Bronx. Dr. Horn organized and moderated a session on orthogeriatrics co-management during the AGS 2013 Annual Meeting ("Rally the Troops: Optimizing Teams for Care of Hospitalized Elders").

Her main interest is in developing and implementing models of care that involve different medical and surgical specialties for complex hospitalized elderly patients.

SNF CARE FOR BUNDLE PAYMENT PATIENTS

U. Ohuabunwa¹, L. Solberg², 1. *Emory University, Atlanta, Georgia*, 2. *University of Florida, Gainesville, Florida*

Talk #3 Content Outline:

Discuss the role of the short-term rehabilitation stay in a SNF for patients involved in the bundled payment model for joint replacements in Medicare. Explain the expectations and limitations this program sets for patients and providers. Discuss the role of the geriatrician in the co-management model in the hospital and in the role of the transition of care to the SNF. Present our model of care and the ability to replicate the process in practices of the audience.

Expertise of speaker in this topic:

Dr. Solberg is the Chief of the Division of Geriatric Medicine at the University of Florida College of Medicine. He has successfully implemented several hospital to SNF programs focused on the co-management of patients partnering with surgery and medicine services to benefit the older hospitalized patients. He has assisted in the design and implementation of local guidelines for the bundled payments program at the University Of Florida College Of Medicine. Dr. Solberg is an educator in geriatrics and inter-professional education. He is well published in clinical practice models, education research, and clinical education projects.

POST-ACUTE CARE IN CJR-THE CRITICAL ROLE OF THE CERTIFIED HOME HEALTH AGENCY (CHHA)

U. Ohuabunwa¹, A. Ehrlich², W. Rymarowicz², 1. *Emory University, Atlanta, Georgia*, 2. *Montefiore, New York, New York*

Talk #4 Content Outline

The speakers will outline the stages from design to implementation of a joint replacement program in a CHHA including collaboration with orthopedics, hospital leadership and discharge team; development of clinical pathways; staff education for RNs, PT, and HHA.

Montefiore Home Care has implemented an Elective Joint Replacement Program which cared for over 1,400 patients in 2015. Over 70 % of patients undergoing elective joint replacement are now discharged home compared with 30% before the program's initiation resulting in significant cost savings to the Montefiore network.

Speaker Expertise

Amy Ehrlich MD - Professor of Clinical Medicine, Medical Director Montefiore Home Care, Albert Einstein College of Medicine/Montefiore Medical Center

Wojciech Rymarowicz, MPT, Director of Rehabilitation, Montefiore Home Care.

The speakers have presented this topic at multiple national meetings.

SESSION 4930 (PAPER)

IDENTIFYING AND MANAGING DELIRIUM IN OLDER ADULTS 1

INCIDENCE, RISKS, AND OUTCOMES OF DELIRIUM AFTER TRANSCATHETER AND SURGICAL AORTIC VALVE REPLACEMENT

C. Kim^{1,2}, E.R. Marcantonio^{1,2}, L.A. Lipsitz^{1,2,3}, J.H. Lee², J. Popma^{1,2}, K. Khabbaz^{1,2}, J. Afilalo⁵, D. Kim^{4,1,2}, 1. *Harvard Medical School, Boston, Massachusetts*, 2. *Beth Israel Deaconess Medical Center, Boston, Massachusetts*, 3. *Hebrew SeniorLife, Roslindale, Massachusetts*, 4. *Brigham and Women's Hospital, Boston, Massachusetts*, 5. *Jewish General Hospital, Montreal, Quebec, Canada*

Transcatheter aortic valve replacement (TAVR) has emerged as a minimally invasive alternative treatment to surgical aortic valve replacement (SAVR) in high-risk patients. Postoperative delirium after SAVR is common; delirium rates after TAVR have not been established. We conducted a single-center prospective cohort study to determine the incidence and predictors of delirium in older patients undergoing TAVR (106) and SAVR (73). The Confusion Assessment Method was used daily to assess delirium. Relative to SAVR, TAVR patients were older (84 vs. 78 years), more likely to be frail (Fried phenotype) (82% vs. 36%), but had lower delirium incidence (26% vs. 51%). We identified the following preoperative delirium risk factors after TAVR: Mini-Mental State Examination score <27 (odds ratio [OR]: 6.0; 95% confidence interval [CI]: 1.3–28.5), history of atrial fibrillation (OR: 3.0; 95% CI: 1.1–8.0), and activities of daily living disability (OR: 2.7; 95% CI: 0.9–8.4). After SAVR, the only predictor was New York Heart Association class III-IV (OR: 7.5; 95% CI: 2.5–22.7). After adjustment, delirium was associated with perioperative complications after TAVR (OR: 4.7; 95% CI: 1.6–14.3), but not SAVR (OR: 1.8; 95% CI: 0.3–9.7). Coexisting delirium and complications were associated with prolonged length of stay in the intensive care unit and hospital, and discharge to an institution after both TAVR and SAVR. In conclusion, despite older age and greater frailty, delirium incidence was significantly lower in TAVR than SAVR patients. Risk factors of delirium were different after TAVR and SAVR, but delirium was associated with poor clinical outcomes in both populations.

THE SPECTRUM OF AROUSAL AND ATTENTION: CAPTURING DELIRIUM SUPERIMPOSED ON DEMENTIA

D. Davis¹, S. Richardson², W. Hasemann³, J. Cerejeira⁴, D. Meagher⁵, G. Bellelli⁶, A. Morandi⁷, 1. *MRC Unit for Lifelong Health and Ageing at UCL, London, United Kingdom*, 2. *Newcastle University, Newcastle, United*

Kingdom, 3. *Universitätsspital Basel, Basel, Switzerland*, 4. *Universitário de Coimbra, Coimbra, Portugal*, 5. *University of Limerick, Limerick, Ireland*, 6. *University of Milano-Bicocca, Milan, Italy*, 7. *Ancelle Hospital, Cremona, Italy*

Detecting delirium superimposed-on-dementia (DSD) is difficult because assessment relies on cognitive tests that may be abnormal in both conditions. We hypothesised that assessments focusing more on the arousal-attention spectrum, and less on general cognition, would provide better empirical data for DSD diagnosis.

We recruited patients aged ≥70y from five hospitals across Europe (excluding aphasia; severe hearing impairment). Delirium was diagnosed by physicians according to DSM-5 criteria including information from nurses, carers, and review of medical records. Dementia was ascertained by the Informant Questionnaire of Cognitive Decline in the Elderly (cut-off ≥3.5). Arousal was measured using the Observational Scale of Level of Arousal (OSLA), which assesses eye movement, eye opening, eye contact, posture, movement, and communication. Attention was measured by participants signalling each time an “A” was heard when “S-A-V-E-A-H-A-A-R-T” was read out.

The sample included 114 persons (mean age 82y (SD 7); 54% women). Dementia alone was present in 25% (n=28), delirium alone in 18% (n=21), DSD in 27% (n=31), neither in 30% (n=34). Arousal-attention were assessed in n=109 (96%). Using OSLA, 83% participants were correctly identified (sensitivity 85%, specificity 82%, AUROC 0.92). The attention task correctly classified 76% (sensitivity 90%, specificity 64%, AUROC 0.80). Combining scores correctly classified 91% (sensitivity 84%, specificity 92%, AUROC 0.94), remaining high in the subset with dementia (93% correctly classified, sensitivity 94%, specificity 92%, AUROC 0.98).

This combined arousal-attention assessment to detect DSD was brief yet with high diagnostic accuracy even in dementia. Such an approach could have major clinical utility for diagnosing DSD.

DELIRIUM MOTOR SUBTYPES AND ONE-YEAR MORTALITY AFTER HIP FRACTURE SURGERY

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Delirium is a common complication in elderly subjects hospitalized for hip fracture (HF). However, this geriatric syndrome is multifactorial and heterogeneous in terms of clinical presentation and outcomes. Different classifications have been proposed to describe delirium variants, but literature focusing on the prognostic impact of delirium motor subtypes in hip fracture patients is sparse and inconsistent.

A prospective observational cohort study with one-year follow-up was carried out in the Orthogeriatric Unit of a large university hospital in Italy from October 2011 to January 2015. Delirium was evaluated daily with the Confusion Assessment Method algorithm. Motor subtypes were identified according to Lipowski's classification, which takes into

account alterations of vigilance and behavior (hypoactive, hyperactive, mixed), and confirmed by clinical judgment.

Starting from 539 consecutively admitted patients, 424 were enrolled. Of them, 156 (36.8%) developed delirium. The prevalence of motor subtypes was 6.8% for hypoactive, 17.0% for hyperactive, and 13.2% for mixed subtype. One-year mortality was 15.5% in patients who did not experience delirium, and 41.4%, 20.3%, and 38.2% in the hypoactive, hyperactive, and mixed delirium subgroups, respectively. After adjusting for potential confounders in a Cox regression analysis, mortality was significantly higher among subjects experiencing the hypoactive subtype (Hazard Ratio 2.78, 95% Confidence Interval: 1.15–6.71).

In-hospital hypoactive delirium is significantly associated with higher one-year mortality in patients undergoing hip fracture surgery.

FRAILTY ASSESSMENT TO HELP PREDICT PATIENTS AT RISK OF ED-INDUCED DELIRIUM

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Introduction: Delirium is a frequent complication among seniors in the emergency department (ED). This condition is often underdiagnosed by ED professionals even though it is associated with functional & cognitive decline, longer hospital length of stay, institutionalization and death. Frailty is increasingly recognized as an independent predictor of adverse events in seniors and screening for frailty in EDs is now recommended. The aim of this study was to assess if screening seniors for frailty in EDs could help identify those at risk of ED-induced delirium.

Method: This study is part of the ongoing multicenter prospective cohort *MIDI-INDEED* study. Patients were recruited after 8 hours in the ED exposure & followed up to 24h after ward admission. Frailty was assessed at ED admission using the Canadian Study of Health and Aging-Clinical Frailty Scale (CSHA-CFS) which classified seniors from robust (1/7) to severely frail (7/7). Seniors with CSHA-CFS $\geq 5/7$ were considered frail. Delirium was assessed using the CAM.

Results: 370 patients were recruited. Preliminary data show an incidence of ED-induced delirium of 10.0%. Average frailty score at baseline was 3.5. 72 patients were considered frail, while 289 were considered robust. Among the frail seniors, there were 48.4% (30–66) patients with ED-induced delirium vs 17.9% (13.7–22.0) in the non-frail ones ($p < 0.0001$).

Conclusion: Increased frailty appears to be associated with increased ED-induced delirium. Screening for frailty at emergency triage could help ED professionals identify seniors at higher risk of ED-induced delirium.

DISRUPTIONS, DISCONTINUITIES, AND DISPERSIONS: AN ETHNOGRAPHY OF DISJUNCTURES IN ORTHOPAEDIC WARDS

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Enhanced Recovery Pathways (ERPs) have become viewed as evidence-based medicine being brought to bear. Events are sequential, aiming to maximise throughput, productivity and quality. It is notable that usual care is full of multiple types of disjunctures (disruptions, discontinuities and dispersions) for patients, carers as well as health and social care professionals. Patients featuring on the cognitive impairment continuum (living with dementia and/or delirium) can present particular disruptions to usual practice. As part of the Peri-operative Enhanced Recovery hip Fracture Care of patients with Dementia (PERFECTED) research programme, focused ethnographic observations were conducted to unpick the everyday lived experiences of how patients experiencing delirium and/or dementia impact on ERP orientated practices on Orthopaedic Trauma wards.

Observations of routine “public” care places and activities were conducted across the 24 hour cycle, over 4 weeks in 3 secondary care settings across the United Kingdom. The spaces were selected due to the presence of care delivery processes aiming to provide ‘enhanced recovery’ to PERFECTED’s target population. Consisting of 144 hours of fieldnotes, data identifies multiple types of disruptions and discontinuities for patients and staff, with patients living with dementia posing particular and specific disruptions to usual practice, conditioning and staff responses. We will discuss how such practice dilemmas are well-known but not well-captured in this setting in relation to their specific impact on clinical care. The paper will conclude by demonstrating the value of ethnographic observations in health science research and how ERP procedures can be situated in usual care practices.

SESSION 4935 (SYMPOSIUM)

AN INTERNATIONAL PERSPECTIVE ON IMPLEMENTING FRAILTY INTO CLINICAL PRACTICE

Chair: M. McAdams De Marco, *Johns Hopkins University School of Public Health, Baltimore, Maryland*

Discussant: J.E. Morley, *Saint Louis University, St. Louis, Missouri*

Frailty is a clinical state of increased vulnerability characterized by high risk of adverse healthcare outcomes when exposed to a stressor that is frequently observed in older adults. Although frailty is commonly recognized by clinicians across a range of diseases and medical conditions, it is most commonly utilized in clinical and biologic research rather than in routine clinical care. The slow progress in the implementation of frailty into clinical practice may in part stem from the lack of consensus around the definition of frailty and because of a proliferation of frailty screening tools. However, amongst clinicians, there is a compelling need to identify and more appropriately treat frail and vulnerable older adults. This symposium will feature a group of international experts

who have helped to develop and propagate some of the major tools used in frailty research, including the frailty phenotype, the frailty index, and the Gerontopole frailty tool. These investigators will discuss attempts to date to integrate distinct tools into clinical practice for screening purposes, for risk assessment and for the prevention of adverse outcomes. They will also outline future plans for further implementation of these tools into primary care, hospital, and subspecialty practices with the goal of improving outcomes and quality of life for the most vulnerable subset of older adults.

THE USE OF PHYSICAL FRAILTY MEASUREMENT IN GENERAL AND SUBSPECIALTY CLINICAL PRACTICE

J.D. Walston, *Johns Hopkins School of Medicine, Baltimore, Maryland*

Physical frailty measurement, also known as the frailty phenotype or Fried Frailty assessment, uses an aggregate of measures of grip strength, walking speed, weight loss, fatigue and physical activity to determine frailty status. Frailty status has then been utilized in population studies in order to determine future risk of disability, falls, hospitalization, and mortality. In addition, it has been extensively utilized to identify chronic inflammation and altered stress response systems as probably biological basis of frailty. Results of these epidemiological studies have encouraged the increasing integration of physical frailty measurement into a wide variety of general and subspecialty clinical practices. These include 1) cardiovascular, oncological, and thyroid surgery, 2) anesthesia and pre-operative assessment, and 3) into general Geriatric practice. The speaker will provide a brief overview of the physical frailty assessment and provide examples of how it is presently being integrated into decision making processes in each of these specialties.

CLINICAL USE OF THE PHYSICAL FRAILTY PHENOTYPE IN OLDER TRANSPLANT RECIPIENTS

M. McAdams De Marco, *Johns Hopkins University School of Public Health, Baltimore, Maryland*

In the US, frailty prevalence is high in older end stage renal disease (ESRD) patients being evaluated for kidney transplantation (KT); among patients aged 65–74, 27.1% are frail and among patients aged ≥ 75 , 23.7% are frail. Older KT recipients are more than twice as likely to be frail, which increases their risk of longer length of stay, delayed graft function, early hospital readmission and post-KT mortality. At JHU and other US transplant centers, frailty is used as a valid and reliable ‘foot of the bed test’ and is included in the evaluation process to improve older KT candidate selection. These transplant centers can accept a marginal older candidate who are robust or in contrast, decide against transplanting a frail older candidates. Importantly, frailty mitigates the reliance on chronologic age for risk prediction in older adults and helps identify who would do well with KT despite their age.

USING A FRAILTY INDEX BASED ON DEFICIT ACCUMULATION

K. Rockwood, *Dalhousie University, Halifax, Nova Scotia, Canada*

Frailty as a state of increased risk can be operationalized by a frailty index. It is the proportion of age-related health

deficits present in an individual to the deficits counted. As it does not require special instrumentation, existing/routinely collected data can quantify frailty across clinical and population settings. Several electronic frailty indices have been devised, allowing risk to be graded on millions of people. The mean frailty index score varies by regional and national economic indicators, so it is also being used as a population health metric. Despite varying versions, the frailty index characteristically increases by ~4% annually across the adult lifespan, to a maximum value of 0.7. It is used in research to estimate personal biological age and more recently in pre-clinical models. From cellular to social inquiries the metrics of the frailty index can grade clinical risk and can facilitate the study of ageing, resilience and age-related illnesses.

CLINICAL APPLICATIONS OF THE CLINICAL FRAILTY SCALE AND THE PICTORIAL FIT-FRAIL SCALE

O. Theou, *Dalhousie University, Halifax, Nova Scotia, Canada*

Most health care professionals would agree on the importance of frailty assessment in clinical settings. Even so, there is no agreement on which frailty tool is feasible to implement in clinical settings and whether the same tool should be used across settings. In this presentation we will provide evidence about the clinical applications of the Clinical Frailty Scale and the Pictorial Fit-Frail scale. The Clinical Frailty Scale is based on the clinical evaluation of a patient's status in the domains of mobility, energy, physical activity, and function and is now expanded to include nine levels from very fit to terminal ill. The Pictorial Fit-Frail scale recently developed to be simpler and easier to administer within clinical settings, measures levels of fitness to frailty using visual prompts.

IDENTIFICATION OF FRAILTY IN PRIMARY CARE: THE GÉRONTOPÔLE FRAILTY SCREENING TOOL

M. Cesari^{1,2}, A. Piau^{1,2}, B. Fougère^{1,2}, 1. *Université de Toulouse III Paul Sabatier, Toulouse, France*, 2. *Centre Hospitalier Universitaire de Toulouse, Toulouse, France*

In 2011, the Gerontopôle of the Centre Hospitalier Universitaire de Toulouse (Toulouse, France) developed a Frailty Clinic for providing multidisciplinary evaluation (and consequent personalized plan of intervention) to community-dwelling frail elders. An ad hoc screening instrument for frailty (the so-called Gerontopôle Frailty Screening Tool, GFST) was specifically conceived and proposed to the local general practitioners (GPs). The instrument was designed for 1) being formative for GPs in the identification of a usually underestimated clinical condition as frailty, 2) being easy to implement in the busy clinical routine, 3) largely relying on the subjective evaluation of the GP, and 4) supporting a multidimensional approach to frailty. Given the success of the initiative, the GFST (today available in nine different languages) and the Frailty Clinic model are today largely diffused in France.

SESSION 4940 (SYMPOSIUM)

NATIONAL ALZHEIMER'S PLANS AND INITIATIVES: LESSONS LEARNED FROM IMPLEMENTATION

Chair: H. Bergman, *McGill University*

Co-Chair: I. Vedel, *McGill University*

Alzheimer disease and related disorders have been recognized as a public health priority by WHO. Almost 20% of Baby-Boomers will suffer from Alzheimer's disease (AD) and related disorders during their lifetime. With the increasing number of older persons, Alzheimer's disease continues to be a major global public health issue. This will be even more imperative with the advent in the coming years of biomarkers and disease modifying medications.

Central to all these efforts is the objective to provide access to personalized, co-ordinated assessment and treatment services for people with AD and their caregivers.

Many jurisdictions across the world have developed initiatives to improve care of persons with dementia while some have actually adopted and implemented Alzheimer plans, with major efforts to develop and implement innovative collaborative care policies and models to improve early detection, access and care for patients and their caregivers. The French plan is focused on specialty care while plans in Canada and Israel as well as initiatives in the USA are anchored in primary medical care. The objectives of this symposium are to: 1) discuss the key characteristics of initiatives and policies implemented in Canada, USA, France and Israel; 2) present data on the impact of these initiatives, models of care and policies on the detection, diagnosis, treatment of dementia, continuity of care, quality of follow-up, coordination between primary care and specialty care, satisfaction; 3) examine policies implementation strategies and identify key factors for successful development and large scale implementation.

THE ISRAELI NATIONAL DEMENTIA PLAN: INCREASING AWARENESS AND MOBILIZING RESOURCES—A JOINT ENDEAVOR

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In 2013, Israel developed a national strategic plan for dementia, based on an interdisciplinary and inter-organizational group of experts. The plan offers a holistic perspective and emphasizes collaboration among all relevant agencies. The Ministry of Health has set up an implementation committee that meets regularly.

Major accomplishments to date include:

- Increasing public and professional awareness of dementia.
- Promoting discourse among healthcare leaders to advance dementia policy and practice including prevention and timely diagnosis, provision of quality care, and end of life issues, with a focus on primary care.
- Increasing cooperation among governmental agencies and civil society, to encourage the development and implementation of services for people with dementia and their families.

A major challenge is to secure the needed financial and professional resources, and political support, to ensure sustainability of these accomplishments and future development for the years ahead.

CARING FOR OLDER ADULTS WITH DEMENTIA: A UNITED STATES PERSPECTIVE

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In the United States, older adults with dementia receive health care through a distributed and fragmented system of providers. Families provide the majority of day-to-day care and primary care physicians remain the usual provider of health care. Only a small percentage of patients with dementia access specialty memory care practices. Clinical trial evidence demonstrates the capacity to redesign primary care for persons with dementia using the principles of collaborative care including: a focus on the patient-caregiver dyad; a tailored, team-based approach to care; and, an emphasis on non-pharmacologic approaches. However, persons with dementia account for only a small percentage of a typical primary care practice, rendering costly practice redesign impractical. We describe current efforts to reconsider the design and content of collaborative care models to improve scalability and reach to the large population of older adults and family caregivers who seek better options for care.

THE FRENCH ALZHEIMER'S PLANS

J. Ankri, *UVSQ-INSERM U1168, Paris, France*

France was one of the first countries to develop specific, funded, and well-structured plans for Alzheimer's disease. After two plans since 2000, the third one (2008–2012) resulted in actions from care to research, whilst respecting ethical considerations. It intended to improve the quality of care and to combine research efforts. An evaluation of this plan at the request of the French government was performed at the end of 2012, and led to a fourth plan expanded to neurodegenerative diseases. The French plans aim to offer a comprehensive response to the increase of the disease's prevalence. Faced with the challenges of the growing dementia population, every country has answered with their own methods and objectives, through the development of specific plans (like in France) or within their policies and programs for seniors as well as mental health. These differences may be linked to the different health and social systems.

THE QUEBEC ALZHEIMER'S PLAN: IMPACT ON DEMENTIA MANAGEMENT IN PRIMARY CARE CLINICS—CANADA

I. Vedel^{1,2}, N. Sourial^{1,2}, G. Arseneault-Lapierre², M. LeBerge², M. Hardouin², A. Bakry^{1,2}, H. Bergman¹, 1. *Department of Family Medicine, McGill University, Montreal, Quebec, Canada*, 2. *Lady Davis Institute, Jewish General Hospital, Montreal, Quebec, Canada*

The Alzheimer Plan, focusing on primary health care as the hub of networked care for patients with dementia, is being implemented in 40 selected Family Medicine Groups in Quebec, Canada. Our objectives were to: 1) assess the impact of the plan on detection, diagnosis, treatment and

quality of dementia care management, 2) describe the implementation strategies for successful large scale-up. We used a mixed methods design: a quantitative pre/post-Alzheimer Plan study and a qualitative implementation study. We conducted a chart review, survey, interviews and focus groups. The quality of dementia care management score increased significantly by 8%. Key elements for successful large-scale implementation were: leadership at all levels, existence of a champion family physician, ongoing training of clinicians, simple clinical tools, interdisciplinary care. Additional results are forthcoming. Further research across Canadian provinces is being conducted to identify the organizational and clinical characteristics associated with higher quality of care.

SESSION 4945 (SYMPOSIUM)

PRESIDENTIAL SYMPOSIUM: INTERNATIONAL EFFORTS TO ADDRESS POLYPHARMACY THROUGH POLICY AND HEALTH AUTHORITIES: IGRIMUP SYMPOSIUM 2

Chair: D. Garfinkel, *Homecare Hospice & Geriatric-Palliative Service, Israel Cancer Association & Wolfson Medical Center & Bat - Yam, Israel*

Co-Chair: M. Denking, *Bethesda Agaplesion Hospital, Ulm, Germany*

Discussant: M. Wehling, *Medical Faculty Mannheim Ruprecht-Karls-University Heidelberg*

In the first IGRIMUP symposium, we have concentrated on the wide variety of negative clinical outcomes of inappropriate medication use and polypharmacy (IMUP). There are also huge, negative economic consequences to individuals and societies. The second IGRIMUP symposium highlights the fact that in most countries, the extent of IMUP and its impact on the “geriatric boom burden”, are inappropriately appreciated and insufficiently addressed by decision-making authorities. Neither the academic health-related institutions nor governments or healthcare services seem to act forcefully enough to combat IMUP and reduce its negative impact on individuals and societies. Wise, knowledgeable, ethical medical doctors, pharmacists, nurses and other caregivers, are many times forced by the same health authorities to automatically implement clinical guidelines apparently representing good quality of care. However, these approaches may cause more harm than good in subpopulations of very old, those with comorbidity, dementia, frailty and limited life-expectancy (VOCODFLEX). Even patients with advanced cancer or non-cancer end of life situations, are prescribed “curative” and preventive medications many times until death. Professional healthcare givers mainly medical doctors and pharmacists are trying to invent and promote tools for improving screening, prevention and treatment of IMUP. However, unless the academy and policy-makers contribute much more, the caregiver’s chances to succeed in our fight against IMUP for the benefit of all of us, are slim.

WHAT POLICIES ARE IN USE ACROSS CANADA TO REDUCE INAPPROPRIATE MEDICATION USE IN OLDER ADULTS?

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Decision-making regarding the initiation and cessation of medications in older adults is primarily the responsibility of clinicians, however, this can be impacted by appropriate health policy. This study investigated policies across Canadian jurisdictions designed to discourage the use of inappropriate medications, and encourage deprescribing.

A nation-wide questionnaire containing 10 open-ended questions, were distributed to the Canadian Pharmaceutical Directors Forum through the Ministries of Health in 2015. Two reviewers categorized responses and analyzed themes.

Ten of 12 jurisdictions completed the questionnaires. Policies identified included de-listing specific medications, dose restriction, limited use/special authorization and incentives for reviewing medications or refusing to fill inappropriate prescriptions. 60% of jurisdictions coordinated collaboration across academic, health care, and policy sectors to provide additional services. Gaps noted included the potential for substitution of alternate harmful drug therapies. A range of strategies exist across Canada to reduce inappropriate medicines in older adults, with variable success.

EVIDENCE MAPS FOR DRUG THERAPY IN FRAIL OLDER ADULTS

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Evidence on the efficiency of pharmacotherapy is especially scarce for frail older adults, which are particularly exposed to extensive changes in the medication due to clinical needs. Adequate studies (RCTs and non-randomized trials) addressing this population are lacking, and observational studies frequently show heterogeneous results. One explanation for this heterogeneity could be differences in the conceptualization of frailty and its discriminative capacity across many different available assessments. In our project “Medication and QoL in Old Age” we developed evidence maps for highly prevalent diseases in frail older adults, starting with arterial hypertension and major depression. We set cut off points for the identification of frail persons using several frailty-, vulnerability-, and CGA-related scores used in trials. We aimed i) to gain a better understanding of the effect of pharmacotherapy across the identified frailty levels and II)

to build updated evidence maps for drug therapy based on operationalized criteria for frailty.

CONSENSUS VALIDATION OF THE FORTA (FIT FOR THE AGED) LIST IN SEVERAL COUNTRIES

M. Wehling, F. Pazan, *Medical Faculty Mannheim Ruprecht-Karls-University Heidelberg, Mannheim, Germany*

The drug treatment of the elderly is still in many cases inappropriate but health organizations/authorities in many countries fail to improve it. In order to adequately address this problem and to increase the appropriateness and quality of drug treatment in the elderly, our group has developed a clinical aid called the FORTA List. The FORTA List has recently been validated by experts from Germany and Austria in a Delphi consensus procedure. Moreover, we assessed FORTA's utility in a randomized prospective trial which showed that FORTA significantly ($p < 0.0001$) improves the quality of drug treatment. Based on our results, we conducted a consensus validation of country-specific FORTA Lists in several countries. In a preliminary analysis of the data from 6 participating countries each mean consensus coefficient was higher than 0.9. The results of this project will be used to develop country-specific FORTA Lists and a European FORTA List.

APPLICATION OF POTENTIALLY INAPPROPRIATE MEDICATION CRITERIA FROM NATIONAL HEALTH INSURANCE DATABASE

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National Health Insurance Research Database (NHIRD) is an important administrative database for investigation of drug utilization in Taiwan. Potentially inappropriate medication-Taiwan (PIM-Taiwan) criteria have been developed in 2012. We have applied the NHIRD to investigate the prevalence of PIMs, PIMs' associated factors, and leading PIMs among outpatient department (OPD) visitors, emergency department (ED) visitors, and older home healthcare service recipients (HHSRs), separately. The prevalence of having at least one PIM in 2009 was highest with 2012 Beers (86%; 60%), followed by PIM-Taiwan criteria (73%; 40%), then PRISCUS criteria (66%; 32%) among OPD and ED visitors, respectively. But, for HHSR, the prevalence of PRISCUS PIMs

was higher than those of PIM-Taiwan criteria. Polypharmacy was the major associated factors of PIMs regardless which set of criteria. By using PIM-Taiwan criteria, benzodiazepine for OPD visitors, psychotropic drugs and antihistamines for HHSRs, as well as antihistamines for ED visitors were the most prevalent PIMs.

CAN WE CHANGE THE POLICY OF PRESCRIBING COMMON MEDICATIONS UNTIL DEATH?

D. Garfinkel, *Homecare Hospice & Geriatric-Palliative Service, Israel Cancer Association & Wolfson Medical Center &, Bat - Yam, Israel*

"Preventive" medications for common diseases have proven efficacy in relatively healthy adults. Prescribing these to the very old, with co-morbidity, dementia, frailty and limited life-expectancy (VOCODFLEX) is harmful. We evaluated medications given to end-stage cancer patients (ESCP) upon admission to Homecare Hospice, Israel Cancer Association. 202 ESCP, average age 80, average Hospice stay until death 39 days. Average number of common medications 9.2, 63% consumed 6–12, 23% 12–22 drugs. 2 months before death, 22% were still on aspirin for "vascular problems prevention", 60% were prescribed at least one, 17% ≥ 3 Blood Pressure lowering drugs, 30% were still on statins "to lower serum cholesterol". Oncologists do not change medications prescribed by other experts and vice versa. ESCP continue to visit family physicians/experts who continue to prescribe based on "their guidelines"—unproven in this sub-population. "Defensive medicine guidelines" may be harming most vulnerable subpopulations. Who is responsible for stepping on the brakes?

SESSION 4950 (PAPER)

EPIDEMIOLOGICAL STUDIES: PHYSICAL FUNCTION AND LONGEVITY

FUNCTIONAL TRAJECTORIES IN THE ELDERLY: THE PAQUID COHORT, A 24-YEAR, POPULATION-BASED STUDY.

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The aim was to describe the trajectories of dependency preceding death according to the continuum of dependency in the elderly.

A 2-parameter probit longitudinal Item Response Theory (IRT) model for graded responses combined with a latent class mixed model (LCMM) was performed on a sub-sample of 3 238 community dwellers aged 65 years and over at baseline (1988) from the Paquid prospective cohort on ageing. Dependency was estimated with a 11-item scale of basic and instrumental activities of daily living (ADL and IADL) collected at home every 2 to 3 years over 24 years. The IRT model described the continuum of dependency with early losses in IADL (shopping, transporting), last losses in ADL (eating and transferring), and an overlapping of IADL and ADL in the middle of the continuum; and the LCMM identified five heterogeneous 24-year trajectories adjusted

for age at death, education and sex. Two trajectories (24.2% of the sample) with an accelerated decline were associated with women (94.2% and 60.2%) and dementia (54.2% and 52.1%) with participants dying with ADL limitations in eating and toileting. Two other trajectories (69.5% of the sample) showed progressive decline with respectively 66.2% and 16.3% of men, few dementia (8.9% and 16.3%) and participants dying with limitations in handling finances and dressing. One trajectory showed an abrupt decline (6.2% of the sample) with 83.7% of men and few dementia (8.9%). The “mapping” of dependency process associated with longitudinal trajectories provide an in-depth understanding of the natural history of dependency in aging.

DETERMINANTS OF PEAK AND LOSS OF MUSCLE STRENGTH THROUGHOUT THE LIFECOURSE

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Low grip strength in later life, a marker of sarcopenia, is an established risk factor for subsequent disability, morbidity and mortality. The principal determinants of low grip strength have been established as: older age; shorter stature; low physical activity; poor nutrition; socioeconomic disadvantage and comorbidity. Little is known about risk factors for accelerated loss of grip strength in later life. We investigated determinants of level and loss of grip strength using data from 1650 men and 2053 women (aged 50 to 89 years), who had grip strength measured at waves 2, 4 and 6 of the English Longitudinal Study of Ageing. Loss of grip strength was characterised using a residual multilevel-modelling approach and analysed for men and women combined in relation to participant characteristics. Older age, shorter stature, physical inactivity and comorbidity were associated with lower level, and accelerated loss, of grip strength ($p \leq 0.001$ for all associations). Lower levels of physical activity, household wealth ($p < 0.001$) and never having married ($p = 0.02$) were all associated with lower level of grip strength, but not with rate of loss. Our data suggest that peak muscle strength and the rate of involutional muscle weakness contribute in approximately equivalent proportion to the muscle strength of older people (75–89 years). Our results further suggest that each of these components may have different determinants during growth and older age. Further research is required to replicate our results and to inform development of interventions to promote maintenance and prevent loss of muscle strength in later life.

DISSIMILARITIES IN TRAJECTORIES OF PHYSICAL FUNCTION DECLINE IN OLDER ADULTS BY SEX

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Purpose: Aging is associated with decline of physical function with heterogeneous rates of decline across individuals. We aimed at identifying risk factors for accelerated decline of lower extremity performance over 9-year follow up in participants of the InCHIANTI study aged 65–75 years, with a Short Physical Performance Battery (SPPB) score >9 and non-disabled at baseline evaluation.

Methods: Time trajectories of SPPB were characterized by Latent Class Growth Curve, separately in men and women and categorized as fast and slow linear decline.

Predictors of SPPB decline were identified by logistic regression among demographic, physiological and bio-marker variables. Fit of the model prediction was explored by ROC curve.

Results: 507 participants (246M, 261F both 70 ± 3.0 ys of age) were included. Average baseline SPPB was 11.7 ± 0.6 for men and 11.2 ± 1.0 for women. Significant predictors of SPPB decline for males were none and low physical activity ($OR=9.4$ and $OR=4.1$), number of diseases ($OR=1.4$), hip flexion strength ($OR=0.9$) and total cholesterol ($OR=0.98$). Main predictors for women were different and included: age ($OR=1.5$), vitamin D <60 nmol/L ($OR=3.0$), C-reactive protein $>5\mu\text{g/mL}$ ($OR=2.9$) and hip flexion strength ($OR=0.8$). AUC values derived from ROC analyses were 81.9% for males and 85.6% for females.

Conclusion: Risk factors for differential rates of decline of physical function with age include both functional variables and blood biomarkers but are different between men and women. Of particular interest, C-reactive protein is a risk factor only in women confirming previous reports.

THE LINK BETWEEN EDUCATIONAL ATTAINMENT AND MORTALITY OVER TIME IN THE UNITED STATES

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This study shows the relationship between low, medium and high educational attainment and death rates based on adjusted risk ratios in the US adult population stratified by white and black, males and females over time (1986–2014).

Mortality relative risks, adjusted for marital status, smoking and alcohol were calculated using a generalized linear model from NHIS data for three time periods. Death rates based on these adjusted risks were apportioned for different educational groups based on educational prevalence data

The findings show that relative risk ratios for mortality which took into account age, smoking, alcohol and marital status resulted in lower risk ratios compared to unadjusted risk rates for all demographic groups in the study. The probability of death based on adjusted mortality risk ratios for white males decreased over time for all educational levels. The difference at aged 65 between lowest and highest educated increased over the past decade to return to rates closer to that in the late 1980s. The difference between low and high educated white males in 2000–2014 translate to a difference of a decade of life-expectancy. The probability of death based on adjusted risk ratios also decreased over this time period for black men, black women and white women. Compared to white men, all these groups showed an improvement in terms of reduction in death rates differences between 1992–1999 and 2000–2014. However, for all time periods, black males continue to have the largest differential in absolute percentage terms in probability of death compared to any other groups.

Conclusion

Lower-educated white males in the United States lose up to a decade in life-expectancy compared to high-educated white males.

DOES THE IMPACT OF BMI ON BACK PAIN CHANGE AS PEOPLE AGE? 37 YEARS OF FOLLOW-UP IN A BRITISH COHORT

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Back pain is one of the most prevalent conditions affecting older people and has a major impact on activity participation. Higher body mass index (BMI) is an important risk factor for back pain but there is little evidence on whether it becomes more or less important as people age. This study aimed to examine whether associations of BMI with back pain change with age and extend into later life using data from a nationally representative British birth cohort, the MRC National Survey of Health and Development. Back pain was self-reported at ages 31, 36, 43, 53, 60–64 and 68. Repeat measures of weight and height were used to calculate BMI at equivalent ages. Mixed-effects logistic regression models with random intercepts and slopes for age were fitted to test the associations of BMI with back pain across adulthood. The odds ratio (OR) for back pain increased per year increase in age ([OR=1.03 (95%CI 1.03 – 1.04)]. After adjusting for age and sex, higher BMI was associated with increased odds of back pain over the 37-year follow-up period [OR of back pain per 1kg/m² increase in BMI=1.06 (95%CI 1.05 – 1.08)]. There was no evidence that this association changed with age (age×BMI interaction, $p=0.8$). Associations were maintained when other risk factors for pain identified in this study (including childhood serious illness, height and occupation) were accounted for. These findings suggest that higher BMI across adult life is a persistent risk factor for back pain and remains an important target for intervention into old age.

SESSION 4955 (PAPER)

CULTURAL AND ORGANIZATIONAL FACTORS AFFECTING END-OF-LIFE CARE

DEATH OF A LOVED ONE FRAMES END OF LIFE DECISION MAKING IN AFRICAN AMERICAN PACE PARTICIPANTS

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Understanding the African American (AA) perspective around end of life (EOL) preferences, particularly place of death is a critical step in providing patient and family-centered care within a Program of All-inclusive Care of the Elderly (PACE). The purpose of this study was to better understand values and attitudes associated with EOL preferences. Focus groups (3) were held at one urban primarily AA (95%) PACE to investigate their EOL preferences. Twenty-one AA older adult participants were predominantly high school educated (71.4%), female (81.0%), and Christian (90.5%). Content analysis was used to identify the following themes: 1) Previous Experience with Death and 2) Spiritual Preparation and Celebration and one additional finding of “I Don’t Care.” In Previous Experience with Death, the participants reflected on the deaths of loved ones as they discussed some EOL situations likely to engender familial conflict and

burden. The AA older adults offered EOL planning strategies which they employed to avoid potential problematic EOL situations. Spiritual preparation and celebration included discussion on their relationship with God, being reunited with family after death and mapping out their funeral to celebrate their lives. Regarding the participants’ preference for place of death, it was equally divided between dying in the hospital where there are professionals trained to care for dying older adults and dying at home with family present. Implications include developing culturally sensitive educational materials to facilitate families having conversations around EOL preferences, in order to ensure wishes are honored and supported by both families and the PACE team.

30-DAY ALL-CAUSE READMISSION IN OLDER HEART FAILURE PATIENTS RECEIVING HOME VERSUS INPATIENT HOSPICE

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Background: Under Affordable Care Act hospitals may lose Medicare reimbursement for higher 30-day all-cause readmission, for which heart failure (HF) is leading cause, with ~25% HF patients being readmitted within 30 days of discharge. Hospice care may lower this risk. However, whether there is a difference between home hospice versus inpatient hospice remains unknown.

Methods: In Medicare-linked OPTIMIZE-HF, of 25345 hospitalized HF patients 479 (2%) received post-discharge hospice (201 inpatient and 278 home) care. Propensity scores for inpatient hospice care, estimated for each of 479 patients, were used to match 125 inpatient hospice with 125 home hospice patients who were balanced on 46 baseline characteristics. The 250 matched patients had a mean age of 83 years, a mean EF of 36%, 61% were women, and 4% African American.

Results: 30-day all-cause readmission occurred in 7% and 4% of matched inpatient hospice versus home hospice patients, respectively (HR, 2.73; 95% CI, 0.91–8.21). There was no difference in 6-month all-cause readmission (11% each). The risk of 30-day mortality was higher in the inpatient group, both at 30 days (87% vs. 82%; HR, 1.93; 95% CI, 1.39–2.67) and 6 months (93% vs. 87%; HR, 1.46; 95% CI, 1.11–1.91).

Conclusion: Among hospitalized older patients with HF, both inpatient hospice and home hospice care were associated with low rates of 30-day all-cause readmission, which was numerically lower in the home hospice group at 30 days, but not at 6 months. Home hospice patients had lower risk of all-cause mortality at both times.

BURDENSOME INTERVENTIONS AND ANTIBIOTIC USE AMONG END-OF-LIFE NURSING HOME RESIDENTS WITH DEMENTIA

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Ontario, Canada, 2. Institute for Clinical Evaluative Sciences, Toronto, Ontario, Canada, 3. Institute of Health Policy, Management and Evaluation, University of Toronto, Toronto, Ontario, Canada, 4. Harvard Medical School, Boston, Massachusetts, 5. Institute for Aging Research, Hebrew SeniorLife, Boston, Massachusetts, 6. Division of General Internal Medicine, Mount Sinai Hospital, Toronto, Ontario, Canada, 7. Women's College Research Institute, Toronto, Ontario, Canada

Older nursing home residents with advanced dementia have limited life expectancies. These individuals often receive intensive medical care towards the end-of-life thereby incurring burdensome interventions and antimicrobials of questionable benefit. We aimed to describe the frequency, nature, and predictors of burdensome interventions and antimicrobials received by Ontario nursing home residents with advanced dementia during the last 30 days of life. A population-based retrospective cohort study was conducted using linked administrative records. Logistic regression was used to determine the patient and facility characteristics associated with receipt of burdensome interventions. We included 27,243 Ontario nursing home residents with advanced dementia who died between June 2010 and March 2015. The majority (71.1%) were women and the average age of death was 87.1 ± 7.2 years. Nearly half (46.8%) were dependent for their basic activities of daily living with 8.1% being totally bedbound. In the last 30 days of life, 21.8% were hospitalized, 8.9% visited an emergency department, and 9.8% received medical resuscitation. More than 1 in 3 (36.2%) were dispensed an antibiotic, and 86.6% of residents received a physical restraint. Male sex, fewer days in nursing home prior to death, and lower income were all independently associated with transfer to acute care and medical resuscitation, while palliative care consultation, bedbound status, and older age were negative predictors. We conclude that many older Ontario nursing home residents with advanced dementia receive burdensome interventions and antimicrobial agents at the end-of-life. The provision of care for these patients must align with their life expectancies and goals of care.

DOES EXPECTATION OF DEATH EXPLAIN RACIAL AND ETHNIC DISPARITIES IN THE LOCATION OF DEATH?

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Older black and Latino Americans are more likely than whites to die in the hospital. Minorities may seek more aggressive care at the end of life because they are less aware that they have a limited prognosis. We sought to determine if the expectation of death moderates or mediates racial/ethnic disparities in location of death. We examined after death interviews among next-of-kin for 5979 decedents over 65 who participated in the Health and Retirement Study and responded to the question: "Was the death expected?" 55% were women, 79% were white, 14% black, and 7% Latino. Death was expected for 59% of participants. We tested for an interaction between race/ethnicity and the expectation of

death on death in the hospital and used multivariate modeling to calculate unadjusted and adjusted relative risk of death in the hospital by race/ethnicity. Whites and Latinos were >15% less likely to die in the hospital when death was expected than when it was not; with no difference among blacks (interaction $p < 0.001$). Overall compared to whites, blacks and Latinos were more likely to die in hospital (blacks, $RR = 1.24$; Latinos, $RR = 1.90$, both $p < 0.001$). Adjusting for potential confounders attenuated the differences (blacks, $RR = 1.23$; Latinos, $RR = 1.14$, both $p < 0.001$), but further adjusting for the expectation of death did not (blacks: $RR = 1.21$, $p < 0.001$, Latinos: $RR = 1.13$, $p = 0.009$). These findings suggest that expectation of death has a stronger role on death in the hospital for whites and Latinos than black Americans, suggesting an important point for education and communication among black families.

SESSION 4960 (SYMPOSIUM)

SHEDDING LIGHT ON PATHOPHYSIOLOGY AND OUTCOMES OF POST-OPERATIVE DELIRIUM: NEW SAGES STUDY RESULTS

Chair: T. Trivison, Beth Israel Deaconess Medical Center, Boston, Massachusetts

Co-Chair: S.K. Inouye, Beth Israel Deaconess Medical Center

Discussant: S.A. Studenski, National Institute on Aging, Baltimore, Maryland

The Successful AGing after Elective Surgery (SAGES; P01AG031720) study is a unique longitudinal cohort examining the pathophysiology and long-term outcomes of delirium among older persons ($N = 566$; age 70+ years), followed for 3–6 years. The study features several strengths and innovations. It utilizes state-of-the-art measurement of the incidence, duration, and severity of delirium episodes. Its focus on elective surgeries permits 'true baseline' measures of key endpoints and covariables prior to surgery. Its repeated follow-up measurements at 1, 2, and every 6 months thereafter permit close examination of both acute and longer-term effects. Finally, its comprehensive data collection provides clinical and epidemiologic data, neuropsychological and functional measurements, brain imaging, and plasma biomarkers.

This symposium will present new results describing the SAGES cohort and procedures; the role of systemic inflammation in the pathophysiology of delirium; the influence of delirium on one-year functional recovery after surgery; the prediction of long-term cognitive decline following delirium; and the novel phenotype of "complicated" delirium, defined as a delirium event accompanied by longer-term cognitive decline over a 3-year follow-up period. Thus, this symposium will help to advance our scientific understanding and clinical management of the highly morbid and complex syndrome of delirium.

THE SAGES STUDY: DESCRIPTION OF COHORT AND DATA QUALITY

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2. Beth Israel Deaconess Medical Center, Boston, Massachusetts, 3. Harvard Medical School, Boston, Massachusetts, 4. Warren Alpert Medical School of Brown University, Providence, Rhode Island

The Successful Aging after Elective Surgery (SAGES) study is the first NIA-funded Program Project focused on delirium. At pre-surgery baseline, SAGES participants (N=566) on average were 76.7 ± 5.2 years old, 58% female, 8% non-white, and without recognized dementia. Few reported dependencies in activities of daily living (8%) at baseline, but 30% had dependencies in instrumental activities of daily living. After orthopedic (81%), vascular (6%), or gastrointestinal (12%) surgery, 24% developed incident delirium. Study management and data quality procedures resulted in high rates of participant retention (95%) and near-complete data collection at 18-month follow-up (< 1% missingness on all major outcomes and covariables), substantially reducing bias from missing data. Interrater reliability was high with weighted kappas for delirium = 0.92 and for cognitive and functional outcomes > 0.94. We will provide a detailed description of the cohort and data quality procedures to provide the framework for this symposium.

THE ROLE OF INFLAMMATION IN POSTOPERATIVE DELIRIUM

E.R. Marcantonio^{1,3,2}, S. Vasunilashorn^{2,3,1}, S. Dillon², L. Ngo^{2,3}, R.N. Jones^{1,4}, S. Arnold^{5,3}, S.K. Inouye^{2,3,1}, T. Libermann^{2,3}, 1. Hebrew SeniorLife, Boston, Massachusetts, 2. Beth Israel Deaconess Medical Center, Boston, Massachusetts, 3. Harvard Medical School, Boston, Massachusetts, 4. Warren Alpert Medical School of Brown University, Providence, Rhode Island, 5. Massachusetts General Hospital, Boston, Massachusetts

To examine the role of inflammation in postoperative delirium pathophysiology, we used a longitudinal, nested case-control study within SAGES of 75 delirium cases and 75 matched controls. Plasma samples were collected preoperatively [PREOP], in the post-anesthesia care unit [PACU], and on postoperative day 2 [POD2]. We used the Luminex platform to examine 12 cytokines and the iTRAQ system to conduct unbiased mass spectrometry proteomics. Using Luminex, delirium cases had significantly higher interleukin (IL)-6 than controls on POD2 (median paired difference: 50.44 pg/ml, $p < .01$). Using iTRAQ, C-reactive protein (CRP) emerged as the top delirium-associated protein. ELISA confirmed that compared to controls, cases had significantly higher ($p < .05$) CRP levels at PREOP, PACU, and POD2 (median paired difference: 1.56, 2.53, 63.76 mg/L, respectively). Our findings provide the strongest evidence to date of the role of inflammation in delirium pathophysiology and provide the basis for developing better tools for risk stratification, prevention, and treatment.

DELIRIUM DELAYS FUNCTIONAL RECOVERY FOLLOWING ELECTIVE SURGERY

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Deaconess Medical Center, Boston, Massachusetts, 5. Northeastern University, Boston, Massachusetts, 6. Warren Alpert Medical School of Brown University, Providence, Massachusetts

The role of delirium in recovery of physical function following elective surgery remains under-investigated. We analyzed data on 566 individuals in the SAGES cohort (age 70+ y) to the 18-month follow-up. Function was measured using the Activities of Daily Living and Instrumental Activities of Daily Living scales; the Physical Component Summary of the SF-12; and a composite index derived from these 3 elements. Mixed-effects regression models indicated that participants with delirium (24% of cohort) demonstrated less functional recovery than those without; at 1 month the covariate-adjusted mean difference on the functional composite was -1.5 (95% CI: -3.3, -0.2). At 18 months the difference was -1.8 (-3.2, -0.3), equivalent to the minimally clinically significant difference in prior studies. Thus, delirium is associated with a gap in functional recovery at 1 month that never resolves out to the 18-month follow-up, supporting the need for delirium prevention and extended rehabilitation to maximize recovery.

PREDICTION OF LONG-TERM COGNITIVE DECLINE FOLLOWING DELIRIUM IN OLDER ADULTS

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Postoperative delirium has been linked to long-term cognitive decline in older adults, but this area remains under-explored. We examined pre-surgical factors in risk groups (demographic, lifestyle, cognitive/physical/sensory/mental function, frailty, medical factors, biomarkers) associated with long-term cognitive decline among 134 SAGES participants who developed delirium. Using multivariable approaches, we identified explanatory factors that accounted for variability in rates of cognitive decline in an overall model incorporating factors across groups. Baseline General Cognitive Performance (GCP) score (composite score incorporating 9 neuropsychological tests) explained the most variation in cognitive decline (10.0%), and 6 factors—lower GCP, impaired IQCODE, living alone, slow walking, less exhaustion, and orthopedic surgery—combined to explain 25% of variation in cognitive decline. Thus, pre-surgical factors predict long-term cognitive decline following delirium, with the predictive value comparing favorably to prior studies. Such predictive models will be critical to target high risk older surgical patients for preventive and therapeutic approaches.

DELIRIUM ASSOCIATED WITH ACCELERATED COGNITIVE DECLINE: COMPLICATED DELIRIUM

R.N. Jones^{1,2}, D. Tommet^{1,2}, E.R. Marcantonio^{1,4,3}, T. Trivison^{3,4,1}, E.M. Schmitt¹, M. Shafiq^{3,4}, A. Pascual-Leone^{3,4}, S.K. Inouye^{3,4,1}, 1. Hebrew SeniorLife, Boston, Massachusetts, 2. Warren Alpert Medical School of Brown University, Providence, Rhode Island, 3. Beth Israel

Deaconess Medical Center, Boston, Massachusetts, 4. Harvard Medical School, Boston, Massachusetts

Delirium is associated with accelerated long-term cognitive decline and risk for disability, dementia, and death. These two empirically-based but seemingly contradictory statements underscore that delirium is poorly understood and that broad descriptive categories such as DSM diagnostic labels -- originally intended for actuarial and service planning purposes -- contribute little to (and perhaps detract from) our understanding of a complex, heterogeneous, and potentially devastating geriatric syndrome. In this presentation, we review existing literature and report on new results from the Successful Aging after Elective Surgery (SAGES) cohort that support that delirium is both transient / reversible and associated with long-term decline, and provide new research results that highlight the differential symptom and clinical outcome profiles of persons with delirium complicated by accelerated long-term cognitive decline. We provide evidence to support the new conceptualization of "complicated" delirium. This new conceptual model holds important implications for research, prevention, and clinical management.

SESSION 4965 (SYMPOSIUM)

SOCIAL INNOVATIONS IN ACTIVE AND HEALTHY AGEING

Chair: A.C. Walker, *University of Sheffield*

This symposium reports and discusses the findings of an ambitious European project that developed and tested, as well as surveyed and catalogued, social innovations (SIs) aimed at improving the quality of life and well-being of older people. In particular INNOVAGE aimed to make a major contribution to the European goal of extending healthy life years (HLY). The project, which concluded in 2015, was based in seven countries. The four specific SIs that it developed and tested were in the fields of housing, carers, obesity and long-term care. It also created a unique database of 150 exemplars of SIs designed to improve later life well-being. The major objectives of this symposium are first, to report the outcomes of two of the four SIs developed by INNOVAGE (in the fields of housing and support for carers). In particular these papers will examine the major challenge of how to scale-up successful innovations and ensure their sustainability. Second, we focus on the concept of SI and how it was defined and classified in practice. Third the symposium will present the method developed to explore the potential impact of SIs on well-being. Symposium participants will take part in an evidence-based discussion about the meaning and applications of SI and examine its potential role in extending healthy life years. They will also hear about the pit-falls of SI development and scaling-up and take away detailed information on both specific initiatives and generalisable methods.

SOCIAL INNOVATIONS IN THEORY AND PRACTICE

A.C. Walker, *Sociological Studies, University of Sheffield, Sheffield, United Kingdom*

This paper will provide a brief overview of the INNOVAGE project, its objectives and methods. It will also outline the approach taken by the project to try to ensure

that its research outputs were relevant to key stakeholders in the ageing policy and practice fields. Then its main focus is, first, on the concept of social innovation. Acknowledging its ill-defined nature the paper pins it down to a precise usage in respect to ageing and shows how this can be applied in practice. Then, second, the paper discusses the method applied by Innovage to try to bring a scientific assessment into a field that has very little by way of hard evidence. This approach entailed a global survey of SIs and a novel assessment and grading system. Finally some examples of the SI exemplars collected by the project are provided, with links to the project web portal on SIs for health and well-being.

ASSESSING THE ABILITY OF SOCIAL INNOVATIONS TO INCREASE HEALTHY LIFE YEARS

C. Jagger³, P. Wohland¹, A.C. Walker², D. Neary², 1. *The University of Hull / Hull York Medical School, Hull, United Kingdom*, 2. *The University of Sheffield, Sheffield, United Kingdom*, 3. *Newcastle University, Newcastle, United Kingdom*

The European Union has adopted Healthy Life Years (HLY), based on the Global Activity Limitation Indicator, as its preferred health expectancy for comparing countries and defining health targets. One such target is that of the European Innovation Partnership on Healthy and Active Ageing to increase HLY by 2 years between 2010 and 2020. We assessed the ability of the exemplar social innovations (SIs) identified on the database, to increase HLY. We searched for evaluations of the 157 exemplar SIs and categorised their outcome measures into a five point typology graded A (direct link to HLY) to E (no evaluation found). Only 2 SIs were graded A, and it was impossible to assess the impact on HLY for 90% (n=142) which were graded D or E. We also developed a 'HLY Modeller' in Microsoft Excel for users to explore the potential impact of a SI on population health (<http://www.innovage.group.shef.ac.uk/healthy-life-years.html>).

DESIGN, TEST AND IMPLEMENTATION OF A WEB PLATFORM FOR INFORMAL CAREGIVERS OF OLDER PEOPLE IN EUROPE

F. Barbabella^{2,1}, A. Poli^{2,3}, F. Andréasson^{1,4}, B. Salzmann⁵, A. Efthymiou^{6,7}, R. Papa², G. Lamura², 1. *Department of Health and Caring Sciences, Linnaeus University, Kalmar, Sweden*, 2. *National Institute of Health and Science on Ageing (INRCA), Ancona, Italy*, 3. *Linköping University, Norrköping, Sweden*, 4. *Swedish Family Care Competence Centre (NKA), Kalmar, Sweden*, 5. *wir pflegen e.V., Berlin, Germany*, 6. *Eurocarers, Brussels, Belgium*, 7. *Cyprus University of Technology, Limassol, Cyprus*

This contribution provides insights from one of the four social innovations of the INNOVAGE project, focused on the development of the InformCare web platform for supporting informal caregivers of older people in Europe. The platform included information resources on different topics (major diseases in older age, public care services and benefits, coping and reconciliation strategies etc.) and interactive services for professional and peer support (dedicated social network, forum, chat and videochat). The design phase was based on a consultation process involving almost 200 stakeholders and on user tests. The pilot phase was carried out as a mixed-methods study in Germany, Italy and Sweden,

which recruited totally 118 caregivers who could access the InformCare platform for 3 months. Positive findings led to its refinement and implementation in 27 European countries. Today, the platform is publicly accessible (www.eurocarers.org/informcare) in 32 versions and 23 languages, with over 2,500 web pages for informal caregivers.

APPROPRIATENESS OF A HOUSING ACCESSIBILITY APP: FINDINGS FROM THE EUROPEAN INNOVAGE PROJECT

O. Jonsson¹, B. Slaug¹, M. Haak¹, S. Tomsone², S.M. Schmidt¹, S. Iwarsson¹, 1. *Department of health science, Lund University, Lund, Sweden*, 2. *Riga Stradins University, Riga, Latvia*

This presentation focuses on the appropriateness of a social innovation in the form of a mobile application (app) intended to raise awareness about and support decision-making on housing accessibility. In total, 30 potential users in Sweden and Latvia, aged 65+ with various functional limitations, were engaged in iterative usability testing of two versions of the app. A think aloud protocol was used in one-to-one sessions between a moderator and each participant. To provide additional space for dialogue the individual sessions were followed up by user fora where the appropriateness, usability issues and possible refinements were discussed. Video recordings were analyzed. The findings provide knowledge and insights concerning an ICT solution for an unexplored target group with the potential for increased understanding applicable also in other design processes. To ascertain that the app is compatible with the goals and values of potential users, lessons learned from the analysis was applied.

SESSION 4970 (SYMPOSIUM)

VETERANS HEALTH ADMINISTRATION GERIATRICS AND EXTENDED CARE HOME AND COMMUNITY-BASED PROGRAMS

Chair: O. Intrator, *University of Rochester*

Co-Chair: K. Kelley, *Veterans Health Administration, Washington, District of Columbia*

Discussant: V. Mor, *Brown University, Providence, Rhode Island*

The Veterans Health Administration (VHA) provides care to about 7 million Veterans annually in 141 VA Medical Centers (VAMC) and over 900 clinics, nationally. VHA's Office of Geriatrics & Extended Care (GEC) "aspires to be integral to the solution for the unsustainable rise in healthcare costs in the United States". Its vision is to "empower Veterans and the Nation to rise above the challenges of aging, disability, or serious illness while honoring Veterans' preferences for health, independence and well-being by advancing expertise, programs and partnerships". By mid-2016 GEC services spanned a broad array of home and community based services (HCBS) including both medical and personal care programs. GEC programs care for over 400,000 Veterans of whom over 350,000 receive some community-based care and about 110,000 receive some care in nursing homes. Services are provided by VAMCs or purchased. Nationally, Veterans using GEC programs account for 6% of all VHA users but 30% of VHA's total expenditures. This symposium will highlight some of GEC's largest HCBS programs: Home Based

Primary Care (HBPC), Geriatric Patient Aligned Care Teams (GeriPACT) and small scale implementations of innovative home based programs such as caregiver support for Veterans with dementia, advanced care planning and shared decision making and others. The effectiveness of GEC investment in HCBS in reducing overall VA and taxpayers' costs of care will be presented. Discussion of GEC's national role as a model for providing extensive but cost containing care will round up the symposium.

PROMOTING GERIATRICS AND EXTENDED CARE (GEC) INNOVATIONS IN NON-INSTITUTIONAL CARE

K. Massey³, K. Shay^{3,5}, O. Intrator^{2,1}, S. Cai^{2,1}, R. Makineni⁴, R. Allman³, 1. *University of Rochester, Rochester, New York*, 2. *GECDAC Canandaigua VA Medical Center, Canandaigua, New York*, 3. *Veterans Health Administration, Washington, District of Columbia*, 4. *GECDAC Providence VA Medical Center, Providence, Rhode Island*, 5. *Brown University, Providence, Rhode Isl and*

GEC's innovative Non-Institutional Long Term Care program fosters additional patient centered services to increase Veteran choice, access, family and caregiver satisfaction, and improve quality and value of care. Between 2010 and 2015 GEC invested \$112m to support the implementation of 167 local programs selected competitively from among national submissions. As of the end of FY2015 92% of the programs were still sustained by their VA Medical Center (VAMC) resources and GEC began supporting implementation of successful programs through the establishment of mentoring partnerships. Challenging continued implementation is that VAMCs have limited budgets and competing priorities. To counter these challenges GEC established the GEC Data & Analyses Center to evaluate quality and cost of these programs, to provide an evidence base on which to advocate for continued VAMC support. GEC also provided training on development of business plans; and required letters of commitment from VAMCs to sustain programs after initial funding.

TARGETING FRAIL HIGH COST VETERANS IMPROVES IMPACT AND EFFICIENCY OF HOME BASED PRIMARY CARE (HBPC)

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HBPC has expanded to serve 53,000 veterans in 2015. HBPC provides interdisciplinary team (physician, nursing, pharmacy, dietary, therapy, psychology, social work) care at home for frail Veterans (24% annual mortality, average 5 diagnoses based self-care capacity limitations [JEN Frailty

index (JFI) mean 5.4]). Applying Independence at Home Qualifying (IAH-Q) criteria (hospitalization and post acute care in past 12 months, 2+ chronic conditions, JFI $\geq$ 6) identified 304,000 Veterans in 2013. IAH-Q prevalence among HBPC Veterans varied between 32–46%, with annual costs per Veteran in HBPC with IAH-Q and non-IAH-Q \$79,000 and \$33,000, respectively. Comparing expected costs based on NOSOS scores (a VA modification of the Medicare HCC), calibrated to the IAH-Q population, HBPC observed costs were 12.5% lower (\$195M savings) in 2014, and 14% lower in 2015 (\$254M savings), or \$7,488/year lower per Veteran. Expanding HBPC to IAH-Q veterans leads to smarter spending, as well as better care.

EVALUATION OF THE COSTS FOR VETERANS RECEIVING CARE IN GERIATRIC MEDICAL HOMES (GERIPACT)

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VA Office of Geriatrics & Extended Care established Geriatric Patient-Aligned Care teams (GeriPACT) with team members (pharmacy, and social work) added to the panels, and panels 2/3 the size of most VA primary care teams, to better manage aged and frail Veterans. We evaluated GeriPACT effect on expenditures among Veterans with >2 diagnoses based self-care capacity limitations (JEN Frailty Index, JFI>2) cared for at 84 VA facilities. NOSOS, a refinement of Medicare's HCC model, was used to predict expenditures. Regressions estimated effect of GeriPACT on log expenditures, comparing GeriPACT Veterans to propensity score-matched Veterans receiving regular care. Management by GeriPACT was associated with significantly lower combined VA and Medicare expenditures: 14% less for JFI>2, 8% for JFI>5 and 13% for JFI 3–6. VA expenditures alone had associated savings of 12%, 6%, and 11%, respectively. GeriPACT reduces costs, especially when targeted at appropriate patients, e.g., those with JFI 3–6.

THE GIFT THAT KEEPS GIVING: VHA INVESTMENT IN HOME CARE PROGRAMS IMPROVES QUALITY, DECREASES COSTS

R. Allman³, O. Intrator^{2,1}, S. Dally^{4,6}, B. Kinoshian⁵, C. Phibbs^{4,7}, R. Makineni^{8,9}, K. Shay³, 1. *University of Rochester, Rochester, New York*, 2. *GECDAC Canandaigua VA Medical Center, Canandaigua, New York*, 3. *Veterans Health Administration, Washington, District of Columbia*, 4. *GECDAC Palo Alto VA Medical Center, Palo Alto, California*, 5. *GECDAC Philadelphia VA Medical Center, Philadelphia, Pennsylvania*, 6. *University of Pennsylvania, Philadelphia, Pennsylvania*, 7. *Stanford University, Palo Alto, California*, 8. *GECDAC Providence VA Medical Center, Providence, Rhode Island*, 9. *Brown University, Providence, Rhode Island*

As around the world, the Veterans Health Administration's Office of Geriatrics & Extended Care has been developing and promoting non-institutional care (GEC NIC) in order to provide Veteran-aligned care, better access to services, care coordination and to balance quality and budget. Each of 141 medical centers has adopted GEC programs with penetrations among Veterans served of 2–16% rising from an average of 4% in 2008 to 6% in 2015. We found that a 1% point higher GEC NIC penetration reduced the risk of long-term institutionalization by 2% for a Veteran at no cost difference, among 80+ year old male Veterans with $\geq$ 6 diagnoses-based self-care capacity limitations (JEN Frailty Index, JFI $\geq$ 6, equivalent to 3 ADLs), adjusting for other Veteran characteristics. This result was maintained for JFI 3–5 and among similar cohorts of women Veterans. These promising results empower GEC as it strives to improve the care of frail Veterans.

SESSION 4975 (SYMPOSIUM)

LGBT OLDER ADULTS IN AUSTRALIA, BRAZIL, AND THE U.S.: RESEARCH, PRACTICE, AND NEW GROUND

Chair: M. Adams, *Services & Advocacy for GLBT Elders, New York, New York*

This symposium will spotlight emerging research, research gaps, and learnings from practice relative to the aging experiences of lesbian, gay, bisexual and transgender (LGBT) older adults. The symposium will focus on LGBT older adults in three countries: Australia, Brazil and the United States. Aging experiences and conditions among LGBT older adults in these three countries, along with differing states of research and practice, provide illustrative contrasts that highlight the need for further research and more responsive interventions.

For example, Australia and Brazil have made notable progress in reform of public policies and law to guarantee LGBT equity and inclusion. While substantial progress has not been made in either country on service and care interventions for this population, Australia has leveraged government policy to pioneer the establishment of LGBT cultural competency among practitioners. By contrast, the United States has lagged in reform of relevant public policies on aging, but practitioners in that country have pioneered innovative service and care interventions and are now exploring market-based strategies to build cultural competency among practitioners. Research on this population -- relatively new and undeveloped in all three countries -- is most advanced in the U.S., emerging in Australia, and virtually non-existent in Brazil.

LGBT OLDER ADULTS IN THE U.S.: RESEARCH AND PRACTICE

M. Adams, *Services & Advocacy for GLBT Elders, New York, New York*

Recent survey research conducted among a sample of 2,376 older adults in the U.S. indicates heightened levels of concern among lesbian, gay, bisexual and transgender (LGBT) older adults with regard to financial security, social isolation, inadequate support systems for aging, and negative repercussions from disclosure of LGBT identity. The research

data was weighted by gender, race, ethnicity, region and household income to align respondent data with U.S. population data.

This presentation will discuss this and other research on LGBT older adults in the U.S. and will explore the societal response to this population's barriers to healthy aging. Particular emphasis will be placed on innovative practices in service delivery and training of providers and practitioners, and recent efforts to leverage documented resiliencies among LGBT older adults. Attention will also focus on the relative lack of progress in responsive policy reform in the U.S. relative to other highly developed countries like Australia.

APPRAISALS OF ADVERSITY AND RESILIENCE IN LGBT ELDERS

B. deVries¹, R. Melendez¹, A. Siverskog², 1. *San Francisco State University, San Francisco, California*, 2. *National Institute for the Study of Ageing and Later Life, Linköping University, Linköping, Sweden*

Sexual and gender minority persons are often referred to as LGBT persons: but what does being LGBT mean to those whose lives are so defined? Open-ended responses to this self-concept question were content coded (inter-coder agreement, 87%) for 297 lesbians, 570 gay men, 318 bisexual and 265 transgender persons ages 45–64 from across the US. Three overarching themes emerged: (1) *pragmatics of identity* (e.g., “being gay is one facet of who I am”) mentioned in over 43% of responses; (2) *a life of stigma* (e.g., harassment and “hated for being me”) mentioned in almost 18% of responses; and (3) *positive marginality* (e.g., strength, resilience and “the freedom to be different”) mentioned in the majority of responses (over 53%). Transgender persons more strongly endorsed the latter two themes. These results reveal both the adversity and the strengths of LGBT boomers with implications for the aging of LGBT—and all—persons.

LGBTI ELDERS IN AUSTRALIA: EMERGING RESEARCH AND NATIONAL STRATEGY

S. Edmonds, *National LGBTI Health Alliance, Sydney, New South Wales, Australia*

Historically, Australian research on sexuality has tended to exclude older people from their samples. More specifically, until recently there has been minimal research focus on LGBTI elders and the issues that affect these distinct populations, including marginalization and discrimination against their genders, bodies, relationships, and/or sexuality. New research has documented discrimination against, and the invisibility of LGBTI elders within aged care, the specific health care needs of this population, and its impact on ageing and aged care policy and practice.

Australia's National LGBTI Ageing and Aged Care Strategy, coupled with legislative reforms, has resulted in significant change to this landscape. This presentation will highlight research learnings and focus on the positive outcomes that have been achieved for LGBTI elders in Australia through training, information and advocacy. The presentation will critically explore Australian attitudes toward LGBTI elders, inclusive professional practice and ageing issues specific to older LGBTI people.

THE PARADOX OF LONG LIVED EXPERIENCES OF LGBTI OLDER ADULTS IN BRAZIL

A. Kalache, 1. *International Longevity Centre Global Alliance (ILC-GA), Rio de Janeiro, Brazil*, 2. *New York Academy of Medicine, New York, New York*

In Brazil, studies on sexuality and LGBTI people are only now emerging; research related to aging in the LGBTI context is virtually non-existent. Early research on the LGBTI experience across the life spectrum indicates – despite progressive legislation and social attitudes – high levels of discrimination and bias-based violence such that mere LGBTI status impairs access to educational, economic and social resources.

This presentation will explore the juxtaposition of progressive legislation on LGBTI human rights and liberal social attitudes about sexuality against practitioners' observations of the lived experience of LGBTI older adults in Brazil, which is shaped both by the discrimination and marginalization endemic to the LGBTI population as a whole and by the intersection of LGBTI and aging experiences in the country. The presentation will highlight areas that require more research, and emerging innovative practices that suggest opportunities for progress in developing healthy aging experiences for the LGBTI older population.

SESSION 4980 (SYMPOSIUM)

KNOWLEDGE TRANSLATION: INTEGRATING AGING RESEARCH AND INNOVATION INTO POLICY AND PRACTICE

Chair: L. Battersby, *Simon Fraser University, Burnaby, British Columbia, Canada*

Co-Chair: M. Fang, *Simon Fraser University, Vancouver, British Columbia, Canada*

Discussant: K.M. Kobayashi, *University of Victoria, Victoria, British Columbia, Canada*

Knowledge translation (KT) is an iterative process for bridging research, policy and practice that can be integrated into research and development to support the relevance and application of research findings. KT includes the mobilization of experiential and scientific knowledge through to the commercialization and application of research innovations. Building KT into research projects is nascent in gerontology, yet articulation of a KT strategy for research impact beyond traditional end-of-grant dissemination is a funding requirement. Integrating KT effectively into research is a complex process that is often misapplied. This symposium will present four cross-disciplinary, Canadian projects that demonstrate critical elements for effective KT in aging research. Grigorovich et al. detail mechanisms of transdisciplinary working, essential for integrated KT, alongside the development and validation of an effectiveness scale used to support transdisciplinary working in research. Demonstrating the first step of any KT initiative, Canham et al. present methods and findings from an applied realist review that explored the current state of the digital divide for older adults. At the other end of the KT process, Fang et al. report on an evaluation of the impact of a knowledge mobilization initiative for aging and technology innovation. Finally, Battersby et al. present findings from an integrated KT project that collaboratively developed, validated, and disseminated national guidelines

for conducting mass interinstitutional relocations in long-term care. The symposium will conclude with a discussion led by a KT expert on the implications of using KT to bridge aging research and innovation with policy and practice.

THE TREAT SCALE: A REFLEXIVE TOOL FOR TRANSDISCIPLINARY WORKING IN AGING AND TECHNOLOGY RESEARCH

A. Grigorovich^{1,2,5}, M. Fang^{3,4,5}, J. Sixsmith^{6,5}, P. Kontos^{2,1,5},
1. Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada, 2. Toronto Rehabilitation Institute - University Health Network, Toronto, Ontario, Canada, 3. Simon Fraser University, Vancouver, British Columbia, Canada, 4. Heriot-Watt University, Edinburgh, United Kingdom, 5. AGE-WELL NCE, Toronto, Ontario, Canada, 6. University of Northampton, Northampton, United Kingdom

Adopting a transdisciplinary approach to the development of technologies to support older adults and their care partners is crucial to bridging research with policy and practice. Despite increased popularity of this approach, research evaluating transdisciplinary processes and outcomes remains limited due to an absence of evaluative tools. This presentation describes the development and validation of a new instrument: TREAT (Transdisciplinary Research Effectiveness in Aging and Technology) scale. Content areas were established through a scoping review resulting in four key themes: collaborative working practices, knowledge mobilization and exchange, integration and co-creation of knowledge, and action-oriented research. Subscale items were developed according to each theme. The overall structure, phrasing, and content validity of the TREAT were evaluated via consultation workshops with key stakeholders across Canada. Results suggest that the TREAT scale has significant potential for evaluating and improving transdisciplinary processes and outcomes for the field of aging and technology.

TRANSLATING RESEARCH BACK TO THE COMMUNITY: FINDINGS FROM A REALIST REVIEW

S.L. Canham¹, R. Wilson¹, L. Battersby¹, M. Fang³, J. Sixsmith⁴, A. Sixsmith³, 1. Gerontology Research Centre, Simon Fraser University, Vancouver, British Columbia, Canada, 3. STAR Institute, Simon Fraser University, Vancouver, British Columbia, Canada, 4. University of Dundee, Scotland, United Kingdom

This presentation will report on the process of conducting a realist synthesis review as part of a larger integrated knowledge translation (KT) project to assess gaps in information and communication technology (ICT) use among middle-aged and older adults. The realist review method is used to examine and understand causal mechanisms, exploring what works, for whom, in what circumstances, and why. To enhance this review, we applied an intersectional framework when synthesizing the evidence (i.e., peer-reviewed and grey literature) on access to and use of ICTs to better understand ways in which inequities exist. Review findings were shared with knowledge users at two World Café events, which enriched the realist review by validating some areas of the review, while also offering avenues for further refinement of the research. Such KT methods are integral to informing

and enhancing service and technology development for seniors and will be detailed in this presentation.

ENHANCING KNOWLEDGE MOBILIZATION AND COMMERCIAL OUTCOMES IN AGING AND TECHNOLOGY

M. Fang^{1,2,3}, L. Battersby^{1,2}, A. Grigorovich^{4,2,6}, J. Sixsmith^{5,2}, P. Kontos^{4,2,6}, L. Moreno^{4,2}, A. Mihailidis^{4,2}, A. Sixsmith^{1,2},
1. STAR Institute, Simon Fraser University, Vancouver, British Columbia, Canada, 2. AGE-WELL NCE, Toronto, Ontario, Canada, 3. Heriot-Watt University, Edinburgh, United Kingdom, 4. University of Toronto, Toronto, Ontario, Canada, 5. University of Dundee, Dundee, United Kingdom, 6. Toronto Rehabilitation Institute - University Health Network, Toronto, Ontario, Canada

A globally aging population necessitates innovative approaches for the development of technologies to ensure older adults age well. Whilst scientists across disciplines address a wide-range of ‘aging complexities’ through research and innovation, without appropriate integration of commercialization mechanisms, such outputs may result in little or no impact. To implement commercialization effectively requires integration and synthesis of experiences and working practices of diverse intersectoral professional, academic, and community stakeholders. This presentation demonstrates how Innovation Workshops designed using the principles of transdisciplinarity facilitated the development of commercialization strategies to improve knowledge mobilization and commercial outcomes in aging and technology. We discuss key strategies of knowledge translation, such as effective commercialization, dissemination, and evaluation regarding communication and utilization of workshop materials and information. Results of the 3-month post-workshop survey, focus groups, reflexive summaries, and field notes highlight the importance and challenges of evaluating impact through implementation and evaluation of this knowledge mobilization initiative.

INTERINSTITUTIONAL RELOCATIONS: DEVELOPING GUIDELINES AND MOBILIZING KNOWLEDGE

L. Battersby¹, S.L. Canham¹, M. Fang¹, D. Krahn², A. Sixsmith¹, 1. Simon Fraser University, Burnaby, British Columbia, Canada, 2. Baptist Housing, Vancouver, British Columbia, Canada

Increasingly, long-term care (LTC) facilities need redevelopment due to the complexity of resident care needs and to meet higher standards of accommodation. Redevelopments require relocation of staff and residents en masse. While significant literature exists on the negative health and well-being outcomes of older adults’ relocation from their private homes into care homes, less research has focused on the relocation of staff and residents together from one LTC facility to another following construction of a replacement facility. This presentation will report on an integrated knowledge translation (KT) project that developed guidelines through active collaboration with a LTC provider, a synthesis review of the literature, deliberative dialogues with stakeholders across Canada, and comprehensive dissemination. Engaging knowledge users throughout the project contributed to the relevance and impact of the guidelines. Using this research

as a case example, the challenges and strategies for bridging research and practice through integrated KT will be discussed.

SESSION 4985 (SYMPOSIUM)

TAILORING ACTIVITIES FOR PERSONS WITH DEMENTIA TO MANAGE BEHAVIORS: INTERNATIONAL PERSPECTIVES

Chair: K.A. Marx, *Johns Hopkins School of Nursing*

Co-Chair: L.N. Gitlin, *School of Nursing, Johns Hopkins University, Baltimore, Maryland*

Almost 47 million people worldwide are living with dementia and this is expected to increase to around 75 million by 2030. Neuropsychiatric behaviors (NPS) such as agitation, aggression, depression and anxiety are almost universally experienced by persons with dementia. These behaviors have negative outcomes, including depression and reduced quality of life, for both the person with dementia and his/her caregiver. With the risk of medications to address these behaviors outweighing the benefits, non-pharmacologic interventions for managing NPS have been sought. One non-pharmacologic intervention that has shown promise is New Ways for Better Days: Tailoring Activities for Persons with Dementia and their Caregivers (TAP). TAP was developed in the United States and has been implemented in multiple countries. This symposium will present data from studies in several different countries that have examined TAP in their populations. Dr. Lindy Clemson will present pilot study data on adding TAP to the Australian health context. Dr. Jean Gajardo will then speak about developing a program in Chile, focusing on rural contexts. Dr. Katherine Marx will present the United States experience and data on caregiver readiness from a current Phase III Efficacy trial. Dr. Natalie Regier will then provide data from the Phase II proof of concept trial of TAP in the United States that suggest ways to tailor activities at different stages of the disease process. This symposium highlights the cross-cultural implementation challenges yet effectiveness of a non-pharmacologic intervention for managing behaviors in persons with dementia.

FACTORS INFLUENCING A CAREGIVER'S READINESS TO ENACT AN ACTIVITY INTERVENTION

K.A. Marx¹, L.N. Gitlin¹, K. Rose², 1. *Johns Hopkins School of Nursing, Baltimore, Maryland*, 2. *Widener University, Chester, Pennsylvania*

An intervention's success partly depends on how willing or ready participants are to make necessary behavioral changes. This study examines factors influencing caregiver level of readiness to participate in an activity intervention to reduce behaviors in persons with dementia upon study enrollment. Eighty-eight caregivers, primarily female (79.5%), average age 66.31 years (sd=11.7), caring for a family member with dementia [female (59.1%), average age 82.2 years (sd=7.7)] and managing an average of 6.7 (sd=3.1) behaviors were analyzed. The average readiness score at baseline was 57.1 (sd=6.7; 40–68) on a 13-item scale and was related to being female (.244, $p=.022$), greater burden (–.212, $p=.048$), having a close relationship (.391, $p>.001$), and more confidence in using activities (.288, $p=.007$). A stepwise regression

found that significant predictors of readiness were relationship closeness and gender $F(2,85)=12.372$, $p>.001$, with an adjusted $R^2=.207$. Understanding a caregiver's readiness to change can influence how the intervention unfolds.

CHARACTERISTICS OF ACTIVITIES FOR PERSONS WITH DEMENTIA AT THE MILD, MODERATE, AND SEVERE STAGES

N. Regier^{1,2}, L.N. Gitlin^{1,2}, 1. *Johns Hopkins University School of Nursing, Baltimore, Maryland*, 2. *Johns Hopkins Center for Innovative Care in Aging, Baltimore, Maryland*

Most individuals with dementia develop significant behavioral problems, which present enormous challenges for caregivers. Given that there is no imminent cure in sight and pharmacotherapy is ineffective, it is critical to identify interventions that minimize behavioral disturbances, improve quality of life, and lessen caregiver burden. As activity-based interventions have shown great promise, we examined relationships of dementia disease stage (mild, moderate, severe) with types and characteristics of meaningful activities (cueing needs, help with initiation, recommended engagement time) provided in a home-based behavioral intervention trial. We found that type of activity, recommended cueing, and engagement time were significantly related to dementia stage. Findings provide guidance as to how to use and set up activities across the dementia trajectory and show that persons with even advanced dementia benefit from a wide range of meaningful activities with appropriate set-up. This study represents an important step towards developing guidelines for activities in dementia care.

THE USE OF TAP PRINCIPLES IN CHILE: HIGHLIGHTING CULTURAL AWARENESS

J. Gajardo¹, J.M. Aravena², 1. *University of Chile, Santiago, Chile*, 2. *Bernardo O'Higgins University, Santiago, Chile*

Chile has a particular social and geographical distribution that challenges the design and implementation of health interventions: poverty, rurality, low levels of education and other situations demand a balance between evidence-based practices and enough flexibility to be adapted and become actual solutions. The Kintun Program is the first public center for the support of people with dementia and their carers in Chile and its theoretical foundation was developed with the mentoring of Dr. Laura Gitlin, modelling interventions according to the TAP principles. Three stories of behavioral symptoms in Chile, addressed from the TAP perspective, will be described in order to learn about the feasibility of this program in particular social and cultural contexts such as rurality, low education levels and caregiver's illiteracy. The stories highlight the relevance of cultural awareness and personal identity in the process of tailoring activities, showing benefits in the management of the symptoms

INTRODUCING TAP TO THE AUSTRALIAN HEALTH CONTEXT: A PILOT STUDY

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Wales, Australia, 4. University of East Anglia, Norwich, United Kingdom, 5. Johns Hopkins University, Baltimore, Maryland

Community dementia care in Australia is fragmented, with little access to tailored, systematic interventions. We conducted a pilot randomised trial of TAP in Sydney. Measures were collected at baseline and post intervention at 4 months with follow up at 8 months post randomisation. Outcomes included five domains of the Neuropsychiatric Inventory-Clinician rating (apathy, agitation, depression, sleep and irritability) and carer burden. Dyads (n=66) were recruited from various organisations, community groups and dementia services, with 54 remaining at 8 months. Diagnoses were Alzheimer's disease (n=36), frontotemporal dementia (n=20), other (n=10). Mean age was 73.4 years (range 50 to 92); 62% were men. Results show some positive trends though sample sizes limit significant results. There were small effect sizes for the total number of behaviours (cohen's d=0.25) and the level of burden experienced by the carer (cohen's d=0.39) and a moderate effect size for hours spent caring (cohen's d=0.55), favouring TAP participants.

SESSION 4990 (PAPER)

MOLECULAR UNDERPINNINGS OF THE AGING PROCESS

PROTEASOME AND LON AS EXAMPLES OF DECLINING ADAPTIVE HOMEOSTASIS IN AGING

K. Davies, *Leonard Davis School of Gerontology, the University of Southern California, Los Angeles, California*

The ability to transiently expand (or contract) the homeostatic range for protective mechanisms against various forms of stress has been termed 'Adaptive Homeostasis' (Davies, K.J.A. Adaptive Homeostasis. *Molecular Aspects of Medicine*. 49: 1-7, 2016). Examples include adaptations to heat stress, cold stress, exercise, oxidative stress, food deprivation, hypoxic or anoxic stress, chemical toxins, heavy metals, mechanical stress, salt, alcohol, osmolarity, and even emotional and psychological stresses. Important features of Adaptive Homeostasis include its mediation by discrete signal transduction pathways, as a result of small changes in signaling molecules/events, rather than in response to overt damage. We have previously demonstrated adaptive increases in oxidative stress resistance conferred by induction of the Proteasome and the mitochondrial Lon protease as prime examples of the plasticity of Adaptive Homeostasis in young C57BL/6J mice (3 months), young *Drosophila melanogaster* flies (3 days), and young *Caenorhabditis elegans* worms (3 days). Recent work, with older mice (18 months), flies (60 days), and worms (10 days), reveals abrogated inducibility of oxidative stress resistance by the very low (signaling) levels of hydrogen peroxide or paraquat that are extremely effective in their young counterparts. Under identical conditions we also find that the older animals lose the ability to induce both Proteasome and Lon. These are not simply threshold effects, since raising the levels of H₂O₂ or paraquat has no effect. Our studies indicate that vital signal transduction pathways such as Nrf2 may be inhibited or otherwise

opposed by rising levels of antagonists such as Bach1 and c-Myc during aging.

ACTIVATION OF TRANSPOSABLE ELEMENTS AS A MOLECULAR CAUSE OF AGING

S.L. Helfand, J. Wood, B.C. Jones, J. Taylor, *Molecular Biology, Cell Biology and Biochemistry, Brown University, Providence, Rhode Island*

Transposable Elements (TEs) are mobile genetic elements, highly enriched in heterochromatin, that constitute a large percentage of the DNA content of eukaryotic genomes. Aging in *Drosophila melanogaster* is characterized by loss of repressive heterochromatin structure and loss of silencing of reporter genes in constitutive heterochromatin regions. Using next-gen sequencing, we found that transcripts of many genes native to heterochromatic regions as well as TEs increased with age in fly heads and fat bodies. A dietary restriction regimen, known to extend lifespan, repressed the age-related increased expression of genes located in heterochromatin as well as TEs. We also observed a corresponding age-associated increase in TE transposition in fly fat body cells that was delayed by dietary restriction. Furthermore, we found that manipulating genes known to affect heterochromatin structure, including overexpression of *Sir2*, *Su(var)3-9*, and *Dicer-2*, as well as decreased expression of *Adar*, mitigated age-related increases in expression of TEs. Increasing expression of either *Su(var)3-9* or *Dicer-2* also led to an increase in lifespan. Mutation of *Dicer-2* led to an increase in DNA double strand breaks. Pharmacological inhibition of TE activity with 3TC resulted in both decreased transposition as well as increased lifespan in TE sensitized *Dicer-2* mutants. Together, these data support the retrotransposon theory of aging, which hypothesizes that epigenetically silenced TEs become deleteriously activated as cellular defense and surveillance mechanisms break down with age. Furthermore, interventions that maintain repressive heterochromatin and preserve TE silencing may prove key to preventing damage caused by TE activation and extending healthy lifespan.

IS ALZHEIMER'S DISEASE INFLUENCED BY INSULIN-LIKE GROWTH FACTORS? A MENDELIAN RANDOMIZATION STUDY

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Alzheimer's disease (AD) development may be influenced by the actions of insulin-like growth factors (IGFs). Experimental evidence suggests that IGF1 has strong neuroprotective effects. Epidemiological studies have reported associations of higher circulating IGF1 and its binding protein, IGFBP3, with lower AD risk, yet some findings have been inconsistent. The aim of this study was to clarify whether IGF1 variation may be causally related to AD risk. We conducted Mendelian Randomization analyses which tested whether AD risk differs between individuals grouped according to their genotypes of genetic variants that affect circulating IGF1 and/or IGFBP3. First, we examined AD risk differences for seven IGF-related variants using published summary statistics from a genome-wide association study of AD risk (N= 17008 cases; 37154 controls). Second, we assessed whether any variant-AD associations were replicated in an independent sample of AD cases and controls

with genotype data, derived from the Swedish Twin Registry (N = 770 cases; 7224 controls). In the first sample, only one of the seven variants was associated with AD risk (P value = 0.02; all other $P \geq 0.41$). This variant is located in the gene *FOXO3*, implicated in human longevity. This result was replicated in the second sample. In a meta-analysis of both datasets, the odds ratio of AD per *FOXO3* risk allele was 1.04 (95% CI: 1.01, 1.07; $P=0.002$). These findings suggest that IGFI variation is not an important determinant of AD risk. *FOXO3* function may influence AD development via pathway(s) that are independent of IGFI signaling (i.e. pleiotropic actions).

DETERMINANTS OF DNA METHYLATION BASED AGE ACCELERATION IN YOUNG AND OLDER TWIN PAIRS

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DNA methylation (DNAm) age, a novel marker of biological aging, has been shown to predict mortality and to be associated with physiological aging. However, the relative contribution of genetic and environmental factors to DNAm age over life span is not fully known. We estimated the magnitude of genetic and environmental factors in DNAm based age acceleration.

Age acceleration (residuals from a linear regression model of DNAm age on chronological age) in white blood cells was calculated from 450k BeadChip methylation data using an online calculator (<https://dnamage.genetics.ucla.edu>). The genetic and shared and non-shared environmental determinants of age acceleration were studied in young (20 to 25 year-old) and older (55 to 75 year-old) monozygotic (MZ, n=168 young, n=122 older) and dizygotic (DZ, n=121 young, n=42 older) twin pairs.

Correlation between DNAm age and chronological age was 0.97 ($p < 0.001$, n=1249 individuals).

Mean age acceleration was similar among young and older twin pairs, whether MZ or DZ. Intraclass correlation coefficients were 0.74 (95% CI 0.66, 0.80) for young MZ, 0.43 (0.27, 0.56) for young DZ, and 0.59 (0.46, 0.69) for older MZ and 0.17 (-0.13, 0.45) for older DZ twin pairs.

Quantitative genetic modeling revealed that genetic factors explained larger amount of the variation in DNAm age acceleration in young 74% (65, 82) compared to older twin pairs 53% (37, 65), while non-shared environmental factors were larger in older twin pairs (difference between age groups $p < 0.001$). The increasing discordance in age acceleration in older age is most likely explained by unique environmental factors.

TRENDS IN AGING FOR PEOPLE WITH DOWN SYNDROME: A 56-YEAR COHORT STUDY IN WESTERN AUSTRALIA

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In high income countries the life expectancy of people with Down syndrome (DS) rose significantly during the 20th century, from around nine years in 1949 to 57 years by 2000, equating to an increase of approximately 1 year of age per calendar year. This presentation quantifies survival patterns for people with DS using comprehensive population-based data collected over a 56-year period (1953–2009). All known persons diagnosed with DS were sourced from four complementary health and disability State-based databases (Disability Services, Death Registrations, Hospitalisations and Birth Defects Notifications) in Western Australia. Survival to 2010 was confirmed by the absence of a death registration between 1969 and 2010. Life expectancy was assessed using Kaplan Meier survival using the 1,948 cases born since 1953, which ensured that no death records were lost prior to the start of the earliest database. Deaths had occurred in 590 cases (25.3%). The results showed that survival rates started to decline between 55–60 years of age. Gender disparity was apparent, with females observed to have a slightly lower mean survival age than males throughout the lifespan. Although major improvements in the survival of children with DS are evident in recent decades, overall life expectancy appears to have plateaued with only minor increases in more recent years. The study findings suggest the possibility of a current natural upper survival limit for people with DS of around 60 years of age, and/or gaps in addressing health needs later in life through appropriate screening and early treatment.

SESSION 4995 (SYMPOSIUM)

INDIVIDUAL VIEWS ON AGING IN THE CONTEXT OF SOCIAL CHANGE AND CULTURAL DIFFERENCES

Chair: S. Wurm, *Friedrich-Alexander-University Erlangen-Nuernberg (FAU), Nuernberg, Germany*

Co-Chair: J.K. Wolff, *German Centre of Gerontology, Germany*

Discussant: U.M. Staudinger, *Columbia University, New York, New York*

Findings on the impressive impact of individual views of aging and old age (VoA) on health and longevity call for a better understanding of these views. Previous studies have examined VoA as well as preparation for age-related changes mainly on the individual level without broadening the perspective to contextual influences. In contrast and based on large-scale survey data, this symposium will look at how and why VoA are subject to social change, how they differ between different networks, countries and continents, and how this is able to affect preparation for age-related changes.

Wurm and colleagues will go into the social change of different VoA across 18 years based on four waves of representative, cross-sectional data from the German Ageing Survey (1996 to 2014). Using longitudinal data from the same survey in combination with district-level information, Wolff

et al. will examine whether changes in VoA depend on the pace of population aging on district level. Notthoff will look at the impact of the age structure of people's social network on VoA and will examine cultural differences in this impact, based on data of the European Social Survey. Kornadt and colleagues will address cultural differences in preparation for age-related changes based on survey data from the U.S., Hong Kong and Germany. Finally, the discussion of Prof. Staudinger (Columbia University, New York) will focus on the significance of survey data for research on VoA and its potential implications for policy and practice.

SOCIAL CHANGE OF VIEWS ON AGING OVER TWO DECADES: ARE THEY GETTING MORE POSITIVE?

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Previous studies have shown impressively the preponderance of negative views on aging (VoA), in particular in older adults. On the contrary, portrayals of older people in the media have become more positive and individuals born later are healthier in old age compared to those born earlier. Thus, VoA may have changed to the positive in Germany between 1996 and 2014. Overall, findings based on four waves of the German Ageing Survey (n = 20,715; 42–83 years) show that VoA became more positive during this period. Social change of VoA differed, however, by age: More positive changes were found for older adults compared to middle-aged adults; resulting in a convergence in the valence of their VoA. Moreover the findings showed varyingly strong changes for gain- vs. loss-related VoA during the 18-year period. Results are discussed beyond the background of chances and strains in different cohorts and age groups.

REGIONAL IMPACT OF DEMOGRAPHIC CHANGE ON CHANGES IN INDIVIDUAL VIEWS ON AGING

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Views on aging (VoA) are known as important resource for health in old age. Few studies have investigated contextual factors influencing VoA. Cross-cultural studies suggest: individuals in countries with rapid demographic change (DC) have more negative VoA. The contact hypothesis, however, postulates that individuals living in regional contexts with greater share of older adults have more positive VoA. The study investigates the effect of DC on changes in individual VoA over 12 years in adults (40+) comparing districts in Germany. Changes in VoA in three clusters of districts with different pace of DC are compared to districts with average DC. Results of three-level-growth-modeling show on average more negative VoA, but more positive change in VoA in rapid-aging/shrinking districts as compared to districts with average DC. The other clusters were similar to average DC. Results support the contact hypothesis and underline the importance of regional differences in the development of VoA.

FAMILIARITY BREEDS RESPECT: AGE STRUCTURE OF SOCIAL NETWORK INFLUENCES SUBJECTIVE VIEWS OF AGE

N. Notthoff, *Humboldt University Berlin, Berlin, Germany*

Although the proportion of older people in populations worldwide is growing, age stereotypes still appear to be pervasive. This contribution examines how the age structure of people's social network influences their perceptions of older and younger adults. We analyzed data from the European Social Survey (n = 56,544 participants aged 15 to 123 years (M = 47.54; SD = 18.50) from 29 countries. Having family and friends over age 70 and working with colleagues in that age group positively affected participants' perceptions of older adults, controlling for participants' own age. Likewise, those with a greater number of younger people in their social network reported more positive views of the younger age group. Cultural differences and possible underlying structural differences between countries will also be discussed.

PREPARATION FOR AGE-RELATED CHANGES CROSS-CULTURAL DIFFERENCES AND DETERMINANTS

A. Kornadt¹, P. Voss², K. Rothermund², 1. *Bielefeld University, Bielefeld, Germany*, 2. *Friedrich-Schiller-University Jena, Jena, Germany*

Preparation for age-related changes is a behavioral expression of aging-related beliefs with respect to what will change as one ages. It also includes representations of which age-related changes can be controlled or prevented by individual action and which are taken care of by others or society. Societal and cultural differences in age-related preparation were investigated in a sample of N=1895 individuals aged 26–95 years from Germany, the USA, and Hong Kong. Preparation was universally low in Hong Kong for all age groups, but increased linearly with age in the US. An asymptotic increase in preparation emerged in the German sample. We found pronounced country differences in preparation for those domains related to public provision (such as health care or retirement), especially between Germany and the US. Individual views on aging and perceptions of the role of older people in a society are investigated as possible mediating variables for country differences.

SESSION 5000 (SYMPOSIUM)

AGEING, THE DIGITAL AND EVERYDAY LIFE

Chair: W. Martin, *Brunel University London*

Co-Chair: B.L. Marshall, *Trent University, Peterborough, Ontario, Canada*

The 21st century has been characterised by a proliferation of digital devices, information technologies and mediated systems of communication within global and networked societies. Developments in digital technologies increasingly permeate everyday life and are interwoven with our identities, narratives, social relationships, social networks, lifestyles and societies. Digital technologies are, moreover, having profound influences within the lives of people in mid to later life.

The aim of this symposium is to critically explore perceptions, experiences and roles that digital devices, information technologies and mediated systems of communication may have in the lives of people as they grow older. The symposium

will further consider: (1) the opportunities and possibilities that people in mid to later life have to engage with and resist digital technologies in everyday life; and (2) how narratives surrounding engagement (or not) with digital technologies both challenge and reinforce ideas about ageing (and youth) in complex and, at times, contradictory ways.

The papers from this symposium are drawn from an international partnership funded by the *Social Sciences and Humanities Research Council of Canada* (SSHRC) entitled *Ageing, Communication, Technology (ACT): experiencing a digital world in later life*. ACT is a multi-methodological research project over 7 years (2014–2021) that brings together researchers and institutional and community partners to address the transformation of the experiences of ageing with the proliferation of new forms of mediated communications in networked societies. ACT is comprised of an interdisciplinary network of researchers, students, and community and institutional partners from around the world.

AGEING: A METHOD OF INQUIRY (TIME, TEMPORALITY AND MEDIA)

K. Sawchuk, *Concordia University, Montreal, Quebec, Canada*

In discussions with older adults on their engagements with cell/smart phones, mobile devices and computers (n 300+) the question of time is often part of the conversation implicitly or explicitly. The need for time management to minimize cost; the sense of a gap in generations who use different media; the desire to “hang on” to devices until they no longer function. These are but a few examples that illustrate how the connections between media and time, or perhaps more specifically the experience of temporality, emerged in conversations with Canadian mobile phone users 65 and over. Drawing on this interview data, this paper explores these connections. Further, I propose that the processes of ageing are one way for age studies researchers to gain insight into the experiences of media and temporality (Taylor, Jodie, 2010). In this respect, this paper is not ‘about’ ageing. Rather, ageing as a complex intersectional process of bio-social change, is explored as a “method of inquiry” to better understand time, temporality and changes in media practices.

VISUAL REPRESENTATIONS OF DIGITAL CONNECTIVITIES IN EVERYDAY LIFE

W. Martin¹, K. Pilcher², 1. *Brunel University London, Uxbridge, United Kingdom*, 2. *Aston University, Birmingham, United Kingdom*

This paper draws on data from *Photographing Everyday Life: Ageing, Lived Experiences, Time and Space* funded by the ESRC, UK. The research involved a diverse sample of 62 women and men aged 50 years and over who took photographs of their daily routines to create a weekly visual diary. The analysis highlighted: (1) the significance of digital connectivities and the ways in which people in mid-to-later life actively engage (and resist) technologies of communication in daily life; (2) the significance of embodied co-presence and the immediacy of shared space and/or time; and (3) how narratives surrounding engagement (or not) with digital technologies both challenge and reinforce ideas about ageing. Exploring the routines, meanings, and patterns that underpin everyday life has enabled us to make visible how people

build, maintain and experience their social connections, and the ways in which digital devices and information technologies are being incorporated within daily life.

OLDER PEOPLE WAYS TO COMMUNICATE IN FACEBOOK COMMUNITIES: A NETNOGRAPHIC APPROACH

L. Ivan, *National University of Political Studies and Public Administration, Bucharest, Romania*

Using a virtual ethnographic research (netnography) of a Facebook online community of older people from Romania, the current research describes members’ interactions, bonding and support on Facebook. Netnography is a form of ethnographic research adapted to include the Internet’s influence on contemporary social world. The ethnographic approach allowed us to observe how people use Facebook, analysing how often they post information or react to other members from the online community; who they communicate with using Facebook; what types of information they post or communicate about; how Facebook is implicated or not in family bonding and communication. The results indicate the importance of the online communities in understanding everyday practices of ICT use at older adults.

ACCUMULATIVE LEARNING PROCESSES: OLDER INDIVIDUALS APPROPRIATING SMARTWATCHES

M. Fernández-Ardèvol, A. Rosales, *IN3, Universitat Oberta de Catalunya - Open University of Catalonia, Castelldefels, Catalonia, Spain*

Pervasive digital technologies follow a fast innovation path. Thus, the appropriation of new digital devices follows an accumulative learning process. Adult individuals build up gradually their digital skills, mainly through informal learning processes, in response to everyday life particular goals.

Empirical information comes from a one-year research project. We delivered five smartwatches to analyze the processes of appropriation and domestication in the long term. Participants are members of a seniors’ learning club in Barcelona.

Key findings are in line with empirical evidence regarding informal learning processes associated with new digital technologies, which are valid for any age: (a) Peers are relevant sources of information, as knowledge is shared among those who have similar devices and similar interests. (b) The personal network is a source of knowledge sharing. Finally, (c) personal interests define what individuals (do not) want to learn.

“OUR FITBITS, OURSELVES?” WEARABLES, SELF-TRACKING AND AGING EMBODIMENT

B.L. Marshall, *Sociology, Trent University, Peterborough, Ontario, Canada*

As physical activity is considered key to the prevention of many age-related problems and inactivity becomes framed as irresponsible (“sitting is the new smoking”), the market for devices to measure, monitor, motivate and manage activity has expanded. Translating bodily movement into quantifiable outputs, these devices produce data which can be used, shared and/or displayed in different ways, and which are bound up with discourses of risk and the management of future health. While biomedical and exercise science research

focuses on how self-tracking devices can enhance behavioral interventions with older adults, I draw on interview data to explore the ways that data produced by self-tracking circulates through networks of technologies, relationships and expertise, and argue that more attention needs to be paid to the ways in which quantification is embedded in everyday social worlds.

SESSION 5005 (SYMPOSIUM)

A PRIMER ON THE WISCONSIN LONGITUDINAL STUDY: 60 YEARS OF SOCIAL DATA COMBINED WITH GENETIC DATA

Chair: P. Herd, *University of Wisconsin, Wisconsin*

Co-Chair Pam Herd, *University of Wisconsin-Madison, Madison, Wisconsin*

The Wisconsin Longitudinal Study is a panel study covering over sixty years, making it an excellent data source for researchers interested in linking early-life characteristics to later-life outcomes. The study is a sample of one in three Wisconsin high school graduates, and a selected sibling, from the class of 1957. WLS is unique among major social scientific resources for the length with which it has followed a large population-based cohort sample and the inclusion of siblings. The most recent round of data was collected between March of 2010 and December of 2012. The data cover nearly every aspect of the participants' lives from early life socioeconomic background, schooling, family and work to health, social participation, civic engagement, well-being, and cognition. The study also has a wealth of unique data including examples such as administrative IQ scores from high school, information collected from high school yearbooks that include measures of attractiveness, proxy measures for obesity, anthropometric and functioning, and complete lists of student activities for all respondents. Examples of administrative data include Medicare records, Social Security records, and resource data on primary and secondary schools attended by participants. At the cellular level, DNA data (to be released in the Fall of 2016) can be merged with fifty-five years of social data. This session will introduce the study to researchers who are not familiar with the data by providing an overview of the study as well as practical information on the structure of the data. Attendees will be provided with a USB containing documentation and the public data.

WHAT'S IN THE WLS? AN OVERVIEW OF SURVEY CONTENT ACROSS TIME

P. Herd, *University of Wisconsin, Madison, Wisconsin*

This presentation will provide an overview of the WLS data. Survey years include 1957, 1964, 1975, 1993, 2004, and 2011. The content of the WLS has changed to reflect the life course of participants: education inspired the initial data collection, familial and career outcomes focused data collection in midlife, and later rounds have shifted attention to respondent's health, cognitive status, psychological and other dimensions of wellbeing, non-work activities, and caregiving and social support. Some examples of non-survey derived measures include: parent earnings from state tax records (1957–60), high school IQ scores; characteristics of high

schools and colleges, employers, industries, and communities of residence; archival data on high school and elementary school resources; information on social participation, facial obesity, and attractiveness from yearbooks; matches to the National Death Index; Medicare claims data; and Social Security Earnings and Benefits.

GENETIC AND MICROBIOME DATA IN THE WISCONSIN LONGITUDINAL STUDY

C. Atwood, P. Herd, *University of Wisconsin, Madison, Wisconsin*

The WLS has GWAS data on 9400 participants. The inclusion of genetic data allows analyses linking genotypic, biomedical, psychosocial, and life course outcomes in novel ways. The WLS is a unique resource that is well suited for replication of findings from existing studies in a population-based sibling-design sample. More recently we piloted a study to collect stool samples in order to analyze participants' gut microbiome to study its relationship to human health. We are also doing ground-breaking research on the relationship between the gut microbiome and behavioral and social outcomes. One area of interest is examining how the unique mix of microbes in our gut may have much to do with why some diets work for some people but not for others. We expect that a healthy microbiome depends on our genes, diet, and our environment; all of which are measured within the WLS.

HOW TO ACCESS AND USE DATA FROM THE WISCONSIN LONGITUDINAL STUDY

C.L. Roan, *University of Wisconsin-Madison, Madison, Wisconsin*

With over 27,000 analysis variables covering more than 55 years of data, new users of the WLS data may find themselves overwhelmed when looking for the measures they need to answer their research questions. We will give detailed instructions on how to use the tools and reference materials developed by WLS staff. Attendees will learn how to search for analysis variables, where to find copies of the survey instruments online, and how to download the public data. We will also explain the organizational structure of the data, variable naming conventions, and offer recommendations on how to break the data into smaller pieces if your computing resources are limited. Participants in this symposium will also learn about the differences between publicly available data and the small subset of data available only by application. Finally we will explain how to apply to use the genetic data and other non-public data.

SESSION 5010 (PAPER)

LIFE-COURSE PERSPECTIVES ON DISADVANTAGE AND HEALTH

DOES CHILDHOOD MISFORTUNE INCREASE THE LIKELIHOOD OF MOBILITY LIMITATION IN LATER LIFE?

M. Williams, K.F. Ferraro, B. Kemp, *Purdue University, West Lafayette, Indiana*

Many studies in gerontology and epidemiology examine the influence of proximal risk factors on mobility limitations

in later life; however, recent research on the early origins of adult health shows the importance of considering distal risk factors, including those from childhood. This research uses data from the Health and Retirement study (2004) to examine whether childhood misfortune predicts developing a mobility limitation in later life. A series of logistic regression models were estimated to test whether six domains of childhood misfortune (socioeconomic status, infectious disease, chronic disease, impairments, risky adolescent behavior, and risky parental behavior) raised the risk of a mobility limitation, defined by reporting difficulty in performing at least one of five lower body mobility tasks, among persons 51 years or older. After adjusting for demographic factors and adult health behaviors, respondents who experienced misfortune in socioeconomic status, impairments, and two or more risky parental or adolescent behaviors in childhood were more likely to have a mobility limitation in mid-late adulthood, but these relationships were partially mediated by presence of chronic disease, pain, and depression. These findings reveal that experiencing childhood misfortune heightens the risk of chronic disease, which serves as an early catalyst of the disablement process.

CHILDHOOD SOCIOECONOMIC STATUS AND ADULT ISCHEMIC HEART DISEASE: A LIFE COURSE PATHWAY MODEL OF HEALTH

P. Morton¹, K.F. Ferraro², S. Mustillo³, 1. *Rice University, Houston, Texas*, 2. *Purdue University, West Lafayette, Indiana*, 3. *Notre Dame University, Notre Dame, Indiana*

There is a well-established relationship between childhood socioeconomic status (SES) and adult health, but how early-life conditions are able to influence health and aging in later-life is less clear. To elucidate this process, this study investigated how childhood SES influences ischemic heart disease (IHD)—a common disease among older adults—through multiple paths of adult health lifestyles, SES, and chronic inflammation. Guided by two interdisciplinary life course perspectives, this study hypothesized that socioeconomic disadvantage during childhood would lead to unhealthy lifestyles and lower SES in adulthood, which would lead to chronic inflammation that would subsequently raise the risk of IHD. Data came from six waves of the Health and Retirement Study between 2004 and 2014, comprising a sample of 11,697 U.S. men and women aged 51 and older. A series of Cox proportional hazards models examined the relationship between childhood SES and adult IHD. Statistical tests of mediation were conducted to determine whether adult health lifestyles, SES, and chronic inflammation mediated the relationship between childhood SES and adult IHD. Findings revealed that lower childhood SES raised IHD risk by directly impacting adult health lifestyles and SES, which subsequently led to higher levels of systemic inflammation, resulting in onset of IHD. These findings clarify how childhood SES impacts health among older adults. Using multiple mediating domains to assess the long-term effects of early-life conditions can enhance U.S. health policy in an effort to reduce the associated disease burden of childhood SES.

EXPLORING CUMULATIVE DISADVANTAGE, TELOMERE LENGTH, AND BREAST CANCER AMONG BLACK AND WHITE WOMEN

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Objectives: Cumulative disadvantage (CD) is a concept that recognizes the influence of social determinants on health over the lifecourse—emphasizing accumulated stressors as contributors to physiological damage. The shortening of telomeres has been found to have a direct relationship with increased cancer incidence and overall health. The purpose of this research is to develop a triangulated and biologically validated CD instrument to explore breast cancer disparities among Black and White women.

Methods: We recruited a purposeful sample of 15 White and 15 Black pre-menopausal women (ages 25–50 years) who had donated normal tissue to the Susan G. Komen Tissue Bank. Semi-structured qualitative interviews, designed to investigate participants' exposure to lifetime stressors, were conducted. Drawing from the qualitative interviews and previous research, a quantitative survey instrument was developed to capture the range of stressors experienced by our sample of women. All respondents completed the quantitative survey and their telomere length was assessed using DNA extracted from peripheral blood leukocytes.

Results: Qualitative and quantitative assessments of CD were consistent across childhood, adult, and lifetime stressors. Black respondents reported more childhood stressors ($t=-2.28$, $p=0.03$), adult stressors ($t=-1.87$, $p=0.07$), and lifetime stressors ($t=-2.17$, $p=0.04$); however, there were no significant differences in subjective assessments of the perceived impact of stress on health. There was some evidence of shortened telomere length among Black respondents with more CD.

Discussion: Preliminary analyses provide evidence of triangulation. Future research will further explore associations between CD and telomere length among a larger sample ($N=100$) of Black and White American women.

DOES FINANCIAL STRAIN DURING THE GREAT RECESSION COMPROMISE THE SOMATIC WELL-BEING OF OLDER ADULTS?

L.R. Wilkinson, *Sociology, Baylor University, Waco, Texas*

Studies to date provide growing evidence of the toll the Great Recession has taken on the lives of older adults. Drawing on a sample of older adults from the Health and Retirement Study ($N = 5,071$), this study poses two main research questions: Does financial strain increase acute physical symptoms among older adults? If so, does this relationship vary by age? There has been considerable debate on the extent to which the recession affected older adults, but so far research has failed to distinguish between two defining categories of older adults: under age 65 and aged 65 and older. There are marked differences between these two age groups that may shape their evaluations of financial strain, including access to resources. Guided by cumulative inequality theory, I anticipated that financial strain would

compromise somatic well-being for all adults following the Great Recession, but especially those under the age of 65 because of their more disadvantaged positions entering into the recession. For instance, adults under the age of 65 were more susceptible to unemployment and its reverberations, with many forced to delay retirement altogether. Findings from this study reveal that initial financial strain and change in financial strain between 2006 and 2010 independently contribute to increased acute physical symptoms among all adults, even after controlling for demographic and socioeconomic characteristics. Thus, despite their distinct social and economic circumstances, results from this study suggest that both groups were similarly affected by the Great Recession.

HOW EXPOSURE TO RECESSIONS AS A YOUNG ADULT IMPACTS SUBJECTIVE WELL-BEING IN LATER LIFE

B. Bartlett, *Duke University, Durham, North Carolina*

Numerous studies find that subjective well-being suffers during economic downturns, but are often limited to full-time workers and short-term effects. Combining research on subjective well-being and recessions with cultural demography and life course theory, this study expands on prior research by (1) exploring the effects of recessive periods beyond full-time workers, (2) examining long-term impacts of experience with recessions, and (3) determining whether exposure to recessive periods in young adulthood changes individuals' future outlook. In particular, this study focuses on exposure to a recession during young adulthood, a critical period for development. Using logistic models for the General Social Survey (GSS) repeated cross-sections (1994–2014) and logistic models adjusted for individual effects across three GSS panels of three years each (2006–2014), this study finds that exposure to a recession in young adulthood is associated with different levels of subjective well-being. This effect is different depending on the intensity of the recession: older adults who experienced a short recession in young adulthood have better well-being, while older adults who experienced a long-term recession in young adulthood have poorer subjective well-being. Finally, this study finds that these effects are partially mediated by future outlook (as measured by pessimism or optimism about children's future standard of living). These mechanisms are important given the dramatic decline in recessive periods throughout the 1980s, 1990s, and early 2000s, decreasing the proportion of the population exposed to short-term recessions, and thereby reducing the population capacity for positive subjective well-being.

SESSION 5015 (SYMPOSIUM)

NOVEL PARTNERSHIPS TO DEVELOP MEASURES OF QUALITY CARE FOR OLDER ADULTS: IMPROVING HOMEBOUND CARE

Chair: K. Ornstein, *Mount Sinai Hospital, New York City, New York*

This symposium will demonstrate the role of a unique, multi-stakeholder collaboration to improve care for homebound and other complex, older patients. The homebound are a vulnerable, high-risk population. Performance measurement of care for this population is insufficient, relative

to similar measurement in other care settings. Payers therefore have little basis on which to determine the quality of home-based medical care across providers while the spectrum of care needs for this population goes unrecognized. Interdisciplinary presenters represent varied healthcare perspectives, including practice, consumer advocacy, quality, research, and data science. The National Quality Forum (NQF) will describe the NQF Measure Incubator™, an innovative effort to facilitate efficient measure development and testing through collaboration and partnership. The Measure Incubator is addressing important gaps in quality measurement. Geriatricians from Johns Hopkins University and UCSF will describe existing definitions of the homebound, gaps in care, and needed quality assessments for these patients. Representatives from AARP will discuss the role of consumer organizations in measure development, particularly for frail populations. Finally, researchers and practitioners from UCSF and OptumLabs™ will highlight a collaboration to develop quality measures in an open science, “big data” environment. The team will present a data-driven example of using large data assets to develop quality measures for a high-risk target population. This symposium highlights the value of a collaborative model for measure development and care improvement for elderly homebound patients that leverages “big data”, and multiple stakeholder perspectives as core components.

INNOVATION IN MEASUREMENT: THE NQF MEASURE INCUBATOR™

H. Burstin, *National Quality Forum, Washington, District of Columbia*

Critical areas of health and healthcare for older Americans don't have enough or the right kinds of measures to drive improvement. With the rapid growth of long-term services and supports for the elderly and disabled, measures that reflect the quality of care provided in home and community-based services are needed. Measures that reflect the voice of patients and caretakers, including measures of function and shared decision-making must be developed. The NQF Measure Incubator™ is an innovative effort that facilitates efficient measure development and testing through collaboration to address important aspects of care for which quality measures are underdeveloped or nonexistent. NQF is exploring innovative and agile approaches to incubate and test measures more efficiently, such as early and continuous access to data. This innovative approach can help drive measurement where it's most needed during this period of rapid change in the care of older patients in their home and community.

MAKING THE HOMEBOUND VISIBLE: EPIDEMIOLOGY AND QUALITY MEASUREMENT

C.S. Ritchie², B.A. Leff¹, K.L. Harrison², 1. *Johns Hopkins University, School of Medicine, Baltimore, Maryland*, 2. *University of California, San Francisco, School of Medicine, San Francisco, California*

Recent nationally representative data suggest that between 2 and 6 million Americans are homebound. They are often unable to access office-based primary care and are among the most costly patients in the US health care system, because of a powerful combination of multiple chronic

conditions, functional impairment, frailty, and social stressors. Rendering the homebound visible to the health care system is critical to improving care delivery and health outcomes for this vulnerable population and population health efforts. Home-based primary care (HBPC) practices have developed effective approaches to address the clinical needs of this population. Appropriate metrics are lacking to measuring the quality of care delivered by HBPC to this frail population. This session will focus on 1) understanding the characteristics of the homebound population, and; 2) elucidating efforts to address gaps in quality measurement, including the development of quality measures, a national registry, and a learning collaborative for HBPC practices.

ALL IN IT TOGETHER: WHY DEVELOPMENT OF BETTER HEALTH CARE QUALITY MEASURES IS GOOD FOR CONSUMERS

L. Walker, *AARP Public Policy Institute, Washington, District of Columbia*

Health care in the United States is evolving. With this change, consumers and families are taking on greater responsibilities in managing their health care – sometimes voluntarily and sometimes involuntarily. For them to navigate effectively in this new environment they and their clinicians need information about the quality of care they receive, and that information has to be meaningful to their decision-making process. This is particularly so for people who are frail, functionally impaired, and have complex chronic conditions. The homebound are a subset of this group. Consumer and patient groups, including AARP, support the development of measures in critical gap areas, such as for patients who are homebound, who would benefit tremendously from the development of home-based quality of care measures. In addition to clinical measures, consumers would welcome development of measures in domains that capture patient and caregiver experience, care coordination, safety, and quality of life.

NO LONGER THE INVISIBLE HOMEBOUND: IDENTIFYING CANDIDATES FOR HOME-BASED MEDICAL CARE IN BIG DATA

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Homebound patients who could benefit from high-quality, cost-saving longitudinal home-based medical care cannot be identified easily by hospitals, health systems, or payers. Further, without a well-defined population denominator, assessments of care quality are inadequate. We addressed these gaps using the OptumLabs™ Data Warehouse, which includes more than 3 million commercial and Medicare 2014 enrollees age 65 and older. We identified two patient phenotypes who may benefit from home-based medical care: (1) patients with complex comorbid conditions already receiving home-based care (>2 in-home physician visits (N=30,251); and (2) patients receiving substantial acute care (>57% with >1 hospitalization, ER visit, or ambulance service) and low levels of ambulatory services (19.2% with <2 ambulatory

visits/year); (N=171,894). This project revealed a high-need patient population for whom home-based care may be beneficial and established a method for using administrative data to identify patients who are either homebound or would benefit from coordinated home-based services.

SESSION 5020 (SYMPOSIUM)

BEYOND PERFORMANCE MEASURES: NOVEL INFORMATION FROM ACCELEROMETRY FOR FUNCTION

Chair: T. Harris, *NIA/Intramural Research Program, Bethesda, Maryland*

Functional status has long been recognized as critical to health and independence of older persons. Self-reported and performance measures, which are quick and easy to administer, allow assessment of function and are widely used in community population studies and clinical trials. However, these measurements are limited in that they are taken at one point in time in home, clinical and laboratory settings, and thus may not be representative of a person's usual function over time. Accelerometry is an emerging technology that has gained popularity in recent years, which allows for continuous and objective assessment of daily physical activity and function over an extended period of time in the free-living environment. Although these device present new opportunities to understand functional mobility, the benefits may be limited by associated costs, methodological, and data processing challenges. This begs the question: Are the data generated from accelerometry worth the effort? In this symposium, presenters will highlight novel information derived from the accelerometers and compare with routinely available self-report or performance measures. Accelerometer types, body placement locations, processing challenges, and costs will be addressed

ACTIGRAPHY FEATURES FOR PREDICTING MOBILITY DISABILITY IN OLDER ADULTS

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Actigraphy has attracted much attention for assessing and documenting physical activity in the past decade. However, there is a lack of understanding whether these data can help in detecting and/or predicting mobility function, or more specifically, mobility impairment and major mobility disability (MMD). Men (N=357) and women (N=778) aged 70–89 years wore a tri-axial accelerometer (Actigraph GT3X) on the right hip during free-living conditions for 8.4±3.0 days and 67 features were extracted from the accelerometer data. Sensitivity and specificity of identifying slow walkers was approximately 70% and 80%, respectively. The top five features, which were related to movement pace and amount (activity counts and steps), length in activity engagement (bout length), accumulation patterns of activity, and movement variability significantly improved the prediction of MMD beyond that found with common covariates (age,

walk speed, diseases). Actigraphy features from free-living conditions may be important for prediction of mobility phenotypes in older adults.

FRAGMENTATION OF DAILY PHYSICAL ACTIVITY: PREDICTION OF MORTALITY IN NHANES 2003–2006

J. Di, A. Leroux, J. Urbanek, A.P. Spira, J. Schrack, V. Zipunnikov, *Johns Hopkins School of Public Health, Baltimore, Maryland*

We review existing methods for quantifying fragmentation of accelerometry-measured physical activity and develop a unifying statistical framework that connects all methods by separately modeling switching between and duration of sedentary and active bouts. We analyzed the association of these metrics with mortality in National Health and Nutrition Examination Survey 2003–2006. We have identified that “Intradaily Variability” (1SD HR=1.32, 95%CI 1.18–1.48), “Active Bouts Fragmentation Index” (1SD HR=1.43, 95%CI 1.25–1.64), “Sedentary Bouts Gini Index” (1SD HR=1.15, 95%CI 1.06–1.25), and hazard rates of distribution function of durations of active and sedentary bouts (1SD HR=1.93, 1.40, 95% CI 1.59–2.34 and 1.23–1.59) independently predict mortality after adjusting for total sedentary time, total daily activity, age, sex, education, medical comorbidities, smoking status, alcohol consumption, and mobility limitations. Future studies should concentrate on developing metrics that jointly model the frequency of switching between the sedentary and active bouts as well as the bout durations.

PREDICTING VO2 MAX USING ACCELEROMETRY AND HEART RATE METRICS

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Traditional physical activity metrics include reported time spent in various levels of exertion, from sedentary to vigorous. Previous research has shown an association between time spent in moderate or vigorous activities and maximal aerobic capacity (VO2 max) in older adults, but the association between accelerometry derived activity metrics and VO2 max remains undefined. We modeled the association between VO2 max and objectively measured physical activity and heart rate in 411 BLSA participants (53% male, mean age 67, range 31–88), using percentages of heart rate reserve to define intensity of daily activities. Although the association between time spent in vigorous activities and VO2 max was significant, a continuous measure of total daily activity provided stronger results and a better model fit (accounting for 12% vs. 8% of unexplained variance), suggesting that total daily activity is a better predictor of VO2 max with aging, likely due to reduced intensity of daily activities.

SEDENTARY BEHAVIOR AND PHYSICAL ACTIVITY ARE ASSOCIATED WITH PHYSICAL FITNESS: THE MAASTRICHT STUDY

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2. *Maastricht University Medical Center, Maastricht, Netherlands*

We examined the associations of sedentary behavior and high intensity physical activity (HPA) with physical fitness in 1,897 men and women aged 40–75 years from The Maastricht Study. Sedentary behavior and HPA (time/day) were measured continuously with the activPAL3 during 7 days. Physical fitness was expressed as 1) maximum power output ($W_{max} \text{ kg}^{-1}$) estimated from a sub-maximal cycle ergometer test and 2) covered distance (m) from fast-paced 6 minute walk test (6MWD). Mean ($\pm$ SD) sedentary time was 9.3 ± 1.6 hours and median [25%–75%] time in HPA was 19.8[10.1–31.1] minutes. One hour less sedentary behavior was associated with a higher $W_{max} \text{ kg}^{-1}$ ($B = 0.022$) and longer 6MWD ($B = 2.455$) independent of HPA ($p < 0.05$). An additional 10 minutes of HPA was associated with higher $W_{max} \text{ kg}^{-1}$ ($B = 0.036$) and longer 6MWD ($B = 3.088$), independent of sedentary behavior ($p < 0.01$). HPA seems to be more important for physical fitness than sedentary behavior.

USING ACCELEROMETRY TO TRACK CLINICAL TRAJECTORIES: AORTIC VALVE REPLACEMENT AS AN EXAMPLE

T. Harris¹, P. Green², A. Eloyan³, V. Zipunnikov⁴, M. Maurer², M. Hung¹, C. Crainiceanu⁴, 1. *Laboratory of Epidemiology and Population Sciences, NIA/Intramural Research Program, Bethesda, Maryland*, 2. *Columbia University College of Medicine, New York, New York*, 3. *Brown University School of Public Health, Providence, Rhode Island*, 4. *Johns Hopkins School of Public Health, Baltimore, Maryland*

Accelerometry technology has been used to capture motion in studies of physical activity, where these instruments have been used to assess the total amount of activity and its intensity. Clinicians have begun to realize that these characteristics could provide information about underlying health status and the use of monitors to predict clinical outcomes has increased. This presentation will review current applications of accelerometers in clinical practice. Using data from a pilot study of 53 patients undergoing aortic valve replacement either through open heart surgery or through transcatheter valve replacement, we will show the pre-intervention accelerometry data. We will then compare post-intervention accelerometry data over time, illustrating where there are significant differences between the types of valve replacement and between the pre- and the post-intervention accelerometry data.

Accelerometry technology has been used to capture motion in studies of physical activity, where these instruments have been used to assess the total amount of activity and its intensity. Among other characteristics analyzed from the raw accelerometry signal include time spent sedentary, time in sleep, duration of bouts of motion, and time walking. Clinicians have begun to realize that these characteristics could provide information about underlying health status and the use of monitors to predict clinical outcomes has increased. This presentation will review current applications of accelerometers in clinical practice. Using data from a pilot study of 53 patients undergoing aortic valve replacement either through open heart surgery or through transcatheter valve replacement, we will show the pre-intervention

accelerometry data. We will then compare post-intervention accelerometry data over time, illustrating where there are significant differences between the types of valve replacement and between the pre- and the post-intervention accelerometry data.

SESSION 5025 (SYMPOSIUM)

UNDERSTANDING DIRECT AND INDIRECT CONTRIBUTORS TOWARD LONGEVITY OF THE OLDEST OLD

Chair: L.W. Poon, *University of Georgia*

Co-Chair: P. Martin, *Iowa State University, Iowa*

Discussant: D. Willcox, *Naha, Japan*

It is well known among centenarian research programs that both nature and nurture contribute to our understanding of longevity, morbidity, and functional capacity among the oldest old. Past research focused on the impact of specific biological, psychological, OR social main effects that contributed to longevity and functional capacities. Research directions have matured sufficiently that some ongoing research has begun to articulate both direct and indirect (or interactive) effects among bio-psycho-social predictors in order to advance the current state of research in longevity and functioning among oldest old survivors. This symposium is designed to showcase this future direction. The first paper will set the stage by briefly summarizing past accomplishments as well as needed directions for the next stage of research. Four papers will follow to provide examples of how direct, indirect, and interactive effects could further our understanding of mechanisms of longevity. The first paper will address the impact of past (distal) and current (proximal) experiences on healthy longevity. The second paper will address the interactions between genetics and personality; the third paper addresses the interaction between specific genes and morbidity that would enhance longevity. The last paper will examine and differentiate the impact of autonomy and competence that would contribute to life and aging satisfaction. A discussion will follow to summarize and integrate the papers on future longevity research.

A REVIEW OF CURRENT UNDERSTANDING AND FUTURE DIRECTIONS IN CENTENARIAN RESEARCH

L.W. Poon², P. Martin¹, 1. *Iowa State University, Ames, Iowa*, 2. *University of Georgia, Athens, Georgia*

This paper serves as an introduction to the symposium papers by reviewing past centenarian research around the world, primary research accomplishments, and thoughts on future directions to set the stage for the following symposium papers that focus on direct and indirect mechanisms toward longevity and functional capacities among the oldest old.

DISTAL AND PROXIMAL INFLUENCES ON HEALTHY LONGEVITY

P. Martin¹, L.W. Poon², 1. *Iowa State University, Ames, Iowa*, 2. *University of Georgia, Athens, Georgia*

There is wide consensus that healthy longevity is not determined by a single factor but by a variety of influences. Seldom, however, have distal and proximal factors been distinguished in the prediction of healthy longevity. The Georgia

Centenarian Study includes distal influences (e.g., family longevity, education, early life events, childhood socioeconomic status and childhood health) to assess the direct effect on well-being in very late life. In addition, proximal influences (e.g., personality, social support and health behaviors) and the mediation and moderation of proximal and distal influences were evaluated. Three hundred and eighty one centenarians from the Georgia Centenarian Study participated in this research and were tested on a wide range of longevity components. The results suggest that distal and proximal factors are important determinants of healthy longevity. We conclude that service providers and family members focus on proximal and distal variables when supporting oldest-old survivors.

NEED FOR AUTONOMY, COMPETENCE, AND RELATEDNESS IN CENTENARIANS

D.S. Jopp, C. Lampraki, C. Meystre, *Institute of Psychology, University of Lausanne, Lausanne, SCHWEIZ, Switzerland*

Psychosocial factors are important for longevity and well-being in very old age. In younger ages, fulfillment of basic needs such as autonomy, competence, and relatedness are widely discussed, using the framework of self-determination theory. As fulfillment of these needs is at risk in very advanced age, the present study investigated their direct and indirect effects in centenarians participating in the Fordham Centenarian Study (N = 119, Mage = 99.25). Findings indicate that a rather substantial number of centenarians felt that their needs were not well met. Regression findings showed that those who were able to maintain need fulfillment had higher life and aging satisfaction while considering education and health restrictions. Fulfilled autonomy need was strongly associated with life satisfaction, whereas fulfilled competence need was associated with aging satisfaction. Mediation effects were also found. In sum, findings suggest that feeling autonomous and competent remains essential for well-being in very old age.

PARADOXICAL ASSOCIATION BETWEEN LONGEVITY-RELATED PERSONALITY TRAITS AND MORTALITY IN CENTENARIANS

Y. Gondo¹, N. Hirose², Y. Masui³, H. Inagaki³, Y. Arai², 1. *Osaka University, Suita, Osaka, Japan*, 2. *Keio Medical School, Shinjyuku Ku, Tokyo, Japan*, 3. *Tokyo metropolitan institute of gerontology, Itabashi Ku, Tokyo, Japan*

Personality traits are the significant predictor of longevity. Among the big-five personality traits, researchers reported that having a lower score of neuroticism and a higher score of conscientiousness, extraversion and openness influence longevity due to their behavioral patterns. However, longevity associated gene (synaptojanin-2) showed association with agreeableness, although it is not reported to have any relationship with longevity. Such results raised a question whether observed associations between personalities and longevity might be the reflection of genetic influence on both biological robustness and personality traits rather than the consequence of causal effect of personality to behavioral regulation manners. We analyzed association between mortality and personality traits among centenarians. Conscientiousness showed a positive association with mortality after controlling participants' age, physical functions, cognitive functions and sex. The paradoxical result indicated that biological

traits explain more on longevity among centenarians rather than their behavioral patterns result from personalities.

SESSION 5030 (PAPER)

WORKFORCE AND ECONOMIC ISSUES

EMPLOYMENT SUPPORT SERVICE PROVISION FOR OLDER WORKERS: BOUNDARIES SHAPED THROUGH INDIVIDUALIZATION

D.L. Rudman¹, R.M. Aldrich², 1. *Occupational therapy, University of Western Ontario, London, Ontario, Canada*, 2. *Saint Louis University, St. Louis, Missouri*

Western economies increasingly promote extended formal labour force engagement across the lifespan. Older workers – persons aged 50 and older – are induced to continue working through policy changes such as increasing age thresholds for pension eligibility or financial penalties for early workforce exit. Such measures presume people's abilities to choose to continue working, but barriers to sustainable, secure employment disproportionately impact older workers. Front-line support service providers who assist out-of-work older workers must negotiate contemporary individualizing policies and discourses while recognizing their collective experience of difficulty within the labour market. In this presentation, we draw on data from a collaborative ethnographic study that uses governmentality, street-level bureaucracy, and critical occupational science as theoretical frames to understand long-term unemployment in Canada and the United States. Through a critical discourse analysis of qualitative interviews, participant observation field notes, and focus group interviews with 22 front-line service providers, we attend to how service providers negotiated conflicting discursive positions: despite positioning older workers as an 'at risk' group, service providers located barriers to employment in individual characteristics such as workers' attitudes, expectations, or skills. Moreover, service providers proposed activation-based, individualized strategies – such as crafting age-neutral resumes or enhancing computer literacy – as solutions to older workers' joblessness. As such, dominant discourses aligned with neoliberal individualizing and activating strategies set limits on attention to ageism and other systemic barriers collectively faced by aging workers within service provision practices, bounding how later life long-term unemployment is addressed and inadvertently contributing to precarity.

ACCOUNTABLE CARE ORGANIZATIONS AND POST-HOSPITAL CARE FOR OLDER ADULTS: COORDINATION AND COSTS

C.E. Bishop¹, J. Hefele^{2,1}, J. Perloff¹, R. Mechanic¹, 1. *Heller School for Social Policy & Mgt, Brandeis University, Weston, Massachusetts*, 2. *University of Massachusetts at Boston, Boston, Massachusetts*

Medicare accountable care organizations (ACOs), rewarded for containing Medicare costs for attributed beneficiaries, are seeking cost-savings in post-acute care (PAC). Intensified case management, focus on quality metrics, and improved transfers along the care continuum can improve

patient outcomes and experience for older adults using PAC while reducing Medicare costs. But narrowing provider networks and downward pressure on length of stay may decrease access to desired care for beneficiaries and constrain resources available for long-stay residents receiving care not covered by Medicare.

We report on case studies of PAC provider interactions with ACOs in three health market areas, revealing skilled nursing facility (SNF) and home health agency (HHA) response to cost-containment strategies. Some SNFs compete to attain and keep ACO preferred status while others question whether participation costs are compensated by increased referrals. Rounding in the SNF by ACO clinicians, while a potential source of conflict, brings timelier primary care to some SNF patients. Coordination strategies aim to improve transitions and reduce rehospitalization. HHAs are pressed to see patients more quickly after hospital or SNF discharge.

Analysis of Medicare claims data for beneficiaries in 18 health market areas over three years of ACO experience examines the impact of these interventions, comparing PAC discharge destination, concentration of discharges in preferred provider networks, length of stay, and 30-day rehospitalizations for ACO and fee-for-service Medicare beneficiaries. Aligning PAC providers with ACO goals is moving Medicare toward more coordinated and integrated care for beneficiaries and saving costs. However, implementation is still a work in progress.

SAVING LIVES OR SAVING MONEY? UNDERSTANDING THE DUAL NATURE OF PHYSICIAN PREFERENCES

A. Chen, D. Lakdawalla, *University of Southern California, Los Angeles, California*

A longstanding literature has highlighted the tension between the altruism of physicians and their desire for profit. This paper develops new implications for how these competing forces drive pricing and utilization in healthcare markets. Altruism dictates that providers reduce utilization in response to higher prices, but profit-maximization does the opposite. Rational physicians will behave more altruistically when treating poorer patients or those that face higher medical cost burdens, and when foregone profits are lower. These insights help explain the observed heterogeneity in pricing dynamics across different healthcare markets. We empirically test the implications of our model in the aging population by utilizing two exogenous shocks in Medicare price setting policies. Our results indicate that patient income, out-of-pocket costs, and profitability alone explain up to one-quarter of the variation in price elasticities. Finally, we demonstrate that uniform policy changes in reimbursement or patient cost-sharing among older adults may lead to unintended consequences.

LONG RUN ECONOMIC EFFECT OF TELEMONITORING ON THE ELDERLY WITH CHRONIC DISEASES

M. Tsuji, *Economics, Kobe International University, Kobe, Hyogo, Japan*

The rise of medical expenditures of the elderly due to chronic diseases such as heart failure, high blood pressure,

diabetics, and stroke becomes an important social and economic issue. One measure to cope with this is telemonitoring or telemedicine, which monitors biodata of the elderly staying at home including blood pressure, ECG, and blood sugar from remote medical institutions. Nurses monitor data and provide health advice. This study analyzes whether or how much telemonitoring can reduce users' medical expenditures and days of treatment in the long run. Using nine years data from 2002 to 2010 of Nishi-aizu Town, Fukushima Prefecture, Japan, the method of research is to compare the outcomes mentioned above between users of telemonitoring (treatment group) and non-users (control group) based on receipt of payment obtained from the National Health Insurance. The numbers of samples are 90 users and 118 non-users, respectively. Employing rigorous statistical methods, including the Instrumental Variable method, which deals with the endogeneity problem, this paper demonstrated that the treatment group has smaller medical expenditures by USD650 and fewer treatment days by 4.2 than non-users with respect to chronic diseases in the long run. In comparison with author's previous results based on five years data, this paper showed the longer they use, the larger the outcomes. To date, there is no study on examining the long-term economic effects of telemedicine, and thus the economic foundation for the sustainability of the telemedicine project is supported by this study.

SESSION 5035 (SYMPOSIUM)

IMPROVING THE EXPERIENCE OF DEMENTIA AND ENHANCING ACTIVE LIFE: EARLY FINDINGS FROM THE IDEAL COHORT

Chair: L. Clare, *University of Exeter, Exeter, United Kingdom*

Enabling people with dementia and carers to 'live well' with the condition is a key policy objective for most governments in the developed world. Living well with chronic illness or disability has been defined as 'the best achievable state of health that encompasses all dimensions of physical, mental and social wellbeing'. The IDEAL study aims to identify what helps people to live well or makes it difficult to live well in the context of having dementia or caring for a person with dementia, and to understand what 'living well' means from the perspective of people with dementia and carers. The study examines the way in which social capitals, assets and resources, the challenges posed by dementia, and the ways in which people adjust and cope affect well-being, life satisfaction and quality of life. Over a two-year period, we have recruited and interviewed 1500 people with early-stage dementia from across the UK, together with a carer wherever possible (carer $n = 1352$). All the participants will be followed up after 12 and 24 months. A smaller group is interviewed in more depth during each wave. In this symposium we present a profile of the IDEAL cohort followed by preliminary findings focused on (a) results of our systematic review of quantitative studies of variables associated with quality of life; (b) an analysis of levels of loneliness expressed by people with dementia and carers at the baseline interview; and (c) themes and methodological considerations arising from our initial round of qualitative interviews.

IMPROVING THE EXPERIENCE OF DEMENTIA AND ENHANCING ACTIVE LIFE (THE IDEAL STUDY): COHORT PROFILE

L. Clare¹, S. Nelis¹, Y. Wu¹, A. Martyr¹, M. Knapp², C. Henderson², R. Lamont¹, F. Matthews³, 1. *University of Exeter, Exeter, United Kingdom*, 2. *London School of Economics, London, United Kingdom*, 3. *Newcastle University, England, United Kingdom*

The IDEAL study population was recruited through a network of 29 National Health Service sites across England, Scotland and Wales. The baseline cohort (recruited August 2014 – June 2016) included 1500 community-dwelling individuals who had a clinical diagnosis of dementia and where possible their carers ($N=1352$). Of these participants, 43% were women, 11% had early onset dementia (aged <65), 75% reported two or more co-morbid health conditions, 17% lived alone, and 12% lived in more deprived areas. The percentages of specific dementia subtypes were: 56% for Alzheimer's disease 56%; vascular dementia 10%; mixed dementia 20%; fronto-temporal dementia 4%; Parkinson's disease dementia 3%; dementia with Lewy bodies 3%; other 5%. Among the 1352 carers, 82% were spouses/partners and 15% were adult children. Nearly 20% of participants with dementia lived alone. This large-scale cohort includes a diverse sample of people with dementia in terms of specific subtypes, demographics, living situation and carer relationship.

FACTORS ASSOCIATED WITH QUALITY OF LIFE IN DEMENTIA: A CORRELATIONAL META-ANALYSIS

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Quality of life (QoL) in dementia has been extensively investigated, but to date no comprehensive meta-analysis has synthesized evidence from quantitative studies to identify variables associated with QoL. In our systematic search we identified 306 articles that met inclusion criteria. There was sufficient data to analyse the association of 32 variables with self-rated and 36 with informant-rated QoL. Greater depression and more impaired basic activities of daily living were moderately associated with poorer self-rated and informant-rated QoL, although there was considerable heterogeneity. Carer depression and greater carer burden were also moderately associated with poorer informant-rated QoL. Basic demographic variables such as age, education, gender, and marital status explained only a very limited proportion of variance, with low levels of heterogeneity. Other associations were small or negligible. The finding that diverse variables make small contributions to QoL suggests there may be individual differences in what is important for QoL.

DUALITIES OF DEMENTIA ACCOUNTS: BIOGRAPHICAL RECONSTRUCTION AND NARRATIVE ECONOMIES

I.R. Jones², A. Hillman², C. Quinn¹, L. Clare¹, 1. *University of Exeter, Exeter, United Kingdom*, 2. *Cardiff University, Cardiff, United Kingdom*

Given the increasing success of campaigns to ensure the voice of people with dementia is represented, there are a growing number of people in the early stages of dementia being called upon to account for their experience, as a means of developing a collective illness identity. This paper draws on qualitative interviews with IDEAL pilot study participants who were members of a patient advocacy group and who represent the voices of patients and carers in research. We explore two connected themes: firstly, the ways in which people with dementia participate in identity construction, performing biographical reconstruction to make sense of their lives and preserve their sense of self; and secondly, as representatives of the patient voice, these interviews produce dementia illness narratives that are a source of material and symbolic value. The paper reflects on the dualities and tensions within these different narratives.

LETTING GO OF COHERENCE: THE CHALLENGES OF REPRESENTING DEMENTIA

A. Hillman², I.R. Jones², C. Quinn¹, L. Clare¹, 1. *University of Exeter, Exeter, United Kingdom*, 2. *Cardiff University, Cardiff, United Kingdom*

Drawing on IDEAL study in-depth interviews, this paper explores a sociological response to the 'turn to personhood' in qualitative research with people with dementia. Recognizing the voice of the person with dementia has led to important methodological developments to mitigate the practical difficulties of doing research with people for whom recalling events and reflecting on their meaning poses a challenge. This paper suggests that methods, including the qualitative interview, are imbued with a politics of selfhood in which individuals give coherence to experience and emotion. Such a politics jars with representations of dementia as a gradual decline in capacity, including a capacity to speak. The problem of representation in dementia research requires us to re-think method and methodology: firstly, to re-assess expectations of the research encounter; and secondly, to develop alternative interpretations of meaning which support difference in social and temporal frames, rather than seeking to eliminate them.

HOW LONELY AND ISOLATED ARE OLDER PEOPLE WITH DEMENTIA AND THEIR CARERS?

C. Victor¹, Y. Wu², R. Jones³, M. Kopelman⁴, N. Savitch⁵, J. Pickett⁶, S. Nelis², 1. *Brunel University, Uxbridge, United Kingdom*, 2. *University of Exeter, Exeter, United Kingdom*, 3. *RICE, Bath, United Kingdom*, 4. *Kings College London, London, United Kingdom*, 5. *Innovations in Dementia, London, United Kingdom*, 6. *Alzheimer's Society, London, United Kingdom*

Loneliness and/or isolation are key indicators of quality of life and living well. Using data from the IDEAL study we investigated the prevalence of loneliness and isolation for people with dementia and their carers. Loneliness was measured using the six-item de Jong Gierveld scale and isolation by the six-item Lubben social network measure. Preliminary data analysis reports a prevalence of loneliness for people with dementia of 7.8%, comparable with the 10% reported for the general population of older people aged 65+, and a prevalence of 31.8% for carers. Mean network sizes were 15 for people with dementia and 17 for carers, which are

comparable with the general population. People with dementia demonstrate levels of social engagement broadly comparable with rest of the population. Carers, whilst reporting network sizes similar to the general population, report very much higher levels of loneliness, highlighting the importance of relationship quality for living well.

SESSION 5040 (PAPER)

VOLUNTEERING/CIVIC ENGAGEMENT/SOCIAL INCLUSION

FACTORS ASSOCIATED WITH SOCIAL ACTIVITY PARTICIPATION AMONG MIDDLE-AGED AND OLDER CHINESE IN CHINA

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Research from Western samples has linked participation in social, leisure, and other productive activities in later life with better physical and mental health. In China, social activity participation is an understudied, yet important topic. To measure and investigate social activity participation in China, ten items were included in the first wave (2011) of the nationally representative Chinese Health and Retirement Longitudinal Study (CHARLS). In this study, we aimed to (1) classify the dimensions of social activity among middle-aged and older Chinese adults through an exploratory factor analysis (EFA), and (2) identify the socio-demographic characteristics associated with each factor through a confirmatory factor analysis (CFA). Results from the EFA identified four dimensions of social activity, including informal volunteering (helping others without organizational affiliation), leisure (interacting with friends), formal volunteering and learning (charity work through an organization and lifelong learning), and technology use. The indices suggested that the hypothesized model fit the data adequately (1, $n=16,224$) $\chi^2=13.50$, $p=.26$; RMSEA=.01; CFI=.99; TLI=.99; SRMR=.02. CFA findings showed that socio-demographic factors including age, education, marital status, and residential region were significantly associated with the informal volunteering factor, but not the other three factors. Respondents who were older ($\beta=.06$, $p<.01$), higher educated ($\beta=.04$, $p<.01$), married ($\beta=.14$, $p<.001$), and living in an urban region ($\beta=.13$, $p<.001$) were most likely to volunteer informally. In conclusion, this study establishes a framework for classifying dimensions of social activity participation that can be used in future research to explore cross-cultural comparisons.

EXPERIENCING CIVIL UNREST: ELDER VOICES ON FERGUSON

N.L. Morrow-Howell, C. Jackson, S. Herbers, *Washington University in St. Louis, St. Louis, Missouri*

Ferguson, Missouri, USA became the center of the nation's attention in August 2014, when an unarmed African American teenager was killed by a Caucasian police officer. Civic unrest continued for weeks. Images and voices in the news were largely of youth; the involvement of older adults was not evident. The aim of Elder Voices on Ferguson was to

hear how older adults experienced the social unrest and how they thought about improving their community. Ten focus groups were conducted with 73 participants. Focus group recordings were transcribed; and three coders completed a thematic analysis and member checking. Participants averaged 75 years of age, 73% were female, and 59% were African American with the remainder White. Eight themes were identified. Issues related to safety were most commonly discussed. Some focus group members participated in the protests but left before nightfall because they felt vulnerable. Concerns about going out after dark remain strong. Some felt intimidated to attend community meetings because of the angry nature of the discussion. There was recognition of on-going racism and long-standing problems in the community. Participants expressed concern and understanding toward the challenging situations faced by today's youth, including lack of opportunity in education and employment and lack of strong parental and community support. Participants reported a breakdown in intergenerational communications and expressed a desire for more exchange. Findings are being discussed with relevant organizations and public officials to increase the involvement of older adults in on-going community development efforts and to provide opportunities for intergenerational dialogue.

DOES VOLUNTEERING BUFFER HEALTH DURING THE RELOCATION PROCESS? A PROPENSITY SCORE ANALYSIS

E. Gonzales^{1,2}, Y. Wang³, H. Shen⁴, T.E. Perry⁵, 1. *School of Social Work, Boston University, Boston, Massachusetts*, 2. *Center for Innovation in Social Work and Health, Boston, Massachusetts*, 3. *Washington University in St. Louis, St. Louis, Missouri*, 4. *University of Missouri, St. Louis, St. Louis, Missouri*, 5. *Wayne State University, Detroit, Michigan*

Formal volunteering in later life has been shown to improve health. However, few studies have examined how volunteering can help to buffer health during life-transitions (e.g., relocating from one residence to another). Relocation in later life, at times, is unavoidable. Older adults may move by choice or due to changes in health, widowhood, financial circumstances, etc. Although health outcomes of relocation are mixed, we ask: can volunteering buffer one's health for those who relocate? We utilized 2008 and 2010 Health and Retirement Study and included individuals who were aged 50+, did not volunteered at baseline, and relocated between 2008 and 2010 (N=835). With volunteer engagement as the "treatment," propensity score weighting was performed step-by-step: 1) To estimate the propensity score, the Generalized Boosted Regression (GBR) model was run with a comprehensive set of covariates at the baseline (socio-demographic, health, social network, etc.); 2) Using the propensity score, two types of propensity score weights were calculated: the average treatment effect (ATE), and the treatment effect for the treated (ATT); and 3) To examine the effect of the "treatment," volunteering, on health outcomes in 2010, regression models were performed with ATE and ATT weights. Results suggested engaging in volunteering increased self-report health status; and reduced number of ADL and IADL difficulties. Volunteering did not influence depressive symptoms. Implications for policy and practices intersecting relocation

and volunteering will be discussed. Future research should examine the role of specific mechanisms of volunteering (e.g. social engagement, psychological motivations, neighborhood friendliness) and their impacts on health.

ENGAGING AGEING COMMUNITIES AS CO-CREATORS OF SOCIAL SERVICES AND SUPPORT

S. van der Pas, *University of Applied Sciences Leiden, Leiden, Netherlands*

As the welfare state retracts, the role of civil society increases. With rising cuts in welfare budgets, there is an increasing need for creative innovations by civil initiatives to cater for welfare and care arrangements. Older adults, social professionals and civil servants take on new roles that require specific capacities/practices of interaction. In this study we apply co-creation as a novel approach to enable older adults to gain ownership over their social and physical environment. Co-creation can be defined as a practice of interactions between older adults, professionals, students, researchers and community stakeholders who jointly define needs and choices as well as design and implement services and support. In a field lab on 'Living Independently for longer', with an elderly community co-operative in the Netherlands, we find that the co-creation approach, fostered empowerment, a more positive image of older adults, and led to the development of age-friendly services and support.

SESSION 5045 (SYMPOSIUM)

ACEING THE CARE OF OLDER ADULTS IN HOSPITALS THROUGH INNOVATIVE MODELS OF ACUTE CARE FOR ELDERLY

Chair: S. Sinha, *Mt Sinai Hospital, Toronto, Ontario, Canada*

Co-Chair: N. Foster, *Mt Sinai Hospital, Toronto, Ontario, Canada*

At Mount Sinai Hospital, in Toronto Canada, the Acute Care for Elders (ACE) Strategy was conceived as a multi-component intervention incorporating a series of evidence-informed but tailored inter-professional interventions (i.e., ISAR Screening, GEM, ACE Units, HELP, House Calls etc.) to improve the care of hospitalized older adults. Starting from fiscal year 2010/11 onwards, a number of evidence informed interventions were gradually implemented each year in a variety of individual patient settings while also looking to address the important issue of transitions especially between hospital and home. The ACE Strategy links these interventions to create a more seamless, integrated inter-professional and team-based delivery-model spanning the continuum of care

Our proposed symposium will explore outcomes related to the implementation of this innovative strategy through four talks: 1) "Establishing the Effectiveness of an Acute Care for Elders (ACE) Strategic Delivery Model" by Dr. Samir Sinha 2) "Measuring the Impact of the GEM Nursing Role in the Emergency Department Setting" by Ms. Nana Asomaning, 3) "Outcomes of a Quality Improvement Intervention to Reduce Unnecessary Urinary Catheter Utilization" by Dr. Richard Norman and 4) "Hospitalization

and Place-of-Death Among Homebound Older Adults in a Home-Based Primary Care Program” by Dr. Nathan Stall.

The goal of our symposium is to review this innovative strategy for supporting the acute care needs of the elderly. The symposium will conclude with an interactive discussion exploring the facilitators and barriers to the implementation of effective and integrated acute care models for the elderly.

ESTABLISHING THE EFFECTIVENESS OF AN ACUTE CARE FOR ELDERLY (ACE) STRATEGIC DELIVERY MODEL

S. Sinha^{1,2}, J. Bennett², J. Bon², T. Chalk², 1. *University of Toronto, Toronto, Ontario, Canada*, 2. *Sinai Health System, Toronto, Ontario, Canada*

The Acute Care for Elders (ACE) Strategy recognizes the high-risk environment of the acute care hospital setting to all persons aged 65+. This population accounts for 42% of hospital admissions and 58% of overall hospital days in Ontario. We wanted to determine the effectiveness of a multi-component ACE Strategy to impact patient and system outcomes for older adults admitted to the general medicine wards from April 1, 2009 to March 31, 2014. A quasi-experimental time series analysis was conducted on the outcomes of 9,595 patient admissions. Results showed there was a 27.8% decrease in mean length of stay, 23.8% decline in the ALOS/ELOS ratio, and a 13.4% decline in readmissions with an 11% increase in the number of older patients being able to return home after discharge. This Strategy demonstrates the benefits from linking multiple evidence-informed models across the continuum of care in achieving patient and system outcomes.

MEASURING THE IMPACT OF THE GEM NURSING ROLE IN THE EMERGENCY DEPARTMENT SETTING

S. Sinha^{1,2}, N. Asomaning², 1. *University of Toronto, Toronto, Ontario, Canada*, 2. *Sinai Health System, Toronto, Ontario, Canada*

With older adults increasingly becoming significant users of emergency department services, the creation of a Geriatric Emergency Management (GEM) Nursing Role has been one response to improve the overall delivery of care to older adults 65+ at higher risk of admission. In 2009, Mount Sinai Hospital established such a role and subsequently expanded it to a 7-day a week service with additional nurses. During the 2014/15 fiscal year we evaluated the impact of the care our GEM Nurses provided on ED Visitors 75+ whom they saw versus those who they didn't. In 2014/15 they saw a total of 1024 patients, 783 who were 75+. Patients seen were more likely to arrive by ambulance and be more medically complex. Through proactive screening and engagement with appropriate community supports, GEM nurses contributed to a total of 17 avoidable hospital admissions, 195 avoidable hospital days that led to \$189,000 saved for the hospital alone in a 12 month period.

OUTCOMES OF A QUALITY IMPROVEMENT INTERVENTION TO REDUCE UNNECESSARY URINARY CATHETER UTILIZATION

R. Norman¹, R. Ramsden², L. Ginty², S. Sinha^{1,2}, 1. *University of Toronto, Toronto, Ontario, Canada*, 2. *Sinai Health System, Toronto, Ontario, Canada*

Urinary catheters are often placed unnecessarily, exposing patients to complications including urinary tract infections, falls, deconditioning, pressure ulcers and death. As older adults are at particular risk of these sequelae, we introduced a multi-modal intervention incorporating educational posters, small group teaching sessions, and changes to the hospital's computer physician order entry and nursing documentation systems to encourage evidence-based utilization of urinary catheters. A total of 24,499 patient admissions were included during the overall 41month study period. A quasi-experimental interrupted time series study was designed using segmented regression to assess outcome indicators. Across the services under study, mean catheter days per patient decreased by between 5.6 and 10.0 days ($p < 0.01$), while the absolute incidence of urinary catheterization almost halved across the same cohort ($p < 0.01$) following the intervention. The results from this study suggest that a relatively simple bundle of interventions can result in dramatic health outcome improvements.

HOSPITALIZATION AND PLACE-OF-DEATH AMONG HOMEBOUND OLDER ADULTS IN A HOME-BASED PRIMARY CARE PROGRAM

N. Stall¹, K. Salvi³, A.P. Costa², M. Nowaczynski^{4,1}, S. Sinha^{1,3}, 1. *University of Toronto, Toronto, Ontario, Canada*, 2. *McMaster University, Toronto, Ontario, Canada*, 3. *Sinai Health System, Toronto, Ontario, Canada*, 4. *SPRINT Seniors Care, Toronto, Ontario, Canada*

Frail and homebound older adults are poorly served by existing primary care models. Home-based primary care (HBPC) can improve access-to-care and postpone adverse events. We completed a retrospective electronic chart review of a single-centre multidisciplinary HBPC program for homebound older adults. Patients with a preceding index acute care hospitalization who were subsequently active in the program for >30 days from October 2009 – April 2013 were enrolled. Hospital utilization one-year pre and post enrolment were compared. Patients active in the program for >90 days ($n=94$), had a 13.54 day (67.01%) annual reduction in days in hospital ($p < 0.005$) and 0.56 (52.51%) fewer hospital admissions per year ($p = 0.027$). Among patients active for 30 – 90 days ($n=24$), 16 expired (66.6%) with 8 deaths at home. HBPC as a post-discharge intervention for homebound older adults can significantly reduce future acute care hospital use and allow patients to die at home.

SESSION 5050 (SYMPOSIUM)

COMPARISON OF CENTENARIANS' CHARACTERISTICS AMONG 5 COUNTRIES, THE OLDEST OLD PROJECT (5-COOP)

Chair: F.R. Herrmann, *Geneva University Hospitals, THONEX, Geneva, Switzerland*

Co-Chair: D. Zekry, *Internal Medicine, Rehabilitation and Geriatrics of Geneva University Hospitals*

The number of centenarians is increasing dramatically in high income countries but at different rates due to differences in mortality among the oldest old. Changes in centenarians' functional health status remain controversial. The

5-COOP study, involving 5 countries (Denmark, Sweden, France, Switzerland, Japan), aims to

1. explore whether longevity (the rate of increase in the oldest old) is associated with cognitive and functional status of the survivors,

2. compare the living conditions and variations in health indicators, their level of functioning (mobility, cognition, activities of daily living), physical performance (chair stand and hand grip strength) and comorbidity among the five countries, and

3. analyze the associations between these different health indicators among the five countries.

Representative samples totaling 1253 subjects aged 100 years were surveyed using a common protocol including systematic and validated instruments. The selected countries are comparable regarding the level of wealth and development, access to education and medical resources, data quality and research facilities. They differ in regards to demographics, culture, social policy, and historical events during the past century. Conditions for conducting research surveys also differ in the five countries. This has led to unavoidable differences in sampling procedures, response rates and fieldwork that will be considered in the analyses as they may partly explain some of the variations and associations.

PATTERN OF SURVIVAL AND MORTALITY SELECTION IN THE FIVE COUNTRIES

J. Robine^{6,2}, F.R. Herrmann¹, B. Jeune³, M.G. Parker⁴, Y. Saito^{5,7}, 1. *Internal medicine, rehabilitation and geriatrics, Geneva University Hospitals, THONEX, Geneva, Switzerland*, 2. *Ecole Pratique des Hautes Etudes (EPHE), Paris, France*, 3. *Danish Aging Research Center, Institute of Public Health, University of Southern Denmark, Odense, Denmark*, 4. *Aging Research Center, Karolinska Institute, Stockholm, Sweden*, 5. *Nihon University Advanced Research Institute for the Sciences and Humanities, Tokyo, Japan*, 6. *Université de Montpellier, Montpellier, Inserm, U1198, Montpellier, France*, 7. *for the "Japanese 5-COOP team": Yasu Arai; Yasuyuki Gondo; Hirose Nobuyoshi; Yasu Arai; Donald Craig Willcox; Marina Kozono; Yukie Masui; Hiroki Inagaki, Various cities, Japan*

The aim is to describe the pattern of survival to old ages and the level of mortality selection for the centenarians in the five countries, using standard demographic indicators (i.e., life expectancy, mortality rates and probability to survive to specific ages) and more recently developed longevity indicators (i.e., modal age at death (M), mean deviation at M and centenarian rates). Under the current mortality conditions (years 2010–2012), 6% percent of the female newborn will become centenarian in Japan versus 4% in France and 2% in Denmark and in Sweden. The respective figures for male newborn are 1.4%, 1.1% and 0.6%. As expected the five low mortality selected countries for the 5-COOP study offer a variety of mortality selection for the surviving centenarian which will allow testing possible trade-off between longevity and functioning.

SAMPLING, RESPONSE MODES, AND INTERVIEWER BACKGROUND IN THE FIVE COUNTRIES

F.R. Herrmann¹, J. Robine^{2,3}, A. Skytthe⁴, B. Jeune⁴, Y. Saito^{5,6}, M.G. Parker⁷, 1. *Internal medicine, rehabilitation*

and geriatrics, Geneva University Hospitals, THONEX, Switzerland, 2. *Ecole Pratique des Hautes Etudes (EPHE), Paris, France*, 3. *Université de Montpellier, Inserm, U1198, Montpellier, France*, 4. *Danish Aging Research Center, Institute of Public Health, University of Southern, Odense, Denmark*, 5. *Nihon University Advanced Research Institute for the Sciences and Humanities, Tokyo, Japan*, 6. *for the "Japanese 5-COOP team": Yasu Arai; Yasuyuki Gondo; Hirose Nobuyoshi; Yasu Arai; Donald Craig Willcox; Marina Kozono; Yukie Masui; Hiroki Inagaki, Various cities, Japan*, 7. *Aging Research Center, Karolinska Institute, Stockholm, Sweden*

The aim is to describe response rates, response modes and interviewer background and to check for potential sampling bias among the five countries. Sampling rates were computed by country and sex. By describing the ways by which centenarian lists were obtained and how data were collected in the five countries comparability issues will be discussed. Sampling rates ranged from 30% in France to 86% in Sweden. In Sweden males were oversampled. Response mode consisted in direct interview for 28% of the sample (ranging from 5% in JP to 51% in DK), mixed interview involving both centenarian and a proxy for 39% (from 27% in FR to 48% in CH) and proxy interview for 32% (from 3% in DK to 57% in JP). Interviewer's background differed among countries. Participation rates, response modes and interviewer background should be taken into account when interpreting different health indicators and results will be adjusted accordingly.

LIVING CONDITIONS AND HEALTH CHARACTERISTICS AMONG CENTENARIANS IN THE FIVE COUNTRIES

Y. Gondo⁷, S. Fors⁴, B. Jeune⁵, K. Andersen-Ranberg³, D. Zekry⁶, J. Robine^{1,2}, 1. *Ecole Pratique des Hautes Etudes (EPHE), Paris, France*, 2. *Université de Montpellier, Inserm, U1198, Montpellier, France*, 3. *Dept. of Public Health, University of Southern Denmark, Odense, Denmark*, 4. *Aging Research Center, Karolinska institutet and Stockholm university, Stockholm, Sweden*, 5. *Danish Aging Research Center, Institute of Public Health, University of Southern Denmark, Odense, Denmark*, 6. *Internal medicine, rehabilitation and geriatrics, Geneva University Hospitals, THONEX, Switzerland*, 7. *Osaka University Graduate School of Human Sciences, Clinical Thanatology and Geriatric Behavioral Science, Suita, Osaka, Japan*

About half of the centenarians lived at home in each of the 5 countries except in Switzerland. In France and Japan about 40% lived in their own house and only about 10% lived in an apartment, whereas in Sweden it was the opposite. The proportion living in nursing homes was highest in Switzerland and lowest in Japan. Prevalence of different health indicators varied between countries, e.g., cardiovascular problems ranged from 7 (Japanese men) to 74 (Swiss men) %, inability to walk 500m from 46 (French men) to 87 (Japanese women) %. Associations between these health indicators varied between the five countries. However, no single indicator or association suffices to explore our research questions. Cross-country analyses will help us understand differences and associations between different health indicators and suggest possible effects of culture, policy and method.

COMORBIDITY, COGNITIVE, FUNCTIONAL, AND FRAILITY STATUS: SIMILARITIES OF THEIR LEVELS AND OVERLAPS

D. Zekry¹, Y. Gondo^{2,6}, M. Herr³, M.G. Parker⁴, F.R. Herrmann¹, K. Andersen-Ranberg⁵, 1. *Internal medicine, rehabilitation and geriatrics, Geneva University Hospitals, Geneva, Switzerland*, 2. *Osaka University Graduate School of Human Sciences, Clinical Thanatology and Geriatric Behavioral Science, Suita, Osaka, Japan*, 3. *INSERM UMR 1168, Université Versailles St Quentin en Yvelines, Versailles, France*, 4. *Aging Research Center, Karolinska Institute, Stockholm, Sweden*, 5. *Dept. of Public Health, University of Southern Denmark, Odense, Denmark*, 6. *for the "Japanese 5-COOP team": Yasu Arai; Yasuhiko Saito; Hirose Nobuyoshi; Yasu Arai; Donald Craig Willcox; Marina Kozono; Yukie Masui; Hiroki Inagaki, Various cities, Japan*

Globally, centenarians living in a nursing home were in a worst health status: 4 fold higher risk of dementia (OR=3.8), 3 to 5 fold worse functional mobility (walk, get out of bed or chair) and 2 fold more weakness assessed by grip strength. Sweden and Denmark had the significantly highest mean MMSE (24 ± 3.7 ; 23.8 ± 5.1); France and Switzerland the lowest (18.7 ± 6.2 ; 18.9 ± 8.0) ($p < 0.001$). In all the 5 countries, cerebro-cardiovascular diseases were the most prevalent comorbidities and they were equally prevalent independently from the living place: hypertension (from 28% in France to 55% in Japan), stroke (from 10% in France and Denmark to 19% in Sweden), and myocardial infarction (from 9% in Denmark to 56% in France).

Multivariate analysis of the associations between comorbidity, cognitive, functional and frailty status will be presented regarding similarities or differences among countries while taking into account survey participation.

SESSION 5055 (SYMPOSIUM)

IMPLEMENTATION OF BEST PRACTICES FOR OLDER ADULTS' TRANSITIONS FROM SKILLED NURSING FACILITY TO HOME

Chair: J. Carnahan, *Indiana University, Indianapolis*

Co-Chair: S. Baharlou, *Icahn School of Medicine at Mount Sinai, New York, New York*

Discussant: L. Lindquist, *Northwestern University, Chicago, Illinois*

Care transitions have become a target for reform efforts in the U.S., yet our current understanding of how to optimize care transitions remains incomplete. Most improvement efforts focus on the discharge process from hospital to home. In the U.S., many older, frail patients are discharged from hospital to a skilled nursing facility (SNF) for post-acute rehabilitation prior to returning home. The SNF to home transition is an equally important transition that has been largely neglected in the care transitions discussion. With this knowledge gap in mind, the Society for General Internal Medicine's Geriatrics Task Force assembled an expert team of physicians and a systems engineer. Clinical expertise encompassed primary care, nursing home, SNF, and the home care environment. Without adequate guidance on this important transition, not only do nursing facilities stand to lose, but

older adults will continue to circulate through the health-care cycle of hospital admissions and readmissions. The team developed a set of consensus Best Practices for transitioning patients from SNFs back to home, which was presented at three national meetings in 2016. This symposium will build upon this groundwork by presenting the "next steps" in the form of a framework for incorporating these Best Practices into routine medical practice.

Symposium presentations will address implementation with a multifaceted approach, including approaches to healthcare culture change, development of process maps, application of quality improvement techniques, and use of healthcare business models and health policy to operationalize health system improvement.

INTRODUCTION AND CONSENSUS BEST PRACTICES FOR SKILLED NURSING FACILITY TO HOME TRANSITIONS

J. Carnahan, *Indiana University, Indianapolis*

Community-dwelling patients treated in U.S. skilled nursing facilities (SNFs) after an acute hospitalization have a high incidence and prevalence of comorbidities and geriatric syndromes. These patients are also high risk for poor outcomes such as death and hospital readmission. This presentation will provide an introduction to the SNF model of care and to characteristics of this patient population, their epidemiology, and their healthcare outcomes and needs. Finally, the Best Practices will be briefly outlined to lay the groundwork for the following presentations, which will highlight practical steps to implementation.

CULTURE CHANGE TO IMPROVE CARE TRANSITIONS: A HUMAN FACTORS ENGINEERING APPROACH

A. Arbaje, *Johns Hopkins School of Medicine, Baltimore, Maryland*

Implementation of the Best Practices requires culture change to ensure sustainability. Older adults, family caregivers, and healthcare providers are all key stakeholders in the process of culture change. Individual-level factors and healthcare system-level factors can either impede or facilitate the culture change that is needed to successfully integrate these Best Practices into daily clinical routine. A systems approach known as Human Factors Engineering (HFE) evaluates the factors in a system that affect human performance. In this presentation, we will: (1) describe key principles of HFE as applied to improving care transitions; (2) use an HFE approach to identify barriers and facilitators to Best Practice implementation; and (3) discuss practical approaches for using HFE principles to strengthen individual health system efforts to implement the Best Practices and improve care transitions.

QUALITY IMPROVEMENT OPPORTUNITIES DURING IMPLEMENTATION OF BEST PRACTICES

S. Baharlou, *Mount Sinai School of Medicine, New York, New York*

Care transitions have been a major focus of quality improvement initiatives for almost two decades, yet little attention has been given to the transition from post-acute care, especially SNF care, to the community. Both post-acute

care and primary care practices benefit from employing quality improvement tactics in order to transform the health environment. In SNFs, the Best Practices can be integrated into both discharge planning and quality metrics. In primary care, billing, coding and monthly staff meetings can incorporate the Best Practices. This presentation will demonstrate how using a continuous quality improvement approach in both settings allows for ironing out the wrinkles in implementation, such as how to streamline communication between the silos of care.

HEALTH POLICY AND BUSINESS MODELS FOR BEST PRACTICES OPERATIONALIZATION

K. Steinberg, *California State University Institute for Palliative Care, San Marcos, California*

Payment models in the U.S. are evolving rapidly to embrace value-based reimbursement to individual clinicians and to healthcare institutions. This presentation will cover an overview of the changes, including readmission penalties and quality indicators impacting Five Star ratings through the Centers for Medicare and Medicaid Services (CMS), the U.S. agency that regulates and insures most impoverished and geriatric Americans. Additionally, alternative payment models (APMs) and other changing paradigms will be considered. The implications for SNFs from these policies will create multiple incentives to improve the transition process from the facility back to the community. These incentives will be discussed as they relate to individual clinicians and to institutions, as strategies to enhance implementation of the Best Practices.

HOW TO GET THERE FROM HERE: PROCESS MAPS FOR IMPLEMENTATION

L. Lindquist, *Northwestern Feinberg School of Medicine, Chicago, Illinois*

By charting the steps of implementation, process maps can both reveal the complexity of the application of the Best Practices as well as set the course for implementation. There are multiple nuances in implementing the Best Practices in part because diverse platforms exist for information transfers: paper SNF to paper primary care systems, paper SNF to electronic primary care systems, electronic SNF to paper primary care systems, and electronic SNF to electronic primary care systems, as well as a variety of hybrid systems. This presentation will present process maps for fluid application of the Best Practices in both the primary care and the nursing facility arenas.

SESSION 5060 (SYMPOSIUM)

INNOVATIVE CARE MODELS FOR OLDER ADULTS WITH COMPLEX MEDICAL, COGNITIVE, AND BEHAVIORAL CARE NEEDS

Chair: M.J. Karel, *Department of Veterans Affairs, Washington, District of Columbia*

Discussant: S.M. Ling, *Centers for Medicare and Medicaid Services, Baltimore, Maryland*

Caring for the older adult with multiple medical, neurocognitive, mental, and/or behavioral comorbidities is a challenge for health care systems. Most health care systems are not

organized to provide integrated, interdisciplinary, coordinated services necessary for safe and effective care of these patients. This symposium addresses the United States Veterans Health Administration's (VHA) efforts to address this need. The first paper summarizes recommendations of the interdisciplinary *Inpatient Care for Veterans with Complex Cognitive, Mental Health, and Medical Needs Task Force*, charged by VHA leadership to recommend evidence-based approaches to improve care for complex patients. The remaining four papers summarize implementation and evaluation of promising interdisciplinary care models. The Des Moines Community Living Center (CLC) Behavioral Recovery Outreach team is facilitating community discharges by supporting implementation of effective behavioral care plans with new care teams. In Boston, the Behavioral Rapid Response Team offers consultation to inpatient and CLC teams to intervene before behavioral concerns escalate into behavioral emergencies, reducing assault rates. In San Francisco, the Behavioral Education and Support Team works with acute medicine to develop behavioral care plans and facilitate more timely discharge of behaviorally complex patients. The VA Medical Foster Home Program provides care for Veterans who meet nursing home eligibility criteria with quantitative and qualitative data demonstrating positive outcomes for Veterans with mental health care needs. These local programs, and others, will serve as models as VHA moves forward in developing, evaluating, and disseminating best practices for the aging complex patient.

INPATIENT CARE FOR VETERANS WITH COMPLEX COGNITIVE, MENTAL HEALTH, AND MEDICAL NEEDS

M.J. Karel¹, J. Cortina¹, R. Allman¹, T.E. Edes¹, M. McGuire¹, S.G. Cooley¹, L. Vinson¹, I. Wiechers², 1. *Mental Health Services, Department of Veterans Affairs, Underhill, Vermont*, 2. *Office of Mental Health Operations, Department of Veterans Affairs, West Haven, Connecticut*

Increasing numbers of aging Veterans with complex and interacting medical, mental health, neurocognitive, and/or behavioral concerns are receiving care in Veterans Health Administration (VHA) facilities. VHA recognized that Veterans with complex care needs may not receive well-integrated care across inpatient care settings (medical/ surgical, mental health, skilled nursing, rehabilitation). A national, interdisciplinary VHA Task Force was established to recommend evidence-based strategies to achieve safe and effective care for this population. The Task Force noted a number of systemic challenges for caring for these patients, including silos of medical, mental health, or geriatric care; gaps in staff competencies; and inconsistent coordination of care across services and settings. Task Force recommendations focused on patient/family-centered models emphasizing care in place when possible, prevention, strengthening of interdisciplinary and integrated medical and mental health care, and attention to staff skills development. Plans for implementing recommendations and conducting systematic evaluation are underway.

THE BEHAVIORAL RECOVERY OUTREACH TEAM: CONTINUITY OF CARE FOR INDIVIDUALS WITH DEMENTIA

K. Matthews, S. Guenther, K. McVay, G. Brass, *VA Central Iowa Healthcare System, Des Moines, Iowa*

A significant subset of Veterans residing in VA Community Living Centers (CLCs) demonstrate challenging dementia-related behaviors that affect their quality of life, stress the caregiving staff, and interfere with successful placement in the community. The Behavioral Recovery Outreach (BRO) team was created at the VA Central Iowa Healthcare System to: (1) treat challenging dementia-related behaviors while Veterans reside in the CLC, and (2) ensure successful placements post-discharge. This team, comprised of a psychologist, nurse, social worker, and recreational therapist, facilitates successful placements by communicating effective behavior plans at discharge, providing on-site visits at 1, 3, 6, and 12 months post-discharge, and providing as-needed consultation. The team, working with 66 Veterans to date, has demonstrated 89% success in community placements. The BRO team implementation process and outcomes will be discussed.

THE BEHAVIORAL RAPID RESPONSE TEAM: EARLY INTERVENTION TO DECREASE ASSAULTS

K. Hinrichs, J. Pepple, S. Terry, J. Bradley, F. Festin, M. Preston, *VA Boston Healthcare System, Brockton, Massachusetts*

Increasing assaults and behavioral disturbances from patients led to creation of a workgroup with representatives from Nursing, Psychiatry, Psychology, and Administration to find patient-centered ways of decreasing assault rates. The Behavior Rapid Response Team (BRRT) was created to provide early intervention and behavioral consultation for patients showing escalating anger and potential for aggression before behavior requires an emergency response. BRRT is available 24/7 and is staffed by Nursing and Psychiatry. This program was rolled out in VA Mental Health and Community Living Center units and refined prior to roll-out in Acute Medical units. BRRT events and outcomes are documented and tracked. Assaults have decreased dramatically in CLC units - 63 assaults in 2013 down to 13 assaults in 2015 - and Nursing has reported increased confidence in their ability to manage behaviorally difficult patients. The BRRT consultation process and outcomes will be discussed.

THE BEHAVIORAL EDUCATION AND SUPPORT TEAM: INTEGRATED BEHAVIORAL CARE ON INPATIENT MEDICINE

D. Rasin-Waters, B. Kamholz, *San Francisco VA Health Care System, San Francisco, California*

The Behavioral Education and Support Team (BEST) was developed at the San Francisco Veterans Administration Medical Center to address complex patients on acute medical inpatient units and expand into preventive services upon discharge and follow up. BEST is an embedded behavioral health team: advance practice nurse, psychiatric nurse, psychologist, geriatric psychiatrist and occupational therapist. The program is distinguished from an emergency behavioral intervention team and psychiatric consultation-liaison services. Outcome metrics include decreasing length of hospital stay, behavioral altercations, readmissions, staff injuries and emergency behavioral interventions. Behavioral incidents in acute care have decreased due to BEST education of staff, dissemination of behavioral plans and increased collaboration with medical teams. The Joint Commission on Accreditation of Healthcare Organizations requested the program be written up as a best practice. BEST

program development, individual staff roles, collaboration, outcome data and individual case studies will be discussed.

MEDICAL FOSTER HOMES: PERSONALIZED LONG-TERM CARE FOR VETERANS WITH MENTAL HEALTH CARE NEEDS

L.M. Haverhals¹, C. Levy¹, C. Manheim¹, C. Gilman¹, T.E. Edes², *1. VA Eastern Colorado Healthcare System, Denver, Colorado, 2. Department of Veterans Affairs, Washington, District of Columbia*

The Veteran's Health Administration's (VHA) Medical Foster Home (MFH) program offers long-term care for Veterans who meet nursing home eligibility criteria in private homes with qualified caregivers. This mixed methods study analyzed interviews with 20 MFH caregivers across the U.S., regarding their experiences caring for Veterans with complex mental health (MH) needs. All MFH caregivers interviewed had extensive previous caregiving experience. While reporting challenges in caring for Veterans with MH needs, caregivers developed strategies to manage behaviors related to schizophrenia, dementia, and depression by collaborating with VHA's home-based primary care team, learning coping strategies for managing symptoms, and utilizing intercom systems. Caregivers viewed Veterans as family members and assisted with medication management; medication oversight was credited with decreasing the number of MH medications. Additionally, quantitative data comparing MFH to propensity-matched nursing home residents indicated that MFH residents had significantly lower rates of hospitalizations for anxiety and mood disorders.

SESSION 5065 (PAPER)

EDUCATING CLINICIANS AND CAREGIVERS ON DEMENTIA

EVALUATION OF SERVICE NAVIGATION AND NETWORKING FOR DEMENTIA CARE IN RURAL COMMUNITIES (SENDER) APP

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Identifying and locating appropriate services within a fragmented health systems can be challenging and frustrating due to lack of knowledge on local services (Gorska et al). Rural communities are particularly impacted over long distance travel to access services (Umstattd et al). A smartphone app has the potential to ease service navigation and connect dementia care givers and providers with each other. Using a co-design and co-production approach, we worked and evaluated the feasibility, acceptability and impact of a service navigation and networking app "SENDER", with 24 care givers and providers of people with dementia with smartphones in rural Victoria, Australia. We collated, mapped and uploaded data on local health, community and social services into the app. Through usage monitoring, focus groups, and a survey, we examined how often the SENDER app was

used, how it changed the care givers' knowledge of dementia services and support networks, how it affected their social connectedness to other dementia service users and providers, how its use affected care givers' burden, and how it affected service use. Feedback was also obtained to explore the app's ease of use. The networking function enabled rural dementia service providers and care givers to share information about transportation options to services, what the journey was like, and important amenities during travel and nearby the service. By involving care givers and providers in the app design and beta-testing, we add research knowledge about how to capitalise on revolutions in technology and best use technology to assist in rural dementia care.

ENHANCING UNDERGRADUATE HEALTHCARE EDUCATION IN DEMENTIA: EVALUATING THE TIME FOR DEMENTIA PROGRAMME

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Traditional healthcare education, delivered through a series of time-limited clinical placements, often fails to deliver understanding of the experiences of older people with long term conditions. Longitudinal Integrated Clerkships and Senior Mentor Programmes allow students longer placements with continuity of contact and opportunities to learn about chronic illness and patient experience. We developed Time for Dementia (TFD) in an iterative partnership between the Alzheimer's Society, universities and the NHS. TFD was made a core part of the curriculum for all medical, nursing and paramedic students in two universities in south-east England. Students visit a person with dementia and their family in pairs for two hours every three months for two years. They follow a semi-structured interaction guide focussing on broad experience of illness and services by the person with dementia and their family, completing reflective appraisals. We conducted a mixed methods evaluation of TFD of process and its impact on student knowledge, understanding, attitudes and behaviours towards dementia using standardised quantitative instruments and qualitative interviews. The programme was delivered to all 348 eligible students using a network of 174 families. 310 (89%) of the students and 158 (91%) of the families contented to participate. Initial quantitative and qualitative analyses at 1 year suggest a positive impact on students in term of improvement in attitudes to and knowledge of dementia. This demonstrates feasibility and the preliminary data are positive. An assessment of the value of the programme will be provided by the longitudinal quantitative and qualitative data being collected.

ALZHEIMER'S DISEASE KNOWLEDGE AND HEALTH LITERACY IN RURAL RESIDENTS OF FLORIDA AND WEST VIRGINIA

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Rural residents face a higher burden of Alzheimer's disease (AD) related to healthcare access barriers. Studies of AD knowledge in rural residents are limited. The purpose of this study was to:

a) Describe and compare AD knowledge in rural, underserved, older adults in two settings (West Virginia and Florida)

b) Examine factors (e.g. age, sex, ethnicity, education, health literacy, caregiving experience) that may influence AD knowledge.

Participants were adult community residents at low-cost retail stores and senior centers in Glades County, Florida ($n = 200$) and Marion County, West Virginia ($n = 100$). The Basic Knowledge of Alzheimer's Disease scale (BKAD) was first piloted with 240 rural Fayette County, West Virginia Appalachian residents in 2013 with favorable results on reliability and validity testing using RASCH analysis.

Generalized linear mixed modeling revealed that AD knowledge varied between the West Virginia and Florida sites. BKAD total scores were significantly higher ($M = 15.8$; $SD = 2.9$) in Marion County, West Virginia, compared to the Glades, County Florida sample which included 29% African American and 10% Hispanic-American participants ($M = 12.75$; $SD = 3.37$). Health literacy negatively correlated with years in a rural area ($r = -.29$) and years of education ($r = -.47$) in Florida only. Correlations between BKAD knowledge and education were significant in both the West Virginia ($r = .33$) and Florida sites ($r = .59$). Our findings suggest that determining knowledge gaps is important in designing culturally relevant educational programs to increase awareness of cognitive risk and benefits of earlier screening.

CAN A TRAINING MODULE USING VIRTUAL REALITY HELP ADDRESS RESPONSIVE BEHAVIOURS?

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Although there has been an increase in programs addressing responsive behaviours (RB) related to dementia, more is needed as caregivers still face difficulties in real-life situations. Virtual reality (VR) has been shown to give a more life-like feel to anxiety-provoking training situations by adding psychological realism and an element of stress to interventions. This project aimed to develop and evaluate a VR module that provides a realistic environment in which caregivers, staff and students in health-care fields can gain knowledge and skills on how best to respond to RBs. Existing training materials were surveyed and two RBs were identified for inclusion in the scene: perceived verbal and physical aggression, and perceived resistance to care. The VR scenario is based on three critical moments for interventions from the user in a dining room scene involving interactions with a resident and his granddaughter (both are virtual character models with motion capture of their body and facial expressions). The module is ready to be tested on pre-professional students, staff, professors, and informal carers to determine whether it may be a useful and usable addition to existing training tools in the future. The results of this consultation will be presented as well as a discussion of the relevance for developing a training tool for all those who come in regular contact with individuals with dementia.

EFFICACY OF AN INTENSIVE TRAINING COURSE FOR DEMENTIA CAREGIVERS

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*Medicine/Geriatrics, University of California Los Angeles,
David Geffen School of Medicine, Los Angeles, California*

Inadequate training and support can lead to higher levels of caregiver stress and burnout, and puts the individual with dementia at increased risk for adverse health outcomes (Schulz & Martire, 2004). To bridge this gap in dementia care, we launched an intensive, one-day training to improve caregiver competence and knowledge of caregiving.

One hundred and five caregivers (74% female; 68% >55 years; 60% White, non-Hispanic; 84% family) for community-dwelling adults with dementia attended an intensive one-day training ("bootcamp") led by health professionals (social worker, nurse, physician, physical therapist and neuropsychologist) in dementia care. We administered the Caregiver Competency Scale, Zarit Burden Interview, and a knowledge test of dementia caregiving pre and post attendance. Paired sample t-tests were conducted to compare scores on pre- and post- test measures.

We found that caregivers' perceived self-competence [$t(66) = 5.76, p < .001$] and self-reported knowledge of dementia caregiving techniques [$t(35) = 5.38, p < .001$] significantly improved after training. Caregivers for persons in moderate-severe stages of dementia reported higher levels of burden compared to caregivers for persons with mild dementia [$t(86) = 1.98, p = .05$]. White and male caregivers reported higher levels of burden compared to caregivers of other ethnicities or female caregivers [$t(86) = 2.26, p < .05$; $t(91) = 2.81, p < .01$].

An intensive one-day bootcamp improves caregiver competence and knowledge. Future work will assess the sustainability of the results over time and its effects on subgroups of caregivers who may be susceptible to higher levels of burden.

SESSION 5070 (SYMPOSIUM)

INSIGHTS INTO THE KEY ROLE OF PHYSICAL ACTIVITY AND EXERCISE ON SUCCESSFUL AGING IN OLDER ADULTS

Chair: N.W. Glynn, *University of Pittsburgh, Pittsburgh, Pennsylvania*

Discussant: K.S. Hall, *Veterans Affairs/Duke University Medical Centers, Durham*

Consensus statements from the American College of Sports Medicine (ACSM)/American Heart Association and the World Health Organization promote regular physical activity during older adulthood as a means to gain substantial health-related benefits including reducing cardiovascular disease risk, preventing or mitigating functional limitation and fall risks, and serving as an effective therapy for several chronic diseases. Although physical activity cannot stop the aging process, the physiological effects of aging are known to be minimized by regular physical activity. What remains unclear is the best physical activity type (e.g., aerobic vs. resistance), intensity, treatment, and prescription for optimal health of older adults. The objective of this symposium, featuring researchers from the ACSM's Aging Interest Group & Strategic Health Initiative on Aging Committee, is to share

evidence-based knowledge and cutting-edge research on the role of physical activity/exercise in older adults on sarcopenia, psychosocial health, falls prevention, and fatigability. Dr. Hayes will examine the impact of resistance training and nutrition interventions for the treatment of sarcopenic obesity. Dr. Guggenheim will discuss the influence of resistance training on physiologic and psychosocial adaptations. Selection of ideal field-based assessments and designing exercise prescriptions for falls prevention programs will be shared by Dr. Thompson, and the relationship between vigorous physical activity and habitual walking on the reduction and/or preservation of fatigability will be explored by Dr. Simonsick. Together, these presentations will sharpen our understanding of the role of physical activity/exercise on successful aging in older adults.

EXERCISE AND NUTRITION INTERVENTIONS FOR THE TREATMENT OF SARCOPENIA: INFLUENCE OF OBESITY

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Sarcopenia, the loss of muscle mass and function with aging, is gaining further clinical recognition with an ICD-10-CM code now in place. Obesity complicates sarcopenia, with diagnoses (based on muscle mass alone) often not seen in obese populations. Further, infiltration of fat into muscle - low muscle density as measured by computed tomography - is associated with low muscle strength. As such, exercise and nutrition interventions for sarcopenic obesity need to not only increase muscle mass and function, but also decrease fat mass and infiltration. Resistance training (RT) is a useful treatment for many chronic diseases, and sarcopenia is no different, with RT being shown to increase muscle mass and strength, improve body composition, as well as decrease risk of falls. While diet-induced weight loss is desirable, it can further exacerbate muscle loss, contributing to sarcopenia prevalence. Protein ingestion can help to maintain muscle mass, while promoting weight loss.

STRENGTH TRAINING FOR OLDER ADULTS: PSYCHOSOCIAL AND PHYSIOLOGICAL ADAPTATIONS

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Resistance training (RT) has been shown to increase muscular strength and concurrently improve functional ability in older adults (OA). However, there is relatively little research available regarding the impact of RT on quality of life and psychosocial adaptations in OA. While there is myriad data available on the physiological adaptations to RT, there are comparably few studies focused on the psychological and social adaptations resulting from less traditional RT interventions. Therefore the aim of this review was to examine the impact of RT interventions on a variety of physiological and psychosocial outcome variables. As exercise prescription increasingly emphasizes multiple modalities, the

examination of corresponding outcome variables needs to be equally robust in order to reflect the increasingly diverse approaches to exercise prescription and the varied adaptations that accompany them.

FIELD-BASED ASSESSMENTS AND DESIGN OF EXERCISE PROGRAMS AIMED AT FALLS PREVENTION FOR OLDER ADULTS

C. Thompson, *University of San Francisco, San Francisco, California*

Almost one third of older adults over the age of 65 years fall annually. Many of these falls lead to debilitating injury and loss of independence. Fortunately, exercise has been shown to be an effective intervention to reduce falls risk and falls occurrence. Designing effective falls prevention exercise programs for older adults requires the integration of multiple domains of exercise including joint mobility, sensory stimulation, muscle strength and power, static balance, dynamic balance, and gait enhancement. In order to choose the correct combination and challenge of exercises to fit into these domains, it is essential to choose and perform assessments of function that are appropriate for older adults. This session will train participants to perform field-based assessments and design exercise programs using those data.

VIGOROUS ACTIVITY AND HABITUAL WALKING FOR PRESERVING LOW FATIGABILITY IN THE BLSA

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Physical activity protects against functional decline; whether and what type of physical activity reduces and/or preserves fatigability is unknown. We evaluated the relationship between vigorous activity and habitual walking and the level and preservation of perceived fatigability (Borg rating of perceived exertion following 5 minutes of treadmill walking at .67m/s), in over 600 mobility-intact men (48%) and women aged 60–85 participating in the BLSA. In cross-sectional analyses adjusted for age, sex, race and body mass index, each 10 minute/week increment of vigorous activity was associated with lower fatigability ($\beta = -.02$, $p < .001$). Over an average 2.2 years accounting for initial fatigability and length of follow-up, each 10 minute/week increment of vigorous activity was associated with a lower increase in fatigability ($\beta = -.01$, $p = .027$). No associations were found for habitual walking. Findings indicate that preservation of low fatigability requires a high level of participation in effortful activity beyond that obtained in casual walking.

SESSION 5075 (SYMPOSIUM)

PERSON-CENTERED CARE PLANNING IN NURSING HOMES: AN INTERNATIONAL PERSPECTIVE ON THE USE OF NARRATIVE

Chair: K. Scales, *Duke University, Durham, North Carolina*
Co-Chair: K.N. Corazzini, *Duke University, Durham, North Carolina*

Discussant: J. Meyer, *City University London*

Person-centered care planning (PCCP) in nursing homes is based on a holistic perspective emphasizing residents' experiences and agency in all aspects of care (Phelan & McCormack, 2016). Increasingly recognized as a human right (Jönson & Harnett, 2015) and supported by policy in the United States (US) and European countries (Edvardsson et al., 2016), PCCP has been shown to improve outcomes and satisfaction with care (Ekman 2011). Central to PCCP is eliciting each individual's account of their illness or disability; these narratives (Kleinman 1988) are the means by which individuals make sense of their condition. Nursing home staff also develop narratives of residents' experiences; however, these narratives may not be person-centered. The purpose of this symposium is to advance our theoretical, methodological, and empirical foundation to elicit and integrate resident narratives for PCCP from an international perspective. The first study builds the theoretical case for considering narratives in care planning and outcomes. The second study uses data visualization to relate resident narratives in electronic health records to trajectories of care in the US. The third study draws upon resident-elicited narratives of pain in China. The fourth study, also from China, examines resident empowerment and staff respect for resident's individuality, which are foundational to eliciting person-centered narratives. Lastly, we present findings from an intervention study in Sweden, demonstrating effects of PCCP on quality of life and care. Findings across studies are discussed in terms of translational implications for PCCP, with attention to relevancy beyond the US and Western European context.

CONCEPTUALIZING THE ROLE OF NARRATIVES IN PERSON-CENTERED CARE

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Person-centered care in nursing homes requires that care teams know each resident as an individual, with attention to their life history, current experiences of health and illness, and preferences for care. This personal knowledge can be understood as an evolving "narrative" – rather than a static, pre-given set of facts – which both reflects and determines patterns of action and interaction. This paper develops the concept of "person-centered narratives," defined as temporal, meaningful, and social discourses (Elliott, 2005) that are shared about individual nursing home residents among members of the care team, and considers their causal significance for care interventions and outcomes. We discuss person-centered narratives in terms of *content*, or the meaning and significance of different narrative elements; *form*, or the ways that narratives develop and change; and *performance*, or the social context of narratives (Mishler, 1995).

The extent to which narratives align or conflict within the care team is highlighted.

TRAJECTORIES OF PERSON-CENTERED CARE PLANNING IN NURSING HOME RESIDENTS: DATA VISUALIZATION

K.N. Corazzini¹, K. Scales¹, R.A. Anderson², Y. Song¹, B. Kang¹, E.S. McConnell¹, A. Vogelsmeier³, 1. *Center*

for the Study of Aging and Human Development, Duke University, Durham, North Carolina, 2. University of North Carolina-Chapel Hill, Chapel Hill, North Carolina, 3. University of Missouri, Columbia, Missouri

Measurement of person-centered assessment and care planning (PCACP) that bridges individualized narrative with outcomes indicators, is a critical methodological challenge to advancing PCACP (Harding, Wait, & Scrutton 2015). Simultaneously, we have made considerable advances in modeling person-level trajectories over time (Henly, Wyman & Findorff 2011). This study describes an approach to measuring PCACP in residents (N=15) diagnosed with congestive heart failure in one nursing facility. Data-intensive, person-level trajectories were constructed integrating electronic health records (EHR) data of nursing staff care collaboration and care management, with resident narratives of care plan goals over a 14-day time period. Data visualization techniques drawing upon Docherty (2015) allowed us to describe care patterns of better or worse functional trajectories co-occurring with care both congruent and incongruent with resident-centered care plan goals. We present findings in the context of how to integrate resident narrative with EHR data to advance measurement and inform practice.

OLDER RESIDENTS' QUALITY OF LIFE IN LONG-TERM CARE FACILITIES IN SHANGHAI, CHINA

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Person-centered care (PCC) is new in long-term care (LTC) facilities in China. Older residents' individualized needs and sense of autonomy have long been overlooked in long-term care (LTC) facilities in China. Our study aimed to examine older residents' quality of life (QoL), and its relationship to their self-perceived quality of care received, and sense of empowerment in their own care. We conducted in-person interviews among 515 older adults from eight LTC facilities in Shanghai, China. Most participants reported their QOL, care received, and sense of empowerment as fair or poor. Controlling for residents' demographic characteristics, social support, and health status, care received and sense of empowerment were positively associated with their QoL. This study suggests that staff's understanding and respect of residents' individualized needs, and empowering residents are critical to improve their QoL. This study also provides empirical evidence for the importance of implementing person-centered care in Chinese LTC facilities.

PAIN REPORTING AND MANAGEMENT IN CHINESE LONG-TERM CARE FACILITIES: RESIDENT NARRATIVES

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of Nursing, Hong Kong Polytechnic University, Hong Kong, Hong Kong

Pain is prevalent and has tremendous effects on residents' daily life, yet is under-recognized and undertreated in long-term care (LTC) facilities globally (Rice, Smith, & Blyth, 2015). In the context of rapid growth of LTC facilities in China, empirical knowledge of resident-level experiences with pain is limited and quality of care is concerning (Shum, Lou, He, Chen, & Wang, 2015). This study aimed to explore challenges with pain reporting and management from residents' perspectives, in order to inform person-centered care strategies to improve quality of pain care. We used semi-structured open-ended interviews with residents (N=5 in one facility). A two-cycle coding approach was adopted (Saldaña, 2012). Multiple challenges with pain reporting and management were described, including residents' perception that staff did not believe reported discomfort, considering pain as normal aging, or ignoring pain as a method of managing. Findings demonstrate the significance of resident narrative to advance care.

EFFECTS OF A PERSON-CENTERED CARE INTERVENTION ON RESIDENT QUALITY OF LIFE AND QUALITY OF CARE

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This prospective cohort study measured the effect of implementing a person-centered approach to assessment and care planning on quality of life and incontinence care at three residential care facilities for older persons (N=79) in Sweden. Based on the Gothenburg University Center for Person-Centered Care model (Ekman et al 2015), the 10 week behavioral intervention engaged all staff and management. Resident outcomes of quality of life and continence care were measured at base-line, immediately after, and post-six months; staff outcomes included strain. Resident narratives of needs, preferences and earlier habits were recorded in care plans; nursing notes throughout the intervention were examined in relation to these foundational narratives for congruence. Results indicated a significant increase in tailored, individualized assessments for continence care ($p<.05$), and a positive trend of gains in residents' quality of life. Staff reported decreased job strain ($p<.05$). Findings indicate important effects of PCC on resident and staff outcomes.

SESSION 5080 (SYMPOSIUM)

BREAKING NEW GROUND! TOWARD A RESEARCH AGENDA IN OLDER ADULT LEARNING FOR THE 21ST CENTURY

Chair: B.C. Findsen, University of Waikato, Hamilton, Waikato, New Zealand

Co-Chair: M. Formosa, International Institute on Ageing, Msida, Malta

One key development in the interface between educational gerontology and older adult learning is the unprecedented

exponential growth of the numbers of persons aged 60-plus participating in formal and non-formal learning contexts in addition to self-directed learning initiatives. Many surveys report that one out of every five older persons is engaged in some form of learning, some driven by employment-finding motives, others approaching learning as an end in itself. As a result, the subjects studied, locations of learning, and the emergent social and personal benefits are now increasingly diverse, complex and multifaceted. These factors point towards an urgent need to embed the field of late-life learning in rigorous academic scholarship. Unfortunately, this been slow to materialise as adult education and gerontology research are still appropriated by economic competitiveness and a 'caregiver lens' respectively, a state of affairs that has left out the subject of older adult learning out in the cold as far as legitimate scholarship is concerned. This symposium attempts to reverse such a trend by acting as a catalyst to showcase the pressing need for a holistic research agenda for older adult learning. This agenda re-thinks the notion of learning in a way that it reverberates with the psychosocial transitions experienced at the latter ends of the life course; is sensitive to the heterogeneity of older persons due to social class, gender, ethnic, and sexual differences; enhances our insight in the relationship between independent, self-organised, and online learning; as well as pushing the field beyond an Anglo-Western lens by studying differences in late-life learning in different regions, nations, and continents. In reaching out to such objectives, this symposium includes speakers from New Zealand, Australia, Malta, Hong Kong, and Italy, each of whom will put forward a series of goals and objectives for future research for late-life learning.

CONCEPTUAL ANALYSIS AND EMERGENT ISSUES IN LATER-LIFE LEARNING

B.C. Findsen, *Te Whiringa School of Educational Leadership & Policy, Faculty of Education, University of Waikato, Hamilton, Waikato, New Zealand*

The field of learning in later life (educational gerontology) has developed intermittently since the 1980s but is increasingly been taken seriously by selected governments who are cognisant of the "ageing time-bomb" of increasing numbers of older people in their societies and the challenges of how to adequately provide resources, including education, to heightened their quality of life. Historically, in the allocation of resources, later life education typically has received miniscule amounts and within some sectors aligned to social stratification, many older people miss out entirely. This presentation focuses on conceptual issues related to seniors' learning/education (especially related to lifelong learning) and issues which have emerged for older people and their societies. Illustrations of problematic concepts and emergent issues are derived principally from the context of Aotearoa New Zealand.

OLDER MEN LEARNING THROUGH RELIGIOUS AND POLITICAL AFFILIATIONS: CASE STUDIES FROM MALTA

M. Formosa, *University of Malta, Msida, Malta*

This article examines two case studies from Malta that focus on older men learning through informal avenues. The

first case study investigated the role of a community-based organisation – namely, a religious confraternity dedicated to 'Our Lady of Immaculate Conception' of the village of Mqabba – as an avenue for informal learning activities for older men. The second case study investigated the connection between affiliation in the Labour Party Veterans' branch of the Labour Party (Malta) and informal learning. The case studies were carried out by employing a qualitative-methodological framework whereby data was collected through semi-structured interviews. The intent was to reveal the perceived interests and expectations regarding what would be considered a satisfying lifestyle in the context of membership of older men in both organisations. Findings revealed the benefits that older men enjoy through participation in such organisations, including increased levels of independence, improved social participation, and positive effects on participants' self-esteem and personal confidence. Informants reported that membership also contributed to their mental and physical health and to increased activity. Many underlined how participation aided them in escaping boredom and keeping in touch with the outside world. Findings also highlighted that only a few informants were simultaneously involved in organisations and activities not related to their religious and political affiliations, which highlights the importance of both informal learning channels in helping older men lead successful and active lives.

KEY COMPETENCIES IN LATE-LIFE LEARNING: TOWARD A GERAGOGICAL CURRICULUM

B. Baschiera, *1. University Ca' Foscari of Venice, Venice, Italy, 2. University of Malta, Malta, Malta*

The European Commission stipulates a range of key competencies as the objectives for lifelong learning, competencies which are deemed necessary for personal development, social inclusion, active citizenship, as well as employment. Although it is stipulated that these competencies are relevant to all learners, many adult education specializing in older adult learning point to the ageist biases so prevalent in the Commission's vision. Taking into account such criticism, this paper reports the salient results of an education programme which endeavoured to (i) encourage the participation of persons aged 65 + in Life-long Learning through the development of their key competencies; (ii) strengthen older learners' levels of social inclusion; (iii) provide traineeships train adult and/or seniors training organizations, seniors associations and (educational) public bodies in the field of training for seniors; and (iv), design a relevant geragogical curriculum for learning competencies for older adults. Results indicated that older learners required a curriculum that improved their competencies in 'self-transformation' which included three dimensions: psychological (changes in understanding of the self), transcendental (revision of belief systems), and behavioural (changes in lifestyle). In practice, older learners declared that, as the result of this geragogical curriculum, they felt more capable to generate a fruitful relationship with others coming from different cultural backgrounds, travel abroad independently, be more aware of current affairs, and becoming closer to their grandchildren.

HONG KONG AND AUSTRALIAN SENIORS: VIEWS OF AGING AND LEARNING

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Qualitative, semi-structured interviews, using open ended questions, were conducted with 40 older Australians and 39 seniors in Hong Kong who either had or had not engaged in organized learning in the last six months.

The samples were chosen using a purposive sampling strategy. In Australia participants were identified from 400 respondents to a Perceptions of Learning Survey distributed through seniors' organisations. In Hong Kong the respondents participated in the same survey and were invited to take part in follow up interviews.

Interviews were recorded, translated in Hong Kong, and transcribed,

Phenomenology was used to guide the interviews and analysis to explore the experiences and perspectives of these older people.

The biggest difference in views of aging was that 20% of the Hong Kong group as compared with 5% in Australia talked about aging in terms of decline. The views of learning also differed in both places. In Hong Kong 25% the main focus of learning was about health as compared with 5% of Australians.

The results and differences will be discussed in terms of life history in interaction with environment and values of culture and community. The implications will also be considered.

LEARNING FOR AND BY SENIOR ADULTS: AN ASIAN PERSPECTIVE

M. Tam, *The Education University of Hong Kong, Tai Po, Hong Kong*

Each culture has beliefs and ideas about the lifecycle including how people age and learning in later life. This presentation discusses the influence culture has on the view of ageing and older adults learning. It also attempts to elucidate what ageing and learning mean to people across different cultures.

With respect to learning, there is no shortage of research into the relationship between culture and learning. Yet much of it is confined to comparisons between Eastern and Western cultures. However, the East-West view of culture and learning has been criticized for being overly simplistic because cultures may overlap to result in both similarities and differences as people conceptualize and experience learning in different cultural contexts. With a focus on the Asian perspective, or more specifically, the Confucian philosophy of lifelong learning, this presentation discusses the cultural meaning of lifelong learning for older people in their cultural and social contexts.

SESSION 5085 (SYMPOSIUM)

RAISING AWARENESS ABOUT HEALTH EQUITY, PRODUCTIVE AGING, AND AT-RISK OLDER ADULTS

Chair: E. Gonzales, *Boston University, Boston, Massachusetts*

Co-Chair: R. Harootyan, *Senior Service America Inc, Silver Spring, Maryland*

Discussant: C. Matz-Costa, *Boston College*

This symposium integrates the phenomena of health equity and productive aging to help identify solutions that address disparities in health. We define health equity as social justice in health; measures of health disparities indicate the degree of inequity. Productive aging is defined as any activity that produces a good or services for society, whether paid for or not (e.g., employment, caregiving). How can social structures be revamped or expanded to promote greater productivity and health equity? How can policies and programs maximize positive outcomes for individuals and society?

Harootyan underscores the challenges in promoting computer literacy among offline older adults and presents multivariate survey results indicating how special computer training approaches not only improve older adults' instrumental skills but their mental health as well. Yulikova presents data on how a state's programs for disadvantaged unemployed seniors integrate many approaches to achieve productive engagement while also promoting self-health awareness/management. Lee et al. offer evidence that reducing financial hardship among racial minority family caregivers can improve the caregiver's health, regardless of differences in the care recipient's level of functional limitations. Gonzales et al. identify how cumulative inequality or unanticipated shocks disrupt the aging process and place unemployed older adults in tenuous circumstances leading to enrollment in SCSEP; yet, participants also reported resilience with high levels of individual, institutional, and environmental resources that promote their health.

Altogether, these quantitative and qualitative studies raise awareness of health inequities among at-risk older Americans and offer implications for policies and practices that can reduce health disparities.

EXPLORING HETEROGENEITY OF CO-OCCURRING RISKS AND RESOURCES AMONG AT-RISK OLDER ADULTS

E. Gonzales^{1,2}, R. Harootyan^{3,2}, K. Lee^{4,2}, 1. *School of Social Work, Boston University, Boston, Massachusetts*, 2. *Center for Innovation in Social Work and Health, Boston, Massachusetts*, 3. *Senior Service America, Inc., Silver Spring, Maryland*, 4. *Ohio State University, Columbus, Ohio*

This study explores the heterogeneity of co-occurring risks, barriers, resources, and preferences among at-risk older adults in the Senior Community Service Employment Program (SCSEP).

In-depth individual semi-structured interviews were conducted with 26 participants that explored risks, barriers, resources (individual, institutional, environmental), and workforce preferences. Interviews were audio-recorded and transcribed verbatim. Themes and variations across properties and dimensions were identified using constant comparison technique.

Two major themes emerged: cumulative disadvantages and highly disruptive shocks (health, economic or social) that led to SCSEP participation. While co-occurring risks and barriers were evident, many participants reported improved health during their SCSEP tenure. This study expands our understanding of SCSEP as having aspects of

community-based productive engagement that improve physical and mental health for at-risk older adults. Knowledge of co-occurring risks, barriers, resources and preferences suggests how Department of Labor performance measures can be enhanced to improve measurement of SCSEP participants' health and economic well-being.

PRODUCTIVE ENGAGEMENT IN COMPUTER TRAINING PROMOTES INSTRUMENTAL SKILLS AND MENTAL HEALTH OF SENIORS

R. Harootyan, 1. *Research, Senior Service America Inc, Silver Spring, Maryland*, 2. *Harootyan2, LLC, Vienna, Virginia*

People ages 65+ are least likely to use the Internet (59%) versus all adults age 18+ (87%). National surveys show that low-income/less educated seniors are much less likely to be online than more advantaged seniors. Only 19% of seniors without a HS diploma are Internet users, compared to 87% with a college degree. Reaching out to offline elders is especially challenging because of their high computer anxiety level and belief that the Internet is irrelevant.

Regressions and pair-wise analyses of 10,000 survey responses from older learners in the Digital Inclusion Initiative and from a program targeting low-income elders show that peer coaching in group settings effectively ($p < .05$) promotes 1) instrumental skills and 2) improved mental well-being (10-item pre/post morale scale). One significant predictor is the number of coaching sessions attended, suggesting that social engagement in a positive learning environment leads to both computer skill development and improved mental well-being.

UNDERSTANDING THE IMPACT OF RACIAL AND ETHNIC MINORITY FAMILY CAREGIVERS' ECONOMIC STRAIN ON HEALTH AND WELL-BEING

K. Lee¹, H. Dabelko-Schoeny¹, E. Gonzales², 1. *The Ohio State University, Columbus, Ohio*, 2. *Boston University, Boston, Massachusetts*

The purpose of this study is to investigate how care recipients' vulnerability and family caregivers' financial hardship mediate the relationship between informal care provided by non-white family caregivers and the caregiver's self-rated health.

Data from the 2013 Family Caregiver National Survey (Administration on Aging) were analyzed, using the PROCESS macro (Hayes, 2013) in SAS to conduct serial multiple mediator analysis. Results indicate that caregiving by non-white family caregivers negatively affected self-rated health serially through care recipients' ADL limitations and caregivers' financial hardship. Caregivers' financial hardship mediates the relationship between non-white family caregivers' caregiving and self-rated health. However, care recipients' ADL limitations did not mediate the relationship ($CI = -0.004$ to 0.020).

Funding for specific services that offset the high cost of providing care can assist economically disadvantaged family caregivers to continue to provide informal care. Policies and programs should focus on reducing financial hardship of racial minority family caregivers.

THE EFFECTIVENESS OF THE CHRONIC DISEASE SELF-MANAGEMENT PROGRAM AMONG AT-RISK OLDER ADULTS

O. Yulikova, *Massachusetts Executive Office of Elder Affairs, Arlington, Massachusetts*

The USDOL found that many unemployed low-income older adults in the Senior Community Service Employment Program (SCSEP) lack skills for managing chronic illnesses, which jeopardizes their employment prospects. 14% of SCSEP participants in Massachusetts leave the program for health/medical reasons. This study explored whether the evidence-based Chronic Disease Self-Management Program bolstered participants' ability to manage health conditions and could have wider policy implementation in workforce system.

Sixty SCSEP participants received CDSMP training during 2013. 100% completed the workshops. Thirty individuals completed post workshop survey. Descriptive analysis of pre/post questionnaires indicates that 83% of completers reported increased self-confidence in health management and will use the new tools; nineteen completers found the workshop useful in the job search process, thus improving their employment prospects.

A wider implementation of the SCSEP model through the American Job Centers can help job seekers with disabilities and multiple barriers to employment offer pathways out of poverty.

SESSION 5090 (SYMPOSIUM)

SITUATING WISDOM IN THE CONTEXT OF EVERYDAY LIFE: STATES, TRAITS, AND CHANGES OVER THE LIFESPAN

Chair: I. Grossmann, *University of Waterloo, Waterloo, Ontario, Canada*

Wisdom is an ancient concept, linked to good life, maturity, and sagacity. How does one develop this cherished quality? What are the situations and traits promoting wisdom in daily life? The present symposium brings world-class experts from four different countries (Austria, Canada, Finland, the US), who study these questions using a wide range of longitudinal, qualitative, diary, and experimental designs. A particular attention in this symposium is oriented to the question of interplay between wisdom-related states and traits. Jeste and colleagues will introduce the latest insights from the San Diego SAGE study, examining longitudinal shifts in wisdom and its relationship to mental health. Spännäri and colleagues will present new insights from the longitudinal CoPassion research project, examining the relationship between compassion and wisdom as a function of a compassion training. Glück and colleagues will use an autobiographic memory approach to examine professional wisdom. Their research indicates the profound role of organizational and situational constraints in constraining professionals' (teachers and managers) ability to act wisely. Finally, Grossmann will conclude the session by discussing various new advances from the Culture & Wisdom laboratory, with a particular attention to insights concerning situations, mindsets, and acts promoting wisdom in daily life. At the end, Grossmann will introduce a new, context-sensitive, efficient method for assessing wisdom

in daily life. The present symposium will shed light on exciting new directions in the rapidly growing field of wisdom research, drawing connections to various fields of gerontology, psychology, sociology, and psychiatry.

WISDOM ACROSS ADULT LIFESPAN: ASSOCIATIONS WITH POSITIVE TRAITS AND STATES

D. Jeste, A. Martin, B. Palmer, R. Daly, D. Glorioso, M. Thomas, *University of California, San Diego, San Diego, California*

We examined associations of cognitive, reflective, and affective dimensions of wisdom in a 2-year follow-up study of a community-based sample. Participants (51% male) were 1,441 adults aged 21 to 100 years ($M = 66$; $SD = 21$). Wisdom was assessed with 39-item 3-Dimensional Wisdom Scale. Cross-sectionally, correlations with age were small ($-.17$ for cognitive, and $-.05$ and $-.08$ for others). All 3 dimensions had medium size correlations ($r > .3$) with resilience, optimism, and personal mastery. The reflective dimension also had medium size correlations with happiness and life satisfaction, and inverse correlations with levels of perceived stress, anxiety, and depression. At 2-year follow-up, reliability change index scores indicated relatively little change in the reflective and affective scores, but a slight decline in the cognitive scores. These results suggest that wisdom is a relatively stable trait that is associated, especially its reflective dimension, with positive traits and states (e.g., resilience, happiness).

WISDOM AND COMPASSION: TOGETHER FOR BETTER (OR FOR WORSE)?

J. Spannari¹, M. Ardel², A. Pessi¹, M. Paakkanen¹, 1. *University of Helsinki, Helsinki, Finland*, 2. *University of Florida, Gainesville, Florida*

Compassion and wisdom are two deeply human and social phenomena, rooted in our biology and in the evolution of social structures. But can they be taught and cultivated? This presentation examines qualitative and quantitative survey data from the Finnish CoPassion research project. The project included an intervention by training compassion & emotional skills, with a goal of enhancing compassion at the workplace. This talk discusses results of this intervention, focusing on shifts in compassion (measured via the Santa Clara Brief Compassion Scale), wisdom (measured via 3D-WS-12 scale), and participants' experiences of the effects of the intervention six months after it, as well as the interrelation between the constructs. This research will shed new light on the definitions and conceptualizations of wisdom in relation to compassion, but also on the ways these constructs evolve through brief interventions, speaking to malleability of trait-wisdom over time.

PROFESSIONAL WISDOM: WISDOM AND NON-WISDOM MEMORIES OF TEACHERS AND MANAGERS

J. Glueck, K. Leitner, A. Oberlojer, *Psychology, Alpen-Adria-Universitaet Klagenfurt, Klagenfurt, Austria*

Professional wisdom, the way people balance their own interests with those of their organization and the individuals they work with, has not often been investigated yet. We

believe that organizational and situational constraints can limit individuals' ability to act wisely. For a first test of this hypothesis, we investigated autobiographical memories of teachers and managers, two groups that are often viewed as in need of wisdom but differ markedly in control over their work, concerning professional situations in which they did and did not act wisely. A sample of 24 teachers and 15 high-ranking managers were interviewed about such situations, and responses were content-coded for wise and unwise behaviors and situational constraints. Results showed that unwise behaviors often involved ignoring divergent perspectives, overconfidence, and lack of empathy, and that situational factors predicting these differences including role pressures, limited time, and competition.

THE POWER OF THE SITUATION FOR UNVEILING INSIGHTS ABOUT DAILY WISDOM

I. Grossmann, *Psychology, University of Waterloo, Waterloo, Ontario, Canada*

Though wisdom is inherently context-dependent, only recently scholars began to empirically test the situational contingencies inhibiting or promoting wisdom in daily life. Grossmann reviews a range of recent diary studies and high-powered experiments concerning people's likelihood of engaging in wisdom-related cognitions (e.g., considerations of different perspectives, intellectual humility, dialectical thinking, integration/compromise). Results indicate that social contexts (e.g., being together with friends/work-colleagues) promote greater wisdom than non-social situations, self-focused contexts inhibit wisdom, and contexts promoting ego-decentered mindsets (e.g., generativity, self-distancing) sustain wisdom in self-focused situations. Within-person (state) differences in wisdom across situations also appear larger than between-person (trait) differences. At the end, Grossmann introduces a novel state-sensitive approach to measure wisdom-related characteristics across both state and trait-level, showcasing its utility in a large-scale study ($N = 2545$ U.S. Americans) of individual differences, social contexts, affordances promoting wisdom and downstream consequences in a cost-efficient fashion.

SESSION 5095 (SYMPOSIUM)

MEDICARE AND MEDICAID INTEGRATION IN THE UNITED STATES: CHALLENGES AND SOLUTIONS

Chair: C.L. Graham, *University of California, Berkeley, Berkeley, California*

Discussant: G.E. Alkema, *The SCAN Foundation, Long Beach, California*

Over 10 million seniors and adults with significant disabilities in the United States (US) are dually eligible for Medicaid and Medicare. They represent beneficiaries with the lowest incomes and, on average, the most complex care needs and the highest care utilization. For this reason, they account for a disproportionate share of spending in both programs. In Medicare FFS spending is more than twice as high for dual eligible beneficiaries compared with non-dual eligible beneficiaries. The frequently misaligned incentives in Medicare and Medicaid can cause much inefficiency, including duplication of care, poor coordination of care,

and higher rates of avoidable hospitalizations. In an effort to both integrate care and reduce costs, the Patient Protection and Affordable Care Act gave the Centers for Medicare and Medicaid Services (CMS) new authority to implement and test programs to align financing and administration of Medicaid and Medicare for dually eligible beneficiaries. In this symposium, researchers and policy experts will come together to discuss the issues around Medicare and Medicaid integration in the US as well as several models currently being tested. Experts from the Center for Health Care Strategies will give an overview on the challenges faced in integrating these two large programs and the various efforts being taken in the US. Researchers from University of California will present results from the evaluation of California's Dual Financial Alignment demonstration, in particular the innovation on the part of the health plans in implementing the program, and the perspectives of beneficiaries who participated in the program. Researchers from the Washington State Health Care Authority will present results from an evaluation of their health-home based, managed fee for service program in Washington state as well as insights from the state's experience working with beneficiaries and providers to transform care for this high-cost, high-need population.

STATE APPROACHES AND EARLY LESSONS FROM NEW MEDICARE-MEDICAID INTEGRATED CARE MODELS

A. Kruse, *Center for Health Care Strategies, Hamilton, New Jersey*

Since 2011, the US has seen significant investment in the development of integrated care programs that aim to better coordinate care and reduce Medicare and Medicaid program misalignments. The individuals navigating these separate state and federal programs regularly face: uncoordinated services; poor provider communication; and differing state and federal policies regarding reimbursement, beneficiary protections, covered benefits, and enrollment. As a result, care is often fragmented or episodic, resulting in poor health outcomes, cost-shifting, and avoidable spending. The Center for Health Care Strategies has convened states testing new integrated care models in collaborative learning projects from the initial design phase through to the current implementation and evaluation phase of these programs. This presentation will review the challenges faced in integrating care, the various integration models at play in the United States, and some key lessons from the development of dual eligible special needs plan and financial alignment demonstration based models.

RESULTS OF AN EVALUATION OF CALIFORNIA'S MEDICARE-MEDI-CAL INTEGRATION DEMONSTRATION

C.L. Graham^{1,2}, P. Liu², 1. *University of California, Berkeley, Berkeley, California*, 2. *University of California, San Francisco, San Francisco, California*

Beginning in 2014, California began enrolling seniors and people with disabilities who were dually eligible for Medicare and Medicaid into managed care health plans, called "Cal MediConnect" (CMC). Through these plans, all of their medical care and long-term services and supports were

integrated and coordinated through one payment system. Enrollees received additional care coordination and transportation benefits. Results of a randomized telephone survey, including 2,139 beneficiaries compares measures of access to care, coordination of care, continuity of care after transition, and overall satisfaction between those in the demonstration, those who opted out, and those in non-demonstration counties. Enrollees in CMC plans reported significantly improved coordination and access to care. Additionally, results of 39 key informant interviews with CMC health plan administrators and other stakeholders will demonstrate the overall health system response to the demonstration as well as innovations and lessons learned in the implementation of the program.

MEDICAID AND MEDICARE INTEGRATION: USING THE HEALTH HOME MODEL

A. Ericson, A. Lind, *Health Care Authority, Washington State, Olympia, Washington*

Among Medicaid clients, those who are also eligible for Medicare benefits are among the most complex and in need of multiple services. Historically, very few approaches to improved care management for Medicaid-Medicare clients were available to state Medicaid agencies. Under the Affordable Care Act, new paths were created to improve care delivery and client outcomes. In Washington, the Health Home model was chosen as a "Managed Fee-for-Service" demonstration under an agreement with the Centers for Medicare and Medicaid Services (CMS). This presentation will describe the planning and implementation of the demonstration, engagement trends since the start of the program in 2013, and early evaluation results, including the first in the nation shared savings to the state from CMS.

SESSION 5100 (SYMPOSIUM)

REDUCING OLD-AGE SOCIAL EXCLUSION: NEW DIRECTIONS IN MULTIDIMENSIONAL AND GLOBAL PERSPECTIVES

Chair: K. Walsh, *National University of Ireland, Galway, Galway, County Galway, Ireland*

Co-Chair: T. Scharf, *Newcastle University, Newcastle upon Tyne, United Kingdom*

The concept of social exclusion has considerable potential to explain and respond to disadvantage in later life globally. However, in the context of ageing populations the construct remains ambiguous, and questions about what, if anything, makes old-age exclusion unique as a form of disadvantage, and specific to ageing, still remain. Further, there is growing recognition that old-age exclusion is both multidimensional, impacting on a range of different areas of life, and relative, implicating the institutions, policies and values of particular global contexts. Old-age exclusion is thus likely to be a function of exclusionary mechanisms arising from: the ageing process itself; from different, but interconnected, life domains; and from the regional and country settings that older people are resident within. Compounded by scientific knowledge gaps, reducing old-age social exclusion therefore represents a significant global challenge. With current efforts lacking direction and impact and with consequences for individuals, families and social systems, old-age exclusion also

represents a substantial barrier to realising positive outcomes in global ageing and health. Drawing on work from a new innovative research and policy collaboration, involving 34 European and international countries (Reducing Old-Age Social Exclusion in Europe - ROSEnet), this session will focus on emerging and engrained forms of disadvantage. It will unpack cross-domain and cross-national ageing-related exclusionary mechanisms in the areas of economic, social, services, community and spatial, and civic rights exclusion. The session will present new empirical and conceptual directions with a view to charting new pathways to reducing old-age exclusion.

UNRAVELING ECONOMIC EXCLUSION IN LATER LIFE: FAMILIAR PATTERNS OR NEW TRENDS?

J. Ogg, *Research Unit on Ageing, Caisse nationale d'assurance vieillesse, Paris, France*

Population ageing and low economic growth pose challenges to reducing the number of people at risk of social exclusion. Fewer workers place pressures on public pensions systems and if not compensated by productivity gains, maintaining acceptable income levels in retirement is problematic. A well educated and skilled older workforce that delays retirement could increase productivity and remedy the structural difficulties of public pension systems. Consequently, European countries are addressing these challenges by increasing the length of the working life, delaying access to retirement pensions and promoting policy measures such as 'active ageing'. These measures are experienced differently by older workers, a major factor being educational and socio-economic differences. This paper explores the risk of economic inequalities in later life in the European context, with well-educated older workers ensuring their economic security into retirement and less-educated or unemployed older workers being exposed to exclusion.

A CONCEPTUALISATION OF EXCLUSION FROM SOCIAL RESOURCES: FROM GENES TO THE ENVIRONMENT

V. Burholt, *Centre for Innovative Ageing, Swansea University, Swansea, United Kingdom*

This presentation will build a science of exclusion from social resources drawing upon, extending and uniting multi-disciplinary research to develop a novel, comprehensive and dynamic conceptual model. The model will help researchers grapple with complex thinking, and see persistent problems in a new light providing breakthroughs in our understanding of the feedback loops between genetics, psycho-social, cultural and physical environments involved in the interrelationship between exclusion from social resources and loneliness. This presentation is framed within a critical human ecological framework which frees us from the constrained boundaries of traditional disciplinary perspectives. From the critical human ecology perspective the environment, the social interactions therein and the biological manifestation of the body are interconnected in an active process of mutual influence and change. It will propose a series of studies that could be used to refine and test the model through scientific exchange, experimentation and real world experiences.

SOCIAL EXCLUSION AND SERVICE USE IN OLDER AGE: RECENT EVIDENCE FROM THE EUROPEAN CONTEXT

G. Lamura¹, V. Draulans², F. Barbabella¹, V. Hlebec³, A. Siren⁴, R. Maskeliunas⁵, J. Barstad⁶, 1. INRCA, *National Institute of Health and Science on Ageing, Centre for Socio-Economic Research on Ageing, Ancona, Italy*, 2. KU LEUVEN (*University of Leuven*), *Leuven, Belgium*, 3. *University of Ljubljana - Faculty of Social Sciences, Ljubljana, Slovenia*, 4. *Danish National Centre for Social Research, Copenhagen, Denmark*, 5. *Kaunas University of Technology, Faculty of Informatics/Department of Multimedia Engineering, Kaunas, Lithuania*, 6. *Norwegian University College of Agriculture and Rural Development, Klepp St, Norway*

This contribution aims to provide an overview of main trends observed across European countries with regard to service use in older age in relation to social exclusion phenomena. Data will come from different sources, including preliminary findings from the EU-funded network ROSEnet. Previous research shows that the lack of services - such as for instance transportation, primary health and elder care services, or banking services - contributes to social exclusion in older age, especially in rural contexts. The access to web-based services represents an additional field in which new and old exclusion risks might accumulate, due to the increasing role played by digital skills in affecting the ability to remain independent and active in older age. Finally, the critical areas in which policy should focus on to address current and future challenges in this field will be identified, including issues such as the degree of urbanisation and gender differences.

AGE-RELATED MOBILITY ISSUES AND SOCIAL EXCLUSION OF OLDER ADULTS: OBJECTIVE AND SUBJECTIVE CRITERIA

I. Tournier, D. Ferring, *Université du Luxembourg, Luxembourg, Luxembourg*

An efficient mobility is essential to stay connected to community services and to participate in social interaction. However, mobility is impeded by age-related changes regarding perceptual, cognitive, and physical abilities that make older drivers and pedestrians overrepresented in road casualties. At the same time, self-awareness of these limitations frequently may lead to excessive fears (e.g., fear of falling) and self-imposed mobility reduction such as driving cessation that increases the risk of home confinement and social exclusion. This presentation offers an overview of these objective and subjective mobility limitations and their interaction. This is a necessary first step towards developing efficient actions aimed at improving both mobility and safety of older adults. Consequently, we explore in a second step how the socio-spatial environment can be adapted at different levels (e.g., social policy, road environment design) to become a more age-friendly space and as a consequence promote social inclusion in later life.

ACTIVE AGING POLICIES AND THE SOCIAL EXCLUSION LENS

S. Torres, *Uppsala University, Uppsala, Sweden*

The launching of the concept of successful aging in gerontological research, policy and practice gave way to a variety of policies on active, productive and healthy aging across

the world. These policies have been launched as universal one size fits all solutions to the challenges that population aging entail. At the core of these policies are, however, values that are often associated with highly industrialized societies which attribute great importance to independence, activity, future-orientation and the mastering of illness/ diseases in old age. This raises the question of these policies' appropriateness for populations that do not share these values and/ or whose life-course is not characterized by the continuity that the successful aging paradigm presupposes. This presentation will use research on older migrant populations across Europe to argue that the social position of privilege that these policies take for granted is exclusionary.

SESSION 5105 (SYMPOSIUM)

BLUE VERSUS GRAY: POTENTIAL HEALTH BENEFITS OF BLUEBERRIES FOR SUCCESSFUL AGING

Chair: D.K. Ingram, *Louisiana State University, Baton Rouge, Louisiana*

B. Shukitt-Hale, *USDA-HNRCA at Tufts University, Boston, Massachusetts*

Emerging evidence from both preclinical and clinical studies have generated evidence of the potential health benefits of consuming blueberries (BBs). This fruit contains among the highest levels of polyphenols identified that provide highly effective antioxidant protection in addition to activating a wide range of other stress signaling pathways directly impacting health. The challenge now is to identify mechanisms through which BBs mediate their health benefits. Based on a wide range of preclinical and clinical studies, D Ingram (LSU, USA) will chair this symposium to review progress in assessing the health effects of BBs to promote successful aging. A Rodriguez-Mateos (U. Duesseldorf, GERMANY) will review studies examining the cardiovascular effects of BBs. CM Williams (U Reading, UK) will examine the cognitive effects of BB consumption in children and adults. B Shukitt-Hale (USDA/Tufts U, USA) will present data examining the effects of BB on motor and cognitive performance and brain inflammation in older adults. Y Desjardins (Laval U, CANADA) will present findings highlighting effects of BB consumption on the microbiome and its impact upon various health parameters. D Ingram will conclude with a talk focused on the concept of "hormesis." Specifically, he will present data showing that berry fruits provide long-term protection against oxidative stress because they initially generate an essential mild oxidative stress.

EFFECTS OF BLUEBERRIES ON CARDIOVASCULAR FUNCTION

A. Rodriguez-Mateos, *King's College London, London, United Kingdom*

Recent epidemiological and human intervention studies suggest that berry consumption may have cardiovascular health benefits. Blueberries are rich sources of potential bioactive compounds such as polyphenols, fiber, minerals and vitamins. To date, few clinical trials have been conducted investigating the effect of blueberry consumption on clinically relevant biomarkers of cardiovascular disease (CVD) risk, showing that blueberry supplementation can decrease

blood pressure, improve endothelial function and decrease arterial stiffness in people at risk of CVD, such as pre-hypertensive, overweight, obese or people with metabolic syndrome. However, in the context of dietary recommendations and primary prevention of CVD it is also important to investigate the effects of polyphenol-rich foods on healthy people. We have conducted several clinical studies showing that blueberry consumption can improve endothelial function in healthy individuals and that these effects correlate with plasma blueberry polyphenol metabolites. The evidence available on the effects of blueberries on cardiovascular function and the role of polyphenols as mediators of those effects will be discussed.

EFFECTS OF ANTHOCYANIN-RICH BLUEBERRIES ON COGNITIVE FUNCTION IN HEALTHY YOUNGER AND OLDER ADULTS

C. Williams, G. Dodd, D. Lamport, J. Spencer, L. Butler, *School of Psychology & Clinical Language Sciences, University of Reading, Reading, United Kingdom*

Evidence from human studies demonstrates that consumption of various flavonoid subclasses are associated with cognitive benefits. We investigated the effects of an anthocyanin-rich blueberry beverage (BB), or matched placebo, on vascular and cognitive function in healthy younger and older adults. Stiffness index (SI), blood pressure (BP) and levels of brain-derived neurotrophic factor (BDNF) were recorded at baseline and one hour, whilst cognitive function was measured at baseline, 2 and 5 hours post-treatment. An MRI study was included to determine changes in cerebral blood flow (CBF). BB treatment produced better cognitive performance and higher circulating levels of BDNF. Correspondingly, increased CBF was observed in the precentral and middle frontal gyrus, as well as the angular gyrus, following BB. This suggests that acute BB treatment results in cognitive benefits mediated by an action on BDNF signalling pathways, in addition to vasodilatory properties and subsequent CBF increases.

EFFECTS OF BLUEBERRIES ON INFLAMMATION, MOTOR PERFORMANCE, AND COGNITIVE FUNCTION

B. Shukitt-Hale, M. Miller, N. Thangthaeng, D. Fisher, D. Bielinski, M. Kelly, T. Scott, *USDA-HNRCA at Tufts University, Boston, Massachusetts*

Motor and cognitive function decrease with age, to include deficits in balance, coordination, gait, processing speed, executive function, memory, and spatial learning. These functional declines may be caused by long term increases in and susceptibility to oxidative stress and inflammation. Research conducted in our laboratory, initially with aged animals but more recently with humans, has shown that consumption of blueberries, which are high in polyphenolics and have antioxidant and anti-inflammatory properties, can prevent and even reverse age-related neuronal deficits. Participants, aged 60–75 years, in a randomized, double-blind, placebo-controlled trial, consumed freeze-dried blueberry (24g/d, equivalent to 1cup blueberries) or placebo, and completed a battery of motor and cognitive tests at baseline, and following 45 and 90 days of intervention. Blueberry

supplementation improved some aspects of performance and berry serum metabolites were able to reduce inflammatory stress signals in a cell model. Therefore, dietary interventions with blueberries may be one strategy to forestall or even reverse age-related neuronal deficits.

BLUEBERRIES AND FRUIT POLYPHENOLS MODULATE THE GUT MICROBIOME AND MAY PREVENT AGE-RELATED DYSBIOSIS

Y. Desjardins, *Plant Science, Institute of Nutrition and Functional Foods, Laval University, Quebec, Quebec, Canada*

The incidence of chronic diseases is increasing during aging in association with low-grade inflammation in a syndrome called “inflammaging”. In the gut, inflammaging disturbs homeostasis and reduces epithelium tightness, the thickness of the mucus layer and weakens the immune barrier, leading to the diffusion of pro-inflammatory LPS. Aging people have an altered microbiota and a reduced barrier function. Recently, we have shown that obese mice fed with cranberry polyphenols had reduced intestinal inflammation and insulin resistance, while displaying a modulated gut microbiota. One specific bacteria, *Akkermansia muciniphila*, was identified and shown to stimulate mucus production and improve the barrier function. Our results suggest that the consumption of berry polyphenols maintains a well-balanced microbiota and improve intestinal and underlying metabolic functions. During this presentation, data on the loss of gut microbiota homeostasis during aging will be presented and discussed in light of the preventative role of berry polyphenols on chronic diseases.

SESSION 5110 (SYMPOSIUM)

IT COMES WITH THE TERRITORY: MECHANISMS UNDERLYING ENHANCED EMOTIONAL WELL-BEING IN OLDER ADULTHOOD

Chair: L. Eldesouky, *Washington University in St. Louis, Missouri*

Co-Chair: T. English, *Washington University in St. Louis*

Emotional well-being remains intact and in some ways improves in older adulthood. In this symposium, we highlight important mechanisms that underlie age-related changes in emotional well-being. The first presentation takes an experimental approach to examine age differences in the use of an emotion regulation strategy, situation selection, and its consequences for mood. The second presentation takes a daily diary approach to investigate how the link between age and daily emotional experience depends on emotion regulation strategy use. Taking a naturalistic approach, the third presentation examines age differences in the ability to affectively recover from daily stressors. Lastly, the fourth presentation takes a neurobiological approach to examine age-related changes in brain networks associated with cognitive function relative to those associated with emotional function. Taken together, these four presentations take a multi-faceted approach to demonstrate how and why emotional well-being is preserved in older adulthood.

AGING AND ATTENTION TO SELF-SELECTED EMOTIONAL CONTENT: A MOBILE EYE TRACKING INVESTIGATION

D.M. Isaacowitz, K.M. Livingstone, M.S. El-Nasr, *Northeastern University, Boston, Massachusetts*

Previous studies have found that older adults attend relatively more to positive and less to negative stimuli when presented with a single stream of affective input. In everyday life, however, attentional deployment is fundamentally and dynamically related to an earlier stage of emotion regulation: situation selection. We present 2 studies using mobile eye tracking to test for age differences in selections of emotional stimuli, and attention to selected choices. Younger, middle-aged, and older individuals were induced into either a negative (Study 1) or positive (Study 2) mood. Half were instructed to specifically try to regulate their mood state before having their selections, attention, and mood recorded. A database-oriented solution was implemented to analyze fixations to positive, negative, and neutral videos once selected. Findings suggested more similarities than differences among age groups in what material was selected, how participants attended to selected material, and how their choices and attention predicted mood.

AGE DIFFERENCES IN THE LINK BETWEEN DAILY EMOTION REGULATION STRATEGY USE AND WELL-BEING

L. Eldesouky, T. English, *Washington University in St. Louis, St. Louis, Missouri*

Researchers have posited that age differences in resource availability (e.g., cognitive control, physiological flexibility, knowledge and life experience) may impact emotion regulation strategy selection and effectiveness. Strategies that are more cognitively demanding and physiologically taxing may be less effective for managing emotional well-being among older adults than younger adults. In the presented daily diary study, 272 adults (aged 23–85 years) completed measures of emotion regulation strategy use and emotional experience for 9 consecutive days. As expected, detached reappraisal (a more cognitively demanding strategy) was less strongly linked to emotional well-being for older adults, and situation selection (a less cognitively demanding strategy) was more strongly linked to emotion well-being for older adults. However, age did not moderate the link between suppression (a more physiologically taxing strategy) and emotional well-being. These findings suggest that the consequences of emotion regulation may depend on both the strategy being used and the regulator's age.

AGE AND LINGERING NEGATIVE AFFECT IN RESPONSE TO DAILY STRESSORS

K. Leger¹, S.T. Charles¹, D. Almeida², 1. *University of California, Irvine, Irvine, California*, 2. *Pennsylvania State University, State College, Pennsylvania*

One indicator of successful emotion regulation is the ability to affectively recover from a stressful event. According to the Theory of Strength and Vulnerability Integration (SAVI), older adults use strategies such as reappraisal to aid in affective recovery after a stressor has passed. The current study tests this theory by examining the extent to which older, middle age, and younger adults continue to experience lingering

negative affect in response to a stressor that occurred the day before. Participants ($N=1813$, Age 33–84) completed a series of daily interviews in Wave 2 of the National Study of Daily Experiences (NSDE II). Multi-level models indicated that the middle age group reported greater lingering negative affect the day after a stressor occurred than both the older and the younger adults ($b=.024$, $p=.02$). Results suggest that middle-aged adults, as opposed to younger and older adults, experience poorer affective recovery from daily stressful events.

RESTING-STATE NETWORKS ASSOCIATED WITH COGNITION BUT NOT WITH EMOTION SHOW AGE-RELATED DECLINE

K. Nashiro¹, M. Sakaki², M. Braskie³, M. Mather¹, 1. *University of Southern California, Los Angeles, California*, 2. *University of Reading, Reading, United Kingdom*, 3. *Imaging Genetics Center, Keck School of Medicine, University of Southern California, Los Angeles, California*

Correlations in activity across disparate brain regions during rest reveal functional networks in the brain. Although previous studies largely agree that there is age-related decline in cognitive networks (e.g., default mode network), how age affects other resting-state networks remains unclear. Here we used a dual regression approach to investigate age-related alterations in resting-state networks. The results revealed age-related disruptions in functional connectivity in all five identified cognitive networks, namely the default mode network, auditory discrimination, speech-related somatosensory, and right and left fronto-parietal networks, whereas such age effects were not observed in the three identified emotion networks. Furthermore, we observed age-related decline in functional connectivity in visual and motor/visuospatial networks. Our observation of age-related decline in all networks associated with cognitive function but not in those associated with emotional function supports the idea that normal aging is less associated with declines in emotional functioning than with declines in cognitive functioning.

SESSION 5115 (SYMPOSIUM)

VALUING ARTS INTEGRATION IN AGE-FRIENDLY COMMUNITIES

Chair: V.B. Lipscomb, *University of South Florida Sarasota-Manatee, Bradenton, Florida*

Discussant: D. O'Neill, *Trinity College, Dublin, Ireland*

Two foci of the 2015 Summit on Creativity and Aging in America were Age-Friendly Community Design and Lifelong Learning and Engagement in the Arts, which includes how the arts reflect and/or reshape contemporary cultural understanding of aging (Hanna et al. 2016). This symposium examines how integrating the arts into the age-friendly model can enhance quality of life for elders as well as combat community ageism. The first paper approaches arts integration on a national level, identifying how policies on aging impact the benefits of and need for arts in age-friendly communities. Surveys of age-friendly communities show the essential role that humanities and the arts play in creating an inclusive environment. The second paper addresses a collaboration between arts professionals and age-friendly community leaders. A theatrical production on aging arose from interviews with more than 100 residents of an age-friendly

community; analysis of audience talkbacks indicates that the program promoted respect and social inclusion, major issues addressed in age-friendly community design. The final presentation analyzes the process of a major collaborative arts-based research project, finding that participation in devising theatre enhances quality of life for older people. The discussion will draw on extensive experience with interdisciplinary arts-related approaches to aging research and policy. These presentations will offer insights into the creation and implementation of arts policies as key to the design of age-friendly communities.

AGE FRIENDLY COMMUNITIES' UTILIZATION OF THE HUMANITIES AND ARTS

G. Hanna, *National Center for Creative Aging, Washington, District of Columbia*

The humanities and the arts are being utilized in age-friendly communities internationally to break down isolation and to improve quality of life through social engagement and advances in community and home design. This paper will delineate effective practices that map and leverage assets in the humanities and the arts to bring resources to older people in their homes and community centers. Research will be presented from surveying participating age-friendly communities to illustrate current practices in the United States and other participating countries in this World Health Organization project. The survey results demonstrate the important role humanities and the arts play in the formation of age-friendly communities.

USING THEATRE TO REFLECT AND REVISE ATTITUDES TOWARD AGING IN AN AGE-FRIENDLY COMMUNITY

V.B. Lipscomb, K. Black, *Liberal Arts, University of South Florida Sarasota-Manatee, Bradenton, Florida*

This paper discusses the results of a documentary theatre program that was created to provoke public discourse about aging in an age-friendly community located in the Southeastern United States in which more than one-half of residents are age 50 or older. The professional theatre production resulted from more than 100 interviews with older community members. Post-performance talk-backs with the audience are analyzed to illustrate how the production facilitated insight and dialogue among its largely older audiences. Experience with the production suggests the potential to promote the subjective experience of aging as a positive appreciation of self and others. While differences in methodologies can affect the success of research-based theatre collaborations (Rossiter et al. 2008), this community-based effort is shown to enhance respect and social inclusion, a core domain of livability in the age-friendly community movement. Results point toward expanding arts involvement in age-friendly communities.

AGES AND STAGES: AN ARTS-BASED APPROACH TO ASSESSING THE VALUE OF THEATRE-MAKING IN LATER LIFE

M. Bernard¹, J. Rezzano², M. Rickett¹, 1. *Keele University, Keele, United Kingdom*, 2. *New Vic Theatre, Newcastle-under-Lyme, United Kingdom*

Funded by the UK's multi-research council New Dynamics of Ageing programme (2009–12), through follow-on funding from the Arts and Humanities Research Council (AHRC) (2012–13), and two AHRC “Cultural Value” project grants (2013–14), Ages and Stages is an ongoing collaboration between researchers at Keele University and practitioners at the New Vic Theatre, Newcastle-under-Lyme. Between 2013 and 2014, we supported the Ages & Stages Theatre Company to co-explore and co-research what their involvement had meant to them over the previous four years. The findings were used to shape three scripts/provocations entitled “Out of the Box,” performed at a concluding research symposium. Drawing on these projects, this paper focuses in particular on what we have learned through our methodologically innovative arts-based approach to the evaluation of participants' experiences. We discuss the value of theatre-making with older people; consider the role of participatory arts-based approaches; and highlight implications for future research in age-friendly communities.

SESSION 5120 (SYMPOSIUM)

MULTI-MODAL TRAINING TO IMPROVE COGNITION, MOBILITY, AND BRAIN FUNCTIONING IN OLDER ADULTS

Chair: K.Z. Li, *Concordia University*

A growing body of research argues for cross-over effects of training, such that exercise training leads to improved cognitive abilities and more efficient neural functioning (Bherer, Erickson, & Liu-Ambrose, 2013; Li, Yao, Cheng, et al., 2016). In parallel, computerized cognitive training has led to improved balance and mobility (Li, Roudaia, Lussier, et al., 2010). What underlies these cross-over effects may be the common cognitive functions and brain regions or networks that are jointly associated with cognitive and motor control. However, fewer studies have examined the potential synergistic effects of multi-modal training in the form of mixed cognitive and physical training schedules, virtual reality, computer gaming, or dual-task training (Basak, Boot, Voss, & Kramer, 2008; Mirelman, Maidan, Herman et al., 2011). This symposium presents recent work on this emerging topic, spanning a variety of approaches, such as gaming (Basak), virtual reality (Hasudorff), and combined exercise and cognitive training (Bherer, K. Li, C. Li). We will highlight a variety of outcomes measures including cognitive, motoric, and neural indices. We will discuss the influence of training format, task coherence, and trainee enjoyment and motivation on the magnitude of training-related gains. We will also discuss the specificity of training-related effects.

PLAYING FOR KEEPS: EFFECTS OF VIDEO GAME TRAINING ON NEURAL AND COGNITIVE PLASTICITY IN OLDER ADULTS

C. Basak¹, K. Nashiro², M. O'Connell¹, S. Qin¹, 1. *University of Texas at Dallas, Dallas, Texas*, 2. *University of Southern California, Los Angeles, California*

A major goal in aging research has been to examine ways to counteract age-related cognitive decline. The present study investigated whether 20-hour Real-time Strategy video game training (RTS), compared to active controls, could differentially improve cognition in older adults, both immediately and long-after training. Fifty-one healthy older adults ($n_{\text{RTS}}=24$, $n_{\text{Control}}=27$) were evaluated at before and after the training on an fMRI task-switching paradigm and on a comprehensive battery of cognitive tasks, with multiple tasks representing each cognitive construct. The RTS group improved significantly on episodic memory and working memory immediately after the training, compared to the controls. Changes in frontal activation in the task-switching paradigm in the RTS group were greater than the controls. Moreover, individual differences in game playing strategy (combat vs. wonders approaches) interacted with improvements in cognitive control. Our results suggest that RTS game playing can potentially improve executive control and working memory.

EFFECTS OF PHYSICAL EXERCISE, COGNITIVE TRAINING, AND COMBINED INTERVENTION ON EXECUTIVE FUNCTIONS

L. Bherer^{1,2}, M. Lussier^{2,3}, L. Desjardins^{2,3}, S. Fraser^{2,4}, K.Z. Li^{1,5}, N. Berryman², L. Bosquet^{6,2}, T. Vu^{2,7}, 1. *Dept. of Psychology and PERFORM Centre, Concordia University, Montreal, Quebec, Canada*, 2. *Centre de recherche de l'institut universitaire de Gériatrie de Montréal, Montreal, Quebec, Canada*, 3. *Department of Psychology, Université du Québec à Montréal, Montreal, Quebec, Canada*, 4. *Social Work, McGill University, Montreal, Quebec, Canada*, 5. *Centre for Research in Human Development, Concordia University, Montreal, Quebec, Canada*, 6. *Faculté des sciences du sport, Université de Poitiers, Poitiers, France*, 7. *Centre hospitalier de l'Université de Montréal, Montreal, Quebec, Canada*

Several studies have reported benefits of exercise interventions (see Bherer, Erickson & Liu-Ambrose, 2013 for review) and cognitive training (see Belleville & Bherer, 2012 for a review) on cognitive performance in older adults, but the effect of combining both interventions has rarely been studied. This talk will present findings from dual-task cognitive training, physical exercise intervention and combined fitness and cognitive trainings on neurocognitive and physical outcomes in older adults. Overall, results show improved performance in neuropsychological test of executive control (switching) after cognitive training, but no substantial added benefits of physical exercise training. In the computerized dual-task, results showed larger change in dual-mixed than in single-mixed trials, but only for the groups that completed the dual-task training. Results of our studies support the benefits of dual-task training on executive functions and dual task performance, and suggest equivalent effect of aerobic and stretching exercise on executive control and dual-task performance.

COGNITIVE TRAINING AND AEROBIC EXERCISE FOR COMMUNITY HEALTHY ELDERLY: A RANDOMIZED CONTROLLED TRIAL

C. Li, *Shanghai Key Laboratory of Psychotic Disorders, Shanghai Mental Health Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China*

Cognitive Training and aerobic exercise are two kinds of promising approaches against cognitive aging. The present study was designed to compare the training effect between cognitive training and aerobic exercise for community-dwelling, healthy older adults, and to explore the potential neurobiomarkers predicting behavioral gains from these interventions. A prospective, randomized, assessor-blinded, parallel-controlled trial was conducted. The results showed that cognitive training and aerobic exercise both can effectively improve cognitive function in community healthy elderly over time with good compliance and easy administration. Cognitive training and aerobic exercise have distinct training effects in different cognitive domains.

COMBINED EXERCISE AND COGNITIVE TRAINING: EFFECTS OF FORMAT AND MOTIVATION

K.Z. Li^{1,2,3}, L. Lai^{1,2,3}, H. Bruce^{1,2,3}, 1. *Dept. of Psychology, Concordia University, Montreal, Quebec, Canada*, 2. *PERFORM Centre, Concordia University, Montreal, Quebec, Canada*, 3. *Centre for Research in Human Development, Concordia University, Montreal, Quebec, Canada*

Recent evidence suggests that combined aerobic exercise and cognitive training is superior to single-modality training for improving cognition and mobility. However, we do not know whether multi-modal training is better delivered sequentially or simultaneously. The current study contrasted sequential and simultaneous protocols. Forty-one healthy older adults underwent simultaneous or sequential training, involving 12 sessions of computerized divided attention training and aerobic exercise. Comparisons of pre- and post-training measures revealed improvements on the trained cognitive task, a near transfer dual task, and measures of processing speed and verbal memory. Significant improvements were also observed on the Sit-To-Stand mobility measure, with greater gains in the sequential training group. A slight advantage overall was observed for the sequential group, however simultaneous training did not appear to detract from the impact of the intervention. The results will also be discussed in terms of motivation as a moderating factor in training efficacy.

TREADMILL TRAINING WITH VIRTUAL REALITY TO REDUCE FALLS AMONG OLDER ADULTS: RCT RESULTS

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for Brain, Cognition and Behavior, Radboud University Medical Center, Nijmegen, Netherlands, 8. *Department of Rehabilitation Sciences, Katholieke Universiteit Leuven, Leuven, Belgium*

A randomized, controlled trial tested the hypothesis that a combined treadmill training with virtual reality (TT+VR) intervention would lead to fewer falls, compared to treadmill training alone (TT). 302 community-living older adults (age: 73.8 ± 6.7 yrs; 60.3% women) with a history of multiple falls and a range of motor and cognitive deficits were randomly assigned to six weeks of TT+VR or TT. The primary outcome was the falls incident rate (IR) during the 6 months post-training. Before training, the IR was similar in both training arms ($p=0.29$). Following training, the IR was 42% lower ($p=0.033$) in TT+VR, compared to TT (IRR:0.58; 95%CI:0.36–0.96). Post training, gait variability during obstacle negotiation, physical performance-based measures, and health-related QOL were significantly better in TT+VR post-training, compared to TT. An integrated, multi-modal approach targeting relevant motor and cognitive functions led to lower fall rates than treadmill training alone, with added benefits to mobility and QOL.

SESSION 5125 (SYMPOSIUM)

CONVOYS IN GLOBAL CONTEXT

Chair: T.C. Antonucci, *University of Michigan, Ann Arbor, Michigan*

Co-Chair: H.R. Fuller, *North Dakota State University, Fargo, North Dakota*

These four papers examine the role of social relations, conceptualized within the convoy model, on health and well-being. Drawing from samples around the world, specifically Japan, Lebanon, Mexico and the U.S., structural and qualitative aspects of social relations are shown to influence health while gender and socioeconomic status are shown to mediate the association. In Japan, Sugawara and Akiyama indicate that structural diversity can be beneficial even in societies that both instantiate and value homogeneity, especially when usual support sources, such as family, are not available. Abdulrahim, Ajrouch, and Antonucci demonstrate how higher education and being male reduce the likelihood of depressive symptoms while confiding has a positive and financial support has a negative effect on depressive symptoms in Lebanon. In Mexico, Fuller shows fewer structural differences in social relations, and that while positive quality relations have little effect, low negative quality relations mediate the SES-health link. Finally, Antonucci and Ajrouch report findings from the US indicating that the SES-health link is differentially mediated for women by both structure and quality of social relations. Women who have less contact with others are more depressed as are those with more negative quality social relations. In sum, the SES-Health link is ubiquitous while social relations, either structure or quality or both, and gender influence that link. The findings support the overall usefulness of the convoy model, by indicating that both individual and situational characteristics uniquely influence social relations and their effect on health.

DIVERSITY OF SOCIAL NETWORK AND WELL-BEING AMONG JAPANESE ELDERLY

I. Sugawara, H. Akiyama, *University of Tokyo, Tokyo, Tokyo, Japan*

In this study we examined the structural diversity/homogeneity of the social network of the older Japanese people and assessed how the network diversity was associated with the well-being of older adults. Data were obtained from the Second Social Relations and Health over the Life Course Study conducted in 2005 in Yokohama, Japan. The sample used in this study included participants aged 60 years and older ($n = 369$). Results showed an interaction effect of marital status. Specifically, it was observed that having a family-centered, homogeneous network had a positive association with subjective and mental well-being of married people. However, for single people, having a network of non-kin members, members belonging to different generations, and members with different educational status, was positively associated with well-being. These results suggested that even in a society where family plays a central role in people's life, having diverse social relations might be important for a better life, especially when support from family members is not available.

CONVOYS OF SOCIAL RELATIONS, GENDER AND THE EDUCATION-HEALTH LINK IN LEBANON

S. Abdulrahim¹, K. Ajrouch², T.C. Antonucci², 1. *Health Promotion and Community Health, American University of Beirut, Beirut, Lebanon*, 2. *University of Michigan, Ann Arbor, Michigan*

Our examination of the SES-health link focuses on depressive symptoms, a key indicator of well-being as people age. We test whether convoys of social relations influence the SES-health link differentially for men and women. The data are drawn from a regionally representative sample ($N=369$) of adults (aged 40–91) in greater-Beirut, Lebanon. A series of multiple regression analyses were performed. Results show that higher education levels and being male are associated with lower depressive symptoms. There were no main effects of network structure on depressive symptoms, but quality of relations matter. Higher levels of perceiving the ability to confide in others predicted lower levels of depressive symptoms, yet higher levels of perceived financial support predicted higher levels of depressive symptoms. These findings suggest quality of social relations and gender both exert influence on depressive symptoms above and beyond the effect of socioeconomic status.

QUALITY OF CHILD RELATIONSHIPS AS A MEDIATOR OF THE SES-HEALTH LINK AMONG MEXICAN PARENTS

H.R. Fuller, *Human Development and Family Science, North Dakota State University, Fargo, North Dakota*

Socioeconomic disparities in health are well-documented in the Mexican population; however, recent studies suggest that aspects of social support may help explain the link between poverty and health. Using data from the Survey of Social Relations and Well-being in Mexico, this study explores whether positive and negative qualities of child relationships mediate the effect of education level on depressive symptoms, stress, and self-rated health in Mexican parents

aged 40–93 ($N=499$). Lower education level correlated with poorer health and greater child negativity. Tests of mediation indicated that child positivity did not mediate the SES-health link, but child negativity did. For both men and women, child negativity mediated education level's link with depression and stress. For women only, child negativity mediated the link between education and self-rated health. Findings suggest that among Mexicans low negativity with children may help account for physical and psychological health. Implications and future directions will be discussed.

CONVOYS OF SOCIAL RELATIONS AND THE EDUCATION-HEALTH LINK: GENDER PATTERNS IN THE UNITED STATES

T.C. Antonucci, K.J. Ajrouch, *Life Course Development, University of Michigan, Ann Arbor, Michigan*

Our examination of the SES-health link focuses on depressive symptoms, a key indicator of well-being as people age. We test whether convoys of social relations influence the SES-health link differentially for men and women. The data are drawn from a regionally representative sample ($N=790$) of adults (aged 40–100) in the Detroit area, USA. A series of multiple regression analyses were performed. Results show that higher education levels are associated with lower depressive symptoms. There were no main effects of network structure or gender on depressive symptoms, but an interaction effect arose where women who had less frequent contact with their networks reported higher depressive symptoms than women who did not. Furthermore, quality of relations matter. Higher levels of negativity in social relations predicted higher levels of depressive symptoms. These findings suggest convoys of social relations exert influence on depressive symptoms above and beyond the effect of socioeconomic status.

SESSION 5130 (SYMPOSIUM)

STRENGTHENING INFORMAL SUPPORT RESOURCES FOR OLDER ADULT PATIENTS: THE JOHNS HOPKINS ROYBAL CENTER

Chair: D.L. Roth, *Johns Hopkins University, Baltimore, Maryland*

Discussant: J.E. Gaugler, *University of Minnesota*

The increased emphasis on home- and community-based care for older adults often assumes that family caregivers and other informal support persons are available and properly equipped to help deliver that care. However, greater attention is needed to develop evidence-based tools and evaluate programs that better involve family members and other support persons in the care of older adults. The Edward R. Roybal Center at Johns Hopkins University is dedicated to developing and testing innovative programs to meet this need. This symposium will feature innovative pilot projects that are funded by the Center and have designed and implemented promising interventions for older adults and their families. Older adult populations that are being addressed include those with significant cognitive impairment, end-stage renal disease (ESRD), hearing loss, and those with complex medication regimens who are receiving home health services. Qualitative findings will be presented that capture challenges

faced by patients and family members and have contributed to new tools and approaches. Individual presentations will describe 1) a pre-visit intervention to improve communication among primary care patients with cognitive impairment, their family members, and their health care providers; 2) a systematic approach that directly includes and involves family members in the home-based medication management of complex older adult patients; 3) an adaptation of an established environmental intervention to reduce social isolation and improve the mobility of older adults with ESRD; and 4) an affordable and accessible intervention for older adults with hearing loss that explicitly involves their family members or other communication partners.

INVOLVING FAMILY TO IMPROVE COMMUNICATION IN PRIMARY CARE FOR OLDER ADULTS WITH COGNITIVE IMPAIRMENT

J.L. Wolff¹, H. Amjad², C. Boyd², D. Echavarria¹, L.N. Gitlin³, D. Roter¹, K. Smith¹, J. Vick², 1. *Johns Hopkins University School of Public Health, Baltimore, Maryland*, 2. *Johns Hopkins University School of Medicine, Baltimore, Maryland*, 3. *Johns Hopkins University School of Nursing, Baltimore, Maryland*

Older adults with cognitive impairment face significant challenges when communicating with health care providers and navigating today's health care environment. Few interventions specifically capitalize on the fact that many older adults with cognitive impairment attend medical visits with a family companion. This presentation highlights modifications to an evidence-based, agenda-setting communication intervention that: (1) elicits and aligns patient and companion perspectives regarding patient health issues to discuss with the doctor and (2) stimulates discussion about the companion's role in the visit. A prior trial that excluded older adults with cognitive impairment found the intervention improved the patient-centeredness of visit communication. We will discuss refinements to the intervention based on qualitative findings from in-depth interviews with older adult-family companion dyads (n=20) and primary care providers (n=10). Preliminary results from a trial to test the communication intervention among older primary care patients with cognitive impairment and their companions will be presented.

PATIENT AND FAMILY PERSPECTIVES ON MEDICATION MANAGEMENT FOR OLDER ADULTS RECEIVING HOME HEALTH CARE

O. Sheehan¹, J. Gabbard², K.J. Carl³, J.L. Wolff⁴, H.H. Kharazmi⁴, B.A. Leff¹, C. Boyd¹, 1. *Johns Hopkins University School of Medicine, Baltimore, Maryland*, 2. *Wake Forrest Baptist Health, Winston-Salem, North Carolina*, 3. *Johns Hopkins Home Care Group, Baltimore, Maryland*, 4. *Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland*

Many family members of patients receiving skilled home health care are involved in the complex task of medication management. We conducted a qualitative study to explore the perspectives of 10 patients and their family members around medication management in skilled home health care. Inductive thematic analysis was used to code transcripts. Analysis revealed four themes: medication complexity, value of caregiver, communication and care coordination.

Medication complexity was the biggest issue. All patients described the value of their family member in medication management, including at times relying on family to assist with administration. Challenges included poor communication and a lack of coordinated care including difficulties resolving conflicting advice from providers. Medication regimens are challenging for older adults to navigate, with many roles and opportunities to engage families. This study informs a systematic approach to directly include and involve families in medication management of homebound older adults.

TAILORING A SUCCESSFUL PROGRAM TO A NEW POPULATION: FROM CAPABLE TO SOCIABLE

D.H. Crews², A. Delaney¹, J.L. Walker¹, L.N. Gitlin¹, R.J. Thorpe³, S.L. Szanton¹, 1. *Johns Hopkins University School of Nursing, Baltimore, Maryland*, 2. *Johns Hopkins School of Medicine, Baltimore, Maryland*, 3. *Johns Hopkins University, Baltimore, Maryland*

Older adults with end-stage renal disease (ESRD) suffer from increased morbidity, life constraining fatigue, and decreased physical function compared to those without ESRD. Many also face housing and other environmental barriers that exacerbate functional limitations and thus require more energy to complete. Using Roybal pilot funds, we conducted focus groups among older adults with ESRD to inform an adaptation of an established intervention for older adults with functional limitations, CAPABLE. The results of 3 focus groups involving 7 people showed that participants felt socially isolated from their families, that the fatigue and time constraints of dialysis left it difficult to engage in social roles and that they would be interested in participating in a program which would provide participant-directed occupational therapy, and nursing visits with handyman repair/modification and assistive devices in order to improve physical and social function. Results from the resulting randomized control pilot trial will be presented.

DEVELOPMENT OF A COMMUNITY HEALTH WORKER PROGRAM TO ADDRESS HEARING LOSS

S. Mamo, C.L. Nieman, J. Suen, F. Lin, *Johns Hopkins University, Baltimore, Maryland*

Hearing loss is independently associated with social isolation, increased utilization of informal and community supports, functional decline, and incident dementia. Treating hearing loss could potentially mitigate these effects and enhance communication and social engagement, but hearing care remains unaffordable and inaccessible. The Hearing Equality through Accessible Research and Solutions (HEARS) project is a first-in-kind community-based intervention to provide affordable and accessible hearing care to older adults and their communication partners to improve well-being and social engagement. Through a community-engaged process, we have developed a curriculum to train community health workers to provide the HEARS intervention. Five community members who participated in the HEARS feasibility study participated in a series of focus groups and mini-training sessions to guide the development of a comprehensive, practice-based curriculum. We will present qualitative results and analyses that demonstrate the relationship between the themes discussed by the community members and the curriculum.

SESSION 5135 (PAPER)

AGING AND TECHNOLOGY: DIGITAL DIVIDE AND DIGITAL BENEFITS

DIGITAL DIVIDE: UNDERSTANDING DIFFERENCES IN ICT LITERACY IN THE CANADIAN CONTEXT

C. Kim, J. Fast, *University of Alberta, Edmonton, Alberta, Canada*

We know that inequality in access to the Internet is significantly related to socio-demographic inequalities, but we know far less about how other aspects of the “digital divide”, such as information and communication technology (ICT) literacy, are related to these same inequalities. The present study uses a sample of 21,189 Canadian respondents to the Program for the International Assessment of Adult Competencies (PIAAC) survey, to examine relationships between sociodemographic factors and ICT literacy and how those relationships differ by age. ICT literacy is measured as respondents’ scores on the PIAAC problem solving in technology-rich environments module. Results indicate that baby boomers scored significantly lower on the ICT literacy scale than younger counterparts. Results of multiple regression analyses are consistent with prior research on the digital divide indicating that social disparities in Canada in ICT literacy are related to gender, education, income, type of occupation, immigrant status, language spoken at home, and everyday experience with computers. When these relationships are examined across age groups, findings consistently indicate that being a man and having a skilled job or higher education are significantly and positively related to ICT literacy. However, older adults were found to be more disadvantaged in terms of ICT literacy by lower educational attainment than their younger counterparts while women aged 25+ are more disadvantaged than women under age 25 compared to their male counterparts. Overall, our findings show that the risk factors for lower levels of ICT literacy are similar to those for poorer access to the Internet.

ICT UTILIZATION PATTERNS: INCOME AND RACIAL DIFFERENCES IN OLD AGE

B. Kim¹, J. Jeon², C. Amorim³, K. Cox¹, M. Kimura¹, 1. *University of New Hampshire, Durham, New Hampshire*, 2. *Eastern Connecticut State University, Willimantic, Connecticut*, 3. *Institute of Professional Practice, Inc., Concord, New Hampshire*

Recent studies have shed light on the beneficial effects of information and communication technologies (ICT) on well-being in old age. This study identified ICT utilization patterns among older adults, and investigated the effects of income on ICT utilization patterns and how these associations differ across racial/ethnic groups.

We used the 2012 Health and Retirement Study, a nationally representative panel survey of individuals 51 years or older. Our sample was restricted to respondents over 65 years, who participated in a special survey about ICT utilization (N=863). ICT utilization patterns were identified with Latent Class Analysis based on the use of internet-based

communication, social network sites, smartphone, exercise equipment, health monitoring device, and online health information. Multinomial logit models were used to analyze the associations between income, race/ethnicity, and ICT utilization patterns.

Four ICT utilization patterns were identified including multifarious (7%), ecommerce-oriented (11%), fundamental (27%), and minimal users (55%). Low income and African American elders were more likely to be minimal users. Hispanic elders were more likely to be multifarious users or minimal users. ICT utilization patterns significantly varied depending on income levels among African American elders. High income African American elders were more likely to be multifarious or ecommerce-oriented users. Among Hispanics, ICT utilization patterns were not significantly different across income groups.

ICT utilization patterns differ across income and racial/ethnic groups. This study suggests that social services related to ICT for elders should target minority groups, particularly low income and African Americans who need additional attention and support.

EMBODIED CONVERSATIONAL AGENTS: TECHNOLOGIES TO SUPPORT OLDER ADULTS WITH MILD COGNITIVE IMPAIRMENT

G. Demiris¹, H. Thompson¹, A. Lazar², S. Lin¹, 1. *University of Washington, Seattle, Washington*, 2. *Northwestern University, Evanston, Illinois*

Various information technology applications with anthropomorphic or animal features (in order to generate likeness to a human or pet) have emerged, referred to as embodied conversational agents (ECAs), with the goal to engage older adults in conversations, with the ultimate goal to deliver health coaching, reminders, reminiscence therapy and address isolation and loneliness. We present findings from a longitudinal feasibility study assessing a digital companion system for ten older adults (average age 78.3 years) with mild cognitive impairment. The system was a tablet-based digital pet avatar that included features such as conversation ability, use of pictures and other media, and reminders. Participants used the system daily for 3 months and scored higher at the end of the study in cognition and social support scales (measured with the Montreal Cognitive Assessment and the MOS-Social support), with the largest benefit seen, as hypothesized, in the positive social interaction subscale. Participants scored lower in presence of depressive symptoms after study completion as assessed by the Patient Health Questionnaire PHQ-9. Interviews demonstrated that participants saw value in interacting with the system. Many appreciated the pet-like features and felt they developed attachment to it over time. Concerns included technical issues related to Internet connectivity and the repetitive nature of conversations. Our findings informed the creation of design recommendations for ECAs to support aging. We specifically focus on usability, responsiveness, ways to effectively engage clinicians and family members, as well as high-light ethical issues stemming from the use of ECAs by older adults with cognitive impairment.

TABLET-BASED TECHNOLOGY INTERVENTION TO IMPROVE OUTCOMES IN HOSPITALIZED OLDER ADULTS

S. Wexler, L. Drury, C. Pollak, *Pace University, New York, New York*

The purpose of this study was to examine the effect of an avatar virtual service animal on cognition, loneliness, depression, delirium, falls and restraint use in hospitalized older adults. The virtual pet speaks to the client, displays a full range of emotions and responds directly to client questions and touch. The study was conducted in a metropolitan teaching hospital. Participants on the intervention unit received the tablet based avatar virtual service animal for their entire hospital stay. Participants on the control unit received a daily visit from a nursing student. Measures (MOCA, 3 Item UCLA loneliness scale, GDS, and CAM) were administered upon study enrollment and prior to discharge. A total of 200 older adults hospitalized on two medical surgical units were enrolled, 100 who received the intervention and 100 controls. All patients were over the age of 65 (mean 80, range 65–96), English speaking, and admitted for a medical diagnosis. There was no significant difference in MOCA scores for participants on the intervention and control units at both study enrollment and study completion. On the intervention unit, there was a statistically significant difference in loneliness scores ($p < 0.001$), and depression scores ($p < 0.001$). There were no significant changes for all measures on the control unit. Fall rates, and hours of restraint use were statistically significantly lower on the intervention unit ($p < 0.001$). There were too few incidences of delirium on both units to allow for statistical modeling. Study findings support the use of this innovative technology for hospitalized older adults.

TABLET-BASED INTERVENTION FOR NURSING HOME RESIDENTS WITH DEMENTIA: A CLUSTER RCT

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Approximately 65% of nursing home residents suffer from Alzheimer's disease and related disorders (ADRD). Therefore, psychosocial interventions for dealing with ADRD related symptoms play an important role in residential care. Recent findings suggest that Information and Communication Technologies (ICTs) can be effective tools for supporting dementia care delivery. However, more systematic research is needed on specific benefits of ICTs in dementia care. In order to investigate effects of a tablet-computer-based intervention on Quality of Life and Behavioral Symptoms in nursing home residents with ADRD, a cluster-randomized controlled trial (cRCT) is currently underway in 10 nursing homes (N=200, MMSE<24, 5 experimental-, 5 control-group facilities) in Berlin. Over a period of 8 weeks, experimental group participants engage in 3 supervised 30-minute tablet sessions/week using adaptive tablet-applications targeting cognitive and functional abilities and supporting emotional self-regulation. Control group participants receive an equal amount of individual sessions without tablets. Dementia-related Quality of Life, Cognition and Behavioral Symptoms are assessed at baseline

and after intervention. Additionally, assessments of mood and behavior are conducted before and after each activation session in both groups. So far, n=29 participants (14 experimental group) have been included in the on-going cRCT. Preliminary results indicate a significant ($p < .01$) increase of the ratings for happiness (from 5.4 to 6.0), social behavior (from 5.1 to 5.6), and mood (5.0 to 5.5) in the experimental group. In the final analysis behavioral data (app parameter) will be also included.

SESSION 5140 (PAPER)

GERONTOLOGY AND GERIATRICS EDUCATION AND RESEARCH METHODS

AGING AND HEALTH AS A THEME IN LEARNING OUTCOME DESCRIPTORS IN NORWEGIAN BACHELOR PROGRAMS

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Current policy guidelines specify that the capacity and quality of Norwegian health and social educational programs must be strengthened to meet the increasing proportion of elderly people's need for treatment, rehabilitation and residential care. This project highlights how themes associated with aging and health are visualized in learning outcome descriptors for bachelor programs in physiotherapy, occupational therapy, social work, nursing, and social education.

A text analytical approach was used in reviewing all learning outcome descriptors relevant to the selected bachelor programs. Direct and indirect references to aging and health related themes in learning outcome descriptors were registered on three levels: First level was the Norwegian National Framework Plan – one plan is designated for each of the five bachelor programs. Second level was the individual educational institution's Bachelor Program Plan. A total of 54 higher education institutions offering fulltime programs in physiotherapy, occupational therapy, social work, nursing, and social education were included at this level. Third level consisted of all these institutions' locally offered courses.

The strengthening of themes related to aging and health is not visible in the bachelor programs reviewed. Rather, results illustrate that such themes were under-communicated in broad and general learning outcome descriptors across levels. The extensive use of terms emphasizing a lifespan perspective in learning outcome descriptors contributed to conceal the programs' or courses' focus on aging and health. A better clarification of how age groups, such as the elderly, are weighted in when a lifespan perspective is used in learning outcomes descriptors is encouraged.

NEW WAYS TO REDEFINE OLD AGE

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Most studies of population aging focus on only one characteristic of people: their chronological age. For example, the Old Age Dependency Ratio categorizes people as "old"

at age 65, regardless of whether they were living 50 years ago or likely to be living 50 years in the future. But 65-year-olds today generally have higher remaining life expectancies and are healthier than their counterparts in previous generations. Age-specific characteristics vary over time and place. Focusing on only one aspect of the changes entailed in population aging but not on all the others provides a limited picture that is often not appropriate for scientific study or policy analysis.

The presentation will be devoted to new ways of measuring aging that more accurately represent the real world. It will be shown that once more adequate measures of aging are used past aging looks very different and in countries with high life expectancy almost no aging was observed. Future aging trends look much less gloomy when new indicators of aging are used compared to traditional approaches.

The recently developed characteristics approach for the study of population aging will be introduced and used in evaluating differences in aging across space and time. The main idea of the approach is the conversion of different characteristics that reflect people's physical, cognitive or health conditions to a single metric. The hallmark of the approach is the consistent use of changing characteristic schedules together with changing age structures, regardless of the exact way in which the two are combined.

REPRESENTATIONS OF PERSONS LIVING WITH DEMENTIA AND SEXUALITY IN THE NEWS

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News media are an important source of information about dementia, and can influence public attitudes towards persons living with this disease. The purpose of this research was to explore public understanding of sexuality and dementia by investigating how this issue was represented in English language online news media sources (e.g. articles, editorials) from North America and the UK published between 2014 and 2015. These publications were analyzed discursively by drawing on critical disability, sexuality and dementia scholarship to identify and interrogate dominant discourses within which sexuality and dementia are described and understood. The analysis demonstrates that representations are predominantly negative, consisting of descriptions of sexual violence or harassment committed by or against persons living with dementia. Examples included reports of spouses of persons with dementia charged with sexual assault, reports of sexual assaults committed by residents with dementia living in long-term care, and reports of men with dementia exhibiting "inappropriate sexual behaviors" in public. These representations very rarely featured the voices or perspectives of persons living with dementia, and reflect stereotypical and essentialist ideologies about the nature of dementia, gender norms, and socio-cultural anxieties about older and disabled sexualities. These findings demonstrate that media representations construct the sexuality of persons with dementia as revolting and dangerous, or the abject. In doing so, they contribute to the ongoing stigmatization of persons with dementia and the suppression of their sexual rights. There is thus a critical need for advancing alternative representations that

challenge stigmatization of the sexual lives of persons with dementia.

IS OUR CITY 'AGE-FRIENDLY'? BEING AGED AND POOR IN A SUPRA-CAPITALIST SOCIETY

Y. Kwok, *Department of Applied Social Sciences, Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong*

'Age Friendly City' initiated by World Health Organization (WHO) is now a buzzword in Hong Kong. The Policy Address by the Chief Executive 2016 promotes such concept. However, when the organic unity of the 'city' is 'undone, dismembered and dislocated' by capitalism (Lefebvre), it is difficult to make the urban environment 'friendly'. In Hong Kong, a supra-capitalist society where the Gini-coefficient for households surges to 0.537 (2011), and 1/3 of residents aged over 65 lives below the poverty line, it is almost impossible to rely on the 'Age Friendly City' guidelines, requiring only minor adjustments on government policy, to enable poorer elders to live a life with quality.

Using methods of ethnographic observation and in depth interview, our research has explored how older homeless people, ageing scavengers and illegal hawkers used the public space as a place for daily living, for earning their daily bread, for social participation and networking --- that means for life. Applying the theories of social gerontology, critical geography and urban poverty, our paper will discuss critically the spatiality of these poorer elders, their adaptation to the drastic living environment and tactics of resistance. Our qualitative methodological approach would not only offer an intense dialogue between the theories for interpretation and the empirical cases, it will also reveal the capitalist ideology embedded in the WHO Age Friendly City guidelines which excludes the older people of the grassroots class to lead their life in the public space.

SESSION 5145 (PAPER)

INTERGENERATIONAL ISSUES/FAMILY AND INTERGENERATIONAL RELATIONS

OCCUPATIONAL MOBILITY AMONG BROWN-COLLAR OCCUPATIONS AND THE IMPLICATIONS FOR AGING-RELATED ISSUES

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As the number of Latinos in the United States continues to increase, aging-related issues within this group must be addressed. This paper examines occupational mobility among Latinos in brown-collar occupations, a crucial step toward long-term economic security. Previous literature has identified barriers to occupational mobility among Latinos: citizenship status, English language ability, educational attainment, and industry. Utilizing U.S. Census Bureau data, these barriers were examined to determine whether Latinos were able to transition out of brown-collar occupations over a ten-year period. Data were included for Baby Boomers

(Boomers) aged 25–40 in 1990 (using 1990 and 2000 decennial census data) and Generation X (GenXers) aged 25–40 in 2005 (using 2005 and 2015 American Community Survey/ACS data). Brown-collar occupations were defined based on occupations in which Latinos were over-represented in the 1980 decennial census (e.g., machine operators, farm workers). Latino Boomers decreased their brown-collar employment, from 18.8% in 1990 to 17.8% in 2000; by contrast, Latino GenXers only decreased from 19.6% in 2005 to 19.0% in 2015. Brown-collar incomes failed to keep up with non-Latino white workers, especially for Latino GenXers. Differences exist, however, by immigrant status. Based on the income stagnation of brown-collar employment, occupational mobility must be encouraged and supported among younger Boomers and GenXers in the U.S. Failure to do so will make worklife economic security more elusive and prospects for long-term retirement security grim. This economic insufficiency will have implications not only at the micro level, but also for social programs and federal, state, and local governmental budgets.

INTERGENERATIONAL LIVING ARRANGEMENTS OF OLDER THAI ADULTS AND THEIR PSYCHOLOGICAL WELL-BEING

S. Punpuing¹, B. Ingersoll-Dayton², K. Tangchonlatip¹, W. Huttaphet¹, 1. *Institute for Population and Social Research, Mahidol University, Salaya, Nakhonpathom, Thailand*, 2. *University of Michigan, Ann Arbor, Michigan*

Recent social and economic developments in Thailand have resulted in increasing migration from rural villages to urban centers. This trend has led to varying living arrangements for older people: skipped generation households, three generation households, older couple households, and older individuals living alone. The objective of this paper is to identify associations between the living arrangements of older adults and their psychological well-being. Data are based on a household study of 1,140 persons age 60 and over living in Kanchanaburi province, Thailand. Multiple regression analyses are employed. Results indicate that older couple households experience higher psychological well-being than those in three generation households. The effects of living arrangements disappear when controlling for demographics variables (e.g., age, gender, health, working status). Other significant predictors of well-being emerge: the amount of remittances from children, satisfaction with support from children and grandchildren, and satisfaction with support to children and grandchildren. Discussion of these findings will highlight some of the reasons for difficulties within intergenerational living arrangements. Also discussed will be the importance of social and cultural factors related to older people's psychological well-being. Implications for practice and policy to improve quality of life for aging individuals in Thailand will be provided.

MANAGEMENT OF CONFLICT BETWEEN GRANDPARENTS AND THEIR ADULT CHILDREN IN THAILAND

K. Tangchonlatip¹, B. Ingersoll-Dayton², S. Punpuing¹, 1. *Mahidol University, Salaya, Nakhon Pathom, Thailand*, 2. *University of Michigan, Ann Arbor, Michigan*

A common phenomena in rural Thailand is that adult children migrate to find work and leave their children behind in the care of their grandparents. The resulting living arrangement is referred to as a skipped generation household. This arrangement can benefit the intergenerational family but can also be associated with conflict. The present study explores how the members of skipped generation households manage the conflicts that occur. In-depth interviews were conducted with 48 grandparents in rural Thai skipped generation households. Using qualitative analysis, a variety of conflictual areas between grandparents and their adult children were identified. Conflictual areas included: the decisions made by migrant adult children; how to raise and discipline the grandchildren; and inconsistent remittances from the migrant children to the grandparents. Discussion will focus on the context of Thailand and the relationship between migration and conflict. Buddhist teachings play an important role in the way families react to conflict because children are taught to be accepting and to avoid arguments with their parents. Therefore, non-interference is a common strategy to avoid the escalation of conflict. Migration can result in family conflict but it can also be a strategy to avoid family conflict. That is, when conflict becomes intense, grandparents may encourage their adult children to migrate and offer to care for the grandchildren. Interventions that help families deal with stress and conflict will be discussed and adaptations to the cultural context of Thailand will be highlighted.

WORRIES OF THAI GRANDPARENTS IN SKIPPED GENERATION HOUSEHOLDS

B. Ingersoll-Dayton¹, S. Punpuing², K. Tangchonlatip², 1. *University of Michigan, ANN ARBOR, Michigan*, 2. *Mahidol University, Salaya, Nakhon Pathom, Thailand*

While skipped generation households occur throughout the world, the proportion of older people in Thailand who live in these families has been rapidly growing and is now as high as 15% in rural areas. In Thailand, most of these skipped generation households are the result of adult children who have migrated to find work and left their own children in the care of their grandparents. Previous research has focused on the migrants; however, much less is known about the grandparents who are left behind to provide childcare. This presentation focuses on in-depth interviews with 48 Thai grandparents living in skipped generation households. While many of the grandparents discuss the joys of providing care, they also acknowledge the worries associated with such care. Using interpretative phenomenological analysis, we examine these worries and develop a typology of concerns experienced by caregiving grandparents: worries about their grandchildren (i.e., their education and family relationships), worries about their adult migrant children (i.e., their work-related stress and marital relationships) and worries about themselves (i.e., their health and income). Perhaps overriding all these worries are the grandparents' concerns about the future. That is, what will happen to the grandchildren if their own health makes it impossible to provide care? Discussion of these findings focuses on programs and policies that could address the concerns expressed by grandparents and provide support to skipped generation households in Thailand.

SUBJECTIVE WELL-BEING OF CHINESE ELDERS WITH MIGRANT CHILDREN: THE ROLE OF FAMILY AND SOCIAL SUPPORT

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Objectives: Addressing the crucial intersection between aging and international migration, this study examined the ways in which family and social support could protect the psychological well-being of Chinese older adults in transnational families. **Methods.** Using a purposive sample of 292 Chinese older adults in Beijing who had at least one child moving abroad, multiple linear regressions were performed to predict depression (assessed by CES-D) and life satisfaction (assessed by Satisfaction with Life Scale), respectively, using indicators of family support (monetary, instrumental, and emotional support from children) and social support (number of friends the respondents had), while controlling for socio-demographic variables and physical health. Logistic regressions were further performed to predict the likelihood of worrying about lack of care using the same predictors. **Results.** Among the three types of family support, only emotional support from children was associated with lower depression and higher life satisfaction. Such findings remained the same when social support was added in the models, which was also associated with lower depression and higher life satisfaction. But having more friends, not having close relationships with children, was associated with a lower chance of worrying about lack of care in the future. Having more friends also buffered the negative influence of having poorer physical health or poorer relationships with children on older adults' life satisfaction. **Discussion.** Social support could be as important, if not more, as family support for older adults in transnational families. Future studies and programs shall look into the ways to strengthen this alternative support.

SESSION 5150 (SYMPOSIUM)

NEW DIRECTIONS FOR RESEARCH ON PERSONALITY TRAITS AND HEALTH IN OLDER ADULTHOOD

Chair: P. Hill, *Washington University in St. Louis, Missouri*

Consistently, research has demonstrated associations between dispositional traits and health outcomes, including mortality risk. One commonly reported mechanism is through health behavior, insofar that our personalities influence our tendencies to enact healthy lifestyles. However, a few critiques can be levied on the existing work. For instance, work is needed that provides greater specificity regarding the associations between personality and health behaviors, particularly with respect to how personality shapes one's perceptions of the risks and benefits involved. Furthermore, research is needed to link personality to more intermediary health outcomes that may help understand when and why traits are associated with mortality risks. Finally, researchers

typically have relied upon the Big Five trait taxonomy (extra-version, agreeableness, conscientiousness, neuroticism, and openness to experience), which may fail to provide a comprehensive picture of how personality influences healthy aging.

The current talks each address one or more of these concerns. First, Jackson and Weston provide a thorough examination of how personality traits influence older adults' likelihood to adhere to their medication, focusing on how traits may impact adherence for different reasons. Second, Sutin and Terracciano investigate the linkage between conscientiousness and arterial health, an important intermediary, physiological health outcome when considering mortality risk. Third, Condon and colleagues present an alternative approach to considering personality and health risks, which improves on the predictive value provided by "only" investigating the Big Five. Finally, Lewis and Hill similarly move beyond the Big Five by considering purposefulness as a predictor of disease onset.

CONSIDERING THE NUANCED ROLE OF PERSONALITY TRAITS ON NONADHERENCE

J.J. Jackson, S.J. Weston, P. Hill, *Washington University in St. Louis, St. Louis, Missouri*

Personality traits have been consistently associated with one's likelihood to adhere to medication, providing a process by which personality traits influence health outcomes. Unfortunately, past work has failed to comprehensively investigate when and why specific personality traits are associated with adherence. Using two samples from the Prescription Drug Study (N = 4808; a subset of the Health and Retirement Study), the current investigation examines the factors (costs, forgetfulness, side effects, health) that influence medication adherence across time, and their associations with Big Five personality traits. Multi-level models examined within-person fluctuations in medication adherence. Greater neuroticism predicted non-adherence when medications were perceived as costlier and less important for health. Lower conscientiousness predicted nonadherence when self-rated health was higher and when medications were perceived to be inexpensive and have more side effects. Findings are discussed with respect to the value of considering adherence as a multifaceted construct when associating it with personality.

PERSONALITY AND ARTERIAL HEALTH: CONSCIENTIOUSNESS PROMOTES BETTER CARDIOVASCULAR HEALTH

A. Sutin, A. Terracciano, *Florida State University, Tallahassee, Florida*

Conscientiousness is a consistent protective factor against morbidity and premature mortality: Individuals higher in the tendency to be organized and disciplined develop fewer diseases and live longer. These associations are hypothesized to be mediated through both behavioral and physiological mechanisms. Yet, more is known about the behavioral correlates of Conscientiousness than the physiological ones. In this study (N=5,614), we examined whether Conscientiousness was associated with carotid artery intima-media thickness, a measure of arterial wall thickness that is predictive of cardiovascular outcomes. Participants who scored higher in Conscientiousness had thinner (i.e., healthier) arterial walls ($p<.01$). Among the facets of Conscientiousness, the strongest

associations were with order, dutifulness, and self-discipline ($ps < .01$). These associations were independent of a range of behavioral and cardiovascular covariates. The results suggest that arterial health may be one mechanism through which Conscientiousness contributes to healthier aging.

PERSONALITY TRAITS (. . . BUT NOT THE BIG FIVE) PREDICT THE ONSET OF DISEASE

D.M. Condon¹, S.J. Weston², A. Khan¹, D.K. Mroczek¹, 1. *Northwestern University, Evanston, Illinois*, 2. *Washington University in St. Louis, St. Louis, Missouri*

The utility of personality measures as predictors of distal outcomes (e.g., mortality, longevity) is well-documented. Few have reported on more proximal outcomes; one prominent exception (Weston, Hill, & Jackson, 2014) considered personality predictors of chronic disease onset. We report here on efforts to (1) replicate their findings in a second cohort of participants from the Health and Retirement Study and (2) extend their analyses to evaluate the effects of socioeconomic factors. For 7 chronic diseases and the Big Five scales, the only significant measure in both samples when controlling for SES was Openness as a protective factor in the development of a heart condition. SES, by contrast, was a significant predictor in more than one-third of the models. We also demonstrate methods for empirically deriving outcome-specific scales with substantially improved predictive utility and advocate for broader use of these methods when prediction is more important than taxonomic description.

SENSE OF PURPOSE IN LIFE AND RISK FOR ONSET OF CHRONIC ILLNESSES

N. Lewis¹, P. Hill^{2,1}, 1. *Carleton University, Ottawa, Ontario, Canada*, 2. *Washington University in St. Louis, St. Louis, Missouri*

Chronic health conditions have become increasingly common in recent years and may prove to become an even greater problem given the aging population. Having a sense of purpose in life has been linked to a reduced risk for several chronic health conditions, though the mechanisms behind this relationship remain underexplored. The current study examined whether purpose in life predicts risk for development of seven common chronic ailments (arthritis, cancer, diabetes, high blood pressure, heart conditions, lung disease, and stroke) over an eight-year period using data from the Health and Retirement Study. Bootstrapping tests were used to examine the direct effect of purpose on onset of illnesses, as well as potential health behaviour mediators (physical activity, alcohol, smoking, and sleep quality). Sense of purpose in life was associated with onset for some but not all conditions. Results will be discussed in the context of implications for future research and practice.

SESSION 5155 (SYMPOSIUM)

INTERNATIONAL ADVANCES IN INTERPROFESSIONAL GERIATRIC MEDICINE EDUCATION

Chair: A. Blundell, *Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom*

Co-Chair: R. Roller-Wirnsberger, *Medical University of Graz, Graz, Austria*

Discussant: A. Gordon, *University of Nottingham, Derby, Derbyshire, United Kingdom*

With our ageing population there is increased recognition of the needs of older adults with frailty within health systems. The UK's Health Service Journal reported in 2015 that older adults with frailty, dementia and multiple co-morbidities are now "core business" in all health and social care settings. Comprehensive Geriatric Assessment is an evidence-based model of care that delivers better outcomes for older adults with frailty and which mandates a multidimensional and interprofessional approach. All healthcare professionals require the core skills to deliver CGA to keep pace with the growing prevalence of frailty in all care sectors. This will require competencies in interprofessional working best attained through interprofessional learning. Further international emphasis on interprofessional working has been stressed by the World Health Organisation in their publication "Framework for Action on Interprofessional Education and Collaborative Practice".

This symposium presents recent advances in interprofessional geriatric medicine education in Europe including both policy and curriculum development in addition to novel approaches in interdisciplinary teaching. The subject areas cover both undergraduate and postgraduate arenas and include reference to patient and public partners and involvement of patients within educational programs.

DEVELOPMENT OF THE ROLE OF AN ADVANCED NURSE PRACTITIONER IN GERIATRIC MEDICINE IN THE UK

S. Goldberg², A. Blundell^{1,2}, J. Cooper¹, A. Gordon², T. Masud¹, R. Moorchilot¹, 1. *Geriatric Medicine, Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom*, 2. *University of Nottingham, Nottingham, United Kingdom*

Advanced Nurse Practitioners (ANP) are experienced nurses who undertake activities traditionally performed by medical staff. There are four pillars of advanced practice: advanced clinical skills, leadership/management, education and service development/research. ANPs are starting to specialise in the care of older people with frailty. The education of the ANPs in core geriatric topics has been core to the success of this project. Both the learning and service provision is interprofessional, allowing the ANPs and junior doctors to learn with and from each other, improving collaboration and care quality.

To ensure consistency in standards, we have developed a role description and ANP competencies through a Modified Delphi process. The development of the curriculum, the continuing professional development and the implementation of the integration of our ANPs into the medical ward teams will be presented. In addition we will share the results of an independent service evaluation that is currently taking place.

THE EUROPEAN INTERDISCIPLINARY COUNCIL ON AGING: A HUB FOR RESEARCH, EDUCATION, AND KNOWLEDGE

R. Roller-Wirnsberger, *Medical University of Graz, Graz, Austria*

Numerous policy initiatives across EU member states have been put in place in order to analyze and deal with the impact of this development e.g. on future concepts of welfare states, on health care demands, on respective access and

service delivery etc. Solution approaches developed so far confirm that all these impacts and consequences for ageing societies are intrinsically intertwined and the need for interdisciplinary approaches are undisputed. The core motivation of EICA is therefore to put an interdisciplinary focus on daily life related questions concerning *ageing, health and care* and to foster adequate education strategies and knowledge translation programs based upon research and research analyses, (Evidence based interdisciplinary Education) in Europe. The talk will outline the educational concept of EICA and how to foster an interdisciplinary knowledge translation towards various professional groups involved into the topic of aging and to foster knowledge transfer towards the general public and lay persons.

THE VALUE OF INTERPROFESSIONAL FEEDBACK AS PART OF A PRE-REGISTRATION MODULE IN GERIATRIC NURSING

A. Hutchinson¹, S. Tiplady¹, E. Tullo², 1. *Northumbria University, Newcastle, United Kingdom*, 2. *University of Newcastle, Newcastle, United Kingdom*

Pre-registration interprofessional education is often difficult to organise due to separation of healthcare disciplines by institution, culture and learning needs. One way to introduce an element of interprofessional learning to a single discipline - in this case nursing - is to bring together an interprofessional faculty team to offer students feedback from different perspectives. Pre-registration nursing students participated in a rotation of simulated scenarios relating to the care of an older patient, role-played by a service-user. Following each station, students received feedback from faculty members representing nursing, physiotherapy, social work and medicine, allowing them to question and reflect upon the key roles of each of the team members. Evaluation of this approach demonstrated that students and faculty members all benefited from the opportunity to rehearse interprofessional assessment in a variety of simulated scenarios, based on a shared aim of providing appropriate care for an older patient.

IMPLEMENTATION OF A NOVEL INTERPROFESSIONAL UNDERGRADUATE GERIATRIC MEDICINE SIMULATION SESSION

T. McGowan^{1,2}, A. Blundell¹, J. Mjojo¹, F. Moffatt², J. Pattinson¹, 1. *Geriatric Medicine, Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom*, 2. *University of Nottingham, Nottingham, United Kingdom*

A multi-professional simulated teaching session was developed for nursing, physiotherapy and medical students training at a large UK teaching hospital to assess and manage older patients. Topics included comprehensive geriatric assessment, incontinence, delirium, elder abuse and a complex multi-disciplinary team meeting with a distressed carer. A multi-disciplinary faculty debriefed each scenario immediately, with eight simulation days per year.

73 fourth-year medical students, 18 nursing students and 5 physiotherapy students have participated since February 2016. Both perceived (measured using a Likert scale) and actual knowledge (multiple choice questions) increased significantly following the session. Students participating from July 2016 onwards will also complete the Readiness for

Interprofessional Learning Scale before and after the day, the results of which will also be presented. This suggests that inter-professional simulation can be used effectively to teach geriatrics, and both the implications and challenges of this will be discussed.

SESSION 5160 (SYMPOSIUM)

MEASURING PHYSICAL RESILIENCE IN OLDER ADULTS: TRAJECTORY, PHENOTYPE, AND AGE DISCREPANCY APPROACHES

Chair: C. Colon-Emeric, *Duke University, Durham, North Carolina*

Co-Chair: H. Whitson, *Duke University Medical Center & Durham VA*

Discussant: K.J. Bandeen-Roche, *Johns Hopkins University*

As the global population ages, identifying ways to optimize recovery following acute and chronic stressors will be important to public health. Understanding “physical resilience”, a characteristic at the whole person level which determines an individual’s ability to resist functional decline or recover physical health following a stressor, is therefore of intense interest. Physical resilience is thought to be constrained in part by underlying physiologic reserve across organ systems, and further influenced by factors such as genetics, the environment, and psychosocial factors including psychological resilience. Measuring physical resilience is a critical but challenging first step in identifying potential pathways for intervention.

This symposium will discuss three potential approaches to measuring physical resilience in older adults, with examples from ongoing research by an interprofessional group of investigators. First, we describe the use of functional trajectories to measure physical resilience, both at an individual patient level using perioperative activity monitors, and at a population level using administrative data. Second, we describe attempts to define a resilient phenotype with in-home video telehealth gait and balance assessment and using dual task stress testing. Finally, we describe an age discrepancy approach to measuring physical resilience by quantifying the difference between observed and predicted levels of readily available biomarkers based on chronological age. Once validated as predictors of functional outcomes following stressors in diverse populations, these measurements can be used in studies aimed at improving physical resilience and active life expectancy in older adults regardless of the underlying stressor.

CAN WE MEASURE RESILIENCE FROM ADMINISTRATIVE AND SECONDARY SOURCES OF DATA?

J. Prvu Bettger, *Duke University, Durham, North Carolina*

Administrative claims data aimed to measure health resource utilization is being used in the U.S. to examine patient outcomes of rehospitalization and mortality. While both are important markers of health decline, a third measure “home-time” (number of days alive and out of inpatient care) is emerging as a patient-centered outcome measure for an episode of care. In a national sample of 815 stroke patients treated at 88 hospitals, the Pearson correlation coefficient

between home-time within 12 months of an acute admission and functional independence was 0.713 (p-value<0.0001). The c-index of 1-year home-time predicting 12-month independence was 0.828. Home-time varied by both patient and healthcare characteristics in analyses of 156,887 stroke patients from 989 hospitals. In this presentation we demonstrate how examining consecutive days at home (rather than total) and integrating administrative data on service availability and use of assistive devices can provide more insight into resilience after an acute hospitalization.

USE OF PHYSICAL ACTIVITY TRACKERS TO MEASURE RESILIENCE PRE- AND POST-SURGERY AMONG OLDER ADULTS

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Resilience is often defined as the ability to bounce back or recover from a stressor. Using surgery as the stressor, we used Garmin Vivosmart® activity watches to measure trajectories (step counts) of older adults from the time of decision to undergo elective surgery through postop day 30. Participants were identified through the Durham VA Perioperative Optimization of Senior Health clinic (POSH), an innovative multidisciplinary preoperative clinic for older veterans (65+). Nine of 10 invited Veterans agreed to wear and use the device with a single training session. They also received weekly counseling calls to increase activity. Mean daily step counts were: 2256 at pre-op baseline, 5628 pre-op post-counseling, 2426 day of surgery or admission, 713 on day of discharge, 3022 during recovery, and 4501 at 30-day post-surgery visit. Use of physical activity trackers, collecting pre-stressor, stressor, and post-stressor measures is a promising method of assessing resilience in a vulnerable population.

RESILIENCE, RESERVE, AND PHYSICAL PERFORMANCE

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Resilience and reserve are related. Resilience can be conceived of as tolerance to challenge, while reserve represents excess capacity. Both can be assessed using performance measures that extend the ability to discriminate levels of health. Resilience can be assessed by challenge tests such as dual task protocols while reserve can be assessed by adding more difficult items to existing performance tests. Resilience and reserve testing are most appropriate for individuals who perform at or near the ceiling on a performance test, while such high level testing can result in missing data in persons with poor performance. Using data from the Baltimore Longitudinal Study of Aging, examples of the benefits and limitations of tests of resilience and reserve will be presented.

QUANTIFICATION OF BIOLOGICAL AGING FOR TESTING GEROPROTECTIVE INTERVENTIONS

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Biological aging refers to the coordinated deterioration of integrity across multiple systems throughout the body that

occurs with advancing chronological age. Whereas chronological aging proceeds at the same rate for everyone, biological aging proceeds faster for some and more slowly for others, possibly explaining differences in disease-free lifespan, called “healthspan.” The geroscience hypothesis posits that interventions to slow biological aging can extend healthspan. Geroprotective interventions show promise in laboratory animals. To advance human translation, methods to quantify biological aging are needed. Proposed methods include algorithms applied to clinical biomarker and genomics data. Algorithms are trained by (1) comparing older persons to younger ones; (2) analyzing a benchmark sample against which deviations can be quantified; or (3) modeling change within individuals over time. Validation comes from prediction of function, frailty, disease, and mortality. We review several published algorithms and compare them in data from the Dunedin Study birth cohort (N=954).

SESSION 5165 (PAPER)

COGNITION IN OLDER ADULTS

COGNITION IN THE OLDEST OLD MāORI AND NON-MāORI: A PROSPECTIVE DIAGNOSTIC TEST ACCURACY STUDY

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Objective: Cognitive decline is a rapidly evolving condition affecting a high portion of the ageing population. Our aim was to examine the diagnostic test accuracy of the Modified Mini-Mental State (3MS), diagnosing: mild cognitive impairment (MCI), cognitive impairment, or dementia. A clinical assessment following standard Memory Clinic criteria and a multidisciplinary discussion of each case was used as the reference standard.

Study design and setting: This study was a multisite sub-study from a large prospective cohort study (LiLACS-New Zealand [NZ]) of the oldest old indigenous people, Māori and also non-Māori to determine the predictors of successful advanced ageing. The 3MS and the reference standard were administered to 73 participants (n=32 Māori; n=41 non-Māori). This study adhered to Standards for Reporting of Diagnostic Accuracy Studies.

Main outcome measures: Diagnostic accuracy indicators used were: receiver-operating characteristics curves (ROC), area under the curves (AUC), sensitivity and specificity.

Results: Māori life expectancy and variation in health differs when compared to non-Māori and these rationales were used when the LiLACS-NZ cohort was constructed. Taking this into account the analyses were completed separately. To optimize the predictive validity of the 3MS ideal cut-offs were selected for Māori and non-Māori respectively: 1) MCI 90/100; 92/100, AUC, 0.75; 0.58, sensitivity 67%; 64%, specificity 75%; 67%; 2) cognitive impairment 85/100; 88/100, AUC, 0.84; 0.77, sensitivity 70%; 73%, specificity 87%; 83%; and 3) dementia 80/100; 84/100, AUC, 0.87; 0.90, sensitivity 83%; 83%, specificity 90%; 80%.

Conclusions: ROC analyses demonstrated predictive validity identifying cognitive impairment and dementia in Māori and non-Māori.

INSTRUMENTED TRAIL-MAKING TASK (ITMT) TO ASSESS DUAL-TASK AND COGNITIVE IMPAIRMENT IN ELDERLY

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Current modalities to examine cognitive impairment are often unsuitable for busy clinics, subjective, or insensitive to evaluate dual-task cost, which is essential to isolate the cognitive control component of locomotion. In this study we an innovative instrumented trail making task (iTMT) based on wearable sensor and human-machine interface to evaluate motor-cognitive performance in older adults.

Thirty healthy age-matched control, Mild Cognitive Impairment (MCI), and Alzheimer's Disease (AD) subjects were recruited. Participants were asked to perform iTMT tests with different cognitive-challenge levels: iTMT_{fixed}, iTMT_{random}, and iTMT_{number-letter}. Conventional TMT A&B, Montreal Cognitive Assessment (MoCA), and dual-task cost (DTC) were used as references.

Between groups difference was more pronounced, when using iTMT_{number-letter}, with average completion time of 26.3 ± 12.4 s, 37.8 ± 14.1 s, and 61.8 ± 34.1 s, respectively, for healthy, MCI, and AD groups ($p = 0.006$). Pairwise comparison suggested strong effect sizes to separate between AD and healthy ($d=1.384$, $p=0.001$) and between MCI and AD ($d=0.920$, $p=0.029$). Significant correlation was observed when comparing iTMT_{number-letter} with MoCA ($r = -0.598$, $p = 0.001$), TMT A ($r = 0.519$, $p = 0.006$), TMT B ($r = 0.666$, $p < 0.001$), and DTC ($r=0.713$, $p<0.001$). Interestingly, no noticeable correlation was observed between DTC with MoCA or TMT.

This study demonstrated proof of concept of a simple, safe, and practical iTMT system with promising results to identify cognitive and dual-task ability impairment among older adults including those suffering from MCI and AD. Future studies are warranted to confirm these observations in larger samples and iTMT's ability to track cognitive decline over time.

EXECUTIVE FUNCTION AND LIFE-SPACE MOBILITY IN OLD AGE

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Mobility is important for maintaining independence and active participation in old age. Life-space mobility assessment incorporates the extent of mobility in terms of the distance from home, the frequency of mobility and the need of assistance for mobility. Executive function (EF) is one of the most important higher-order cognitive abilities that control

and guide goal-directed actions. The aim of the study was to examine the association between EF and life-space mobility.

A cross-sectional study of 174 community-dwelling persons aged 79 to 93 years living in Central Finland, who participated in the Life-Space Mobility and Active Aging study in 2016. EF was measured with the Trail Making Test (TMT) performance and coded into tertiles according to Delta TMT; TMT-B minus TMT-A (good; Delta-TMT $\leq$ 92s, intermediate; 93-161s and poor; $\geq$ 162s). Life-space mobility was assessed using the Life-Space Assessment (LSA, range 0–120) and dichotomized to restricted; LSA $<$ 60 and unrestricted; LSA $\geq$ 60 life-space mobility. Adjustments were made for sex, age, years of education and diagnosed depression.

Mean age of the participants was 83 years and 57 % were women. 42 % of the participants had restricted life-space mobility. Logistic regression analysis revealed that people with good EF were less likely to have a restricted life-space mobility compared to those with poor EF (OR 0.394, 95 % CI 0.156–0.996) after adjustment for all covariates.

People with good executive function are less likely to have restricted life-space mobility in old age. Promoting executive function could possibly help maintain mobility and active participation in old age.

EFFECTS OF EXERCISE WITH INCREASED DIETARY PROTEIN ON COGNITION AND QUALITY OF LIFE IN OLDER ADULTS

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Progressive resistance training (PRT) and dietary protein are essential to optimize muscle health in the elderly, but both factors may also influence brain health/cognitive function via several pathways, including the regulation of various neurotrophic factors [brain-derived neurotrophic factor (BDNF)] and/or the modulation of systemic inflammation. The aim of this study was to investigate the effects of a multi-modal exercise program (aerobic+PRT) combined with a protein-enriched diet achieved through the consumption of lean red meat on cognitive function and health-related quality of life (HR-QoL). Community-dwelling men and women (n=154) aged 65+ years were randomised to a 24-week intervention consisting of PRT+lean red meat [2x110g raw weight to be consumed on each of the three training days (RT+Meat)] or PRT+pasta/rice (RT+CHO). Exercise compliance was no different between groups (~79%). Compliance with the meat and CHO was 87% and 91%, respectively. After 24-weeks both groups experienced a similar increase in global cognitive function (z-score change: RT+CHO +0.24 SD; RT+Meat +0.17 SD, both $P<0.001$). Psychomotor/attention composite scores decreased in the RT+CHO after 12-weeks (interaction, $P<0.001$), but there was no between group difference after 24-weeks. Working memory/learning composite scores increased in the RT+CHO compared to RT+Meat group after 12- and 24-weeks (net difference in z-scores, 0.24–0.27 SD, both $P<0.001$). Executive function, HR-QoL and serum levels of BDNF and inflammation (IL-6, -8, -10, TNF α) did not change in either group. In conclusion, these findings indicate that the provision of additional protein did not enhance

the effects of exercise on cognitive function in the community-dwelling elderly.

NOCTURNAL SALIVARY CORTISOL LEVELS AND COGNITIVE PERFORMANCE IN THE AGING POPULATION

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Introduction: Chronic stress, which causes hypercortisolism, has been associated with low cognitive performance. We hypothesize that this correlation persists in elderly individuals who do not have cognitive impairment and low education, even after considering social characteristics.

Objectives: To investigate the association between cognitive test performance and salivary cortisol levels among elderly with medium to high level of education.

Methods: Participated 196 Brazilian elderly (60 years old or more), who had at least four years of schooling and did not have cognitive impairment according to Mini-Mental State Examination scores. The cognitive tests were the following: semantic and phonemic verbal fluency, Word List memory (learning, recall and recognition) from the *Consortium to Establish a Registry for Alzheimer's Disease*, and the Trail Making B test. Participants were instructed to collect salivary cortisol samples using a saliva device (Salivette®) at home at 11:00 p.m. two days before the evaluation. The following confounders were analyzed: socio-demographic characteristics, lifestyle habits, medications, comorbidities, common mental disorders, insomnia, and stressful life events.

Results: Participants were predominantly women (89.8%), with an average of 68.9 years of age and 12.2 years of schooling. A low recall test score was associated with high cortisol levels, older age, low monthly family income, dual-action antidepressant use, and common mental disorders. The ability to accomplish the Trail Making B test was directly associated with high cortisol levels, more years of schooling, and a high subjective social status in society score. It was also inversely associated with age.

Discussion: Association of high cortisol levels with a decrease in memory performance corroborate findings from most prospective studies of elderly without cognitive impairment and similar levels of schooling. The capacity to accomplish the Trail Making B Test was associated with high cortisol levels, possibly due to attention improvement of the elderly participants.

Conclusion: High cortisol levels increased the capacity to accomplish the executive function test, but it decreased the memory performance test.

SESSION 5170 (SYMPOSIUM)

CLINICAL DECISION SUPPORT: IMPROVING CARE, IMPROVING OUTCOMES

Chair: M. O'Connor, *Villanova University*

Discussant: K.H. Bowles, *University of Pennsylvania, Fort Washington, Pennsylvania*

Every day interprofessional health care teams evaluate patients' needs and make decisions regarding their care

often without empirically derived decision support tools to assist in making these common but important decisions. Chronically ill older adults often experience uncoordinated care transitions and are particularly vulnerable for poor outcomes. The purpose of clinical decision support is to provide evidenced-based and timely information to clinicians to inform decisions about health care and patient needs. Clinical decision support has the potential to lower costs, improve efficiency of care transitions and promote effectiveness of health care services. Clinical decision support is an understudied but emerging area of research and application is expected to become more common as evidence-based practice develops. This symposium highlights three cutting-edge and developing areas of clinical decision support including one application that suggests referral to post-acute care following an inpatient hospitalization and two applications in skilled home health.

Our first presentation reports on patient outcomes when the advice of a discharge referral decision support tool is compared to usual discharge planning practice. The second presentation reports the results of a qualitative study of how nurses decide the number and frequency of skilled home health visits. Next, a mixed methods study uncovers factors that are critical to consider when determining readiness for discharge from skilled home health. This symposium highlights the value of clinical decision support and its potential impact on outcomes of chronically ill older adults from hospital to home.

DECISION SUPPORT FOR POST-ACUTE CARE REFERRALS: DEVELOPMENT AND IMPLEMENTATION

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Decisions about who should be referred for post-acute care (PAC) are made by individual clinicians or teams for 14 million older adults per year, without national standards or guidelines. Using teams of multi-disciplinary experts we built a decision support (DS) tool that assists clinicians with these important decisions. The DS is based on two algorithms calculated from the characteristics of the patient during the hospital stay and provides a suggestion of refer or not, and which site of care is recommended. We will describe the development and testing of live DS in two hospitals. When the tool said to refer and patients did not get referred, readmission risk and ED use were 40% and 43% higher respectively, than those who did get referred. Use of DS can assure that high risk patients are identified and referred for PAC.

EXPLORING HOME HEALTH NURSE DECISION MAKING REGARDING VISIT PLAN DEVELOPMENT

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Older adults are admitted to home health (HH) care from acute care settings with diverse needs, requiring different levels of care. However, it is unknown how nurses decide on visit patterns nor are there empirically derived clinical decision support tools to guide them. Using qualitative descriptive method, HH nurses' decision making about the number and frequency of nursing visits when developing a visit plan was explored. Semi-structured interviews with HH nurses (N=30) employed full-time by three agencies were analyzed. Through content analysis three approaches emerged: nurses followed a systematic approach to develop visit plans and based their decisions on a central team's recommendations, their professional evaluation, or their agency-specific guidelines. Factors considered included patient's clinical status, learning style, and support system. Findings are contributing to a decision support tool that guides HH nurses in developing appropriate visit plans to ensure an optimal transition of older adults from hospital to home.

DETERMINING READINESS FOR DISCHARGE FROM SKILLED HOME HEALTH SERVICES: A MIXED METHODS STUDY

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Medicare relies upon an interprofessional team of home health (HH) clinicians to evaluate beneficiary needs and to decide to discharge from skilled HH or recertify patients for an additional 60-days. However, there are no national, empirically derived decision support tools to assist in making these important decisions and getting it wrong can result in adverse events after discharge. Two studies, one quantitative and one qualitative informed the research questions of what factors are associated with poor HH discharge outcomes and readiness for discharge. The quantitative OASIS data elements were found to not be helpful predictors for identifying which patients are likely to have adverse outcomes. However, the qualitative interview themes identified patient safety, independence and caregiver availability as critical for determining readiness for a safe discharge. These findings inform the development of an evidence-based discharge decision support tool to provide a standardized approach to determine readiness for discharge from HH.

SESSION 5175 (SYMPOSIUM)

FRAILITY PREVENTION, IDENTIFICATION AND MANAGEMENT: WHAT CAN RESEARCH ADD?

Co-Chair: B. Hanratty, *Newcastle University, Newcastle upon Tyne, United Kingdom*

K. Spilsbury, *University of Leeds, Leeds, United Kingdom*

Discussant: K. Rockwood, *Dalhousie University*

More and more people are living out their lives with frailty, as populations age. Frailty is associated with increased risk of a range of adverse outcomes, including admission to hospital or long-term care. Timely recognition of the level of frailty

and likely prognosis offer opportunities to make advance plans and discuss preferences for care. However, there are still gaps in the evidence base, particularly for clinicians in primary care. This symposium will highlight the contribution of different research methods to improving frailty care. A series of linked presentations will consider the relationship between disadvantage, frailty and mortality; the contribution of a novel frailty index in electronic health records to end of life care, older adults' priorities in clinical encounters about frailty, and the potential of a home based prevention service.

LIFE EXPECTANCY WITH FRAILITY: ARE THE EXTRA YEARS OF LIFE GAINED OVER THE LAST 20 YEARS FRAILITY FREE?

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Cross sectional investigations have shown the life expectancy with frailty has increased in across England, but some regions have done better than others. This investigation will look into whether the regional differences seen in life expectancy with frailty and severe frailty are related to deprivation, and whether location and deprivation is important. Using the longitudinal data from the MRC Cognitive Function and Ageing studies I and II with 7,500 individuals at baseline in each study, each with a two year follow-up and four year mortality information. Using discrete time Markov models to investigate longitudinal changes between states (robust, mildly frail, severely frail and death) with regard to age, sex, region and deprivation. The findings will show where inequality is increasing over time.

PRIMARY CARE FOR FRAIL OLDER ADULTS AT THE END OF LIFE: CAN A FRAILITY INDEX ENHANCE ROUTINE CARE?

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Recognising that a patient is nearing the end of life allows physicians to discuss prognosis and preferences for end of life care. Finding the right time to introduce palliative and terminal care for frail older patients can be a challenge. This study aims to determine whether an electronic frailty index (eFI) constructed from health care records can be used to identify palliative care needs in older patients nearing the end of life. Data from electronic health of 30,000 patients were analysed (15,000 patients age >75 who died between 2014 and 2015 matched by age and sex to 15,000 patients with no record of death). Monthly changes in frailty (eFI) over a one year period prior to death, key symptoms and diagnoses, medication, service utilization and mortality will be described. Latent growth models will be used to identify subgroups of patients where a defined change in frailty score predicts a need for palliative care. This study will illustrate the potential of automatically generated scores in electronic health records to inform end of life care for frail older adults.

MAKING THE MOST OF PRIMARY CARE CONSULTATIONS FOR OLDER ADULTS WITH FRAILITY: BALANCING PRIORITIES

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Working with frail older adults is an increasingly important aspect of primary care based practice, but one where education and training have not kept pace with the need for a sensitive, skilled workforce. We will present findings of a rapid evidence synthesis and qualitative interview study to elicit the priorities of older people, their carers and health care professionals during primary care consultations. This work is informing the development of interventions and initiatives to improve the experiences and outcomes of contacts between primary care professionals and frail older people

DEVELOPMENT AND FEASIBILITY TESTING OF A HOME-BASED PREVENTION SERVICE FOR MILD FRAILITY

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Little is known about how to improve outcomes in mild frailty. We synthesised findings from three systematic reviews and qualitative work with 102 diverse participants (older people, caregivers, multi-disciplinary professionals) using a co-design process, to develop a new theory and evidence-based intervention promoting health and well-being for older people with mild frailty. The manualised intervention is individually tailored containing core components (physical activity, nutrition, social connections and mood), incorporating behavior change techniques and an assets-based approach.

We tested feasibility with 51 participants with mild frailty from four General Practices in England, randomised to intervention and usual-care. Baseline, 3 and 6 month assessments included measures of functioning, frailty, quality of life, mobility, well-being, psychological distress, cognition, falls, and service use.

Early findings suggest this new prevention service is feasible and acceptable. We will present an overview of the service, its evidence base, and findings on feasibility/acceptability and process evaluation.

SESSION 5180 (PAPER)

CARE OF OLDER ADULTS WITH DEMENTIA AND ALZHEIMER'S DISEASE: INTERNATIONAL DIFFERENCES

WHO WILL CARE FOR ME WHEN I HAVE END-STAGE DEMENTIA?

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Over the past decade, physicians have increasingly focused their practice on hospitals, outpatient clinics, or nursing homes. For persons with advanced dementia, we document changes in the type of physicians caring for persons with advanced dementia and in continuity of care from the nursing home to the acute care hospital. Using 20% Part B Medicare claims between 2000 and 2010, we classified each physician caring for hospitalized dementia patients as either a hospitalist, primary care physician (PCP), or specialist. Additionally, we examined whether a physician saw the patient prior to or after the hospitalization. There were 248,287 hospitalizations of persons with advanced dementia with 4 or more ADLs impairments (avg. age 85, 31% male, 73% white). A hospitalist was the attending physician for the entire hospitalization (based on Goodwin's Part B billing proposed cutoff for being a hospitalist) increased from 10% to 18% while PCP decreased from 45% to 15%, with most hospitalizations for advance dementia involving a mixture of specialist, hospitalist, and PCP (61% of 2010 hospitalizations). When a hospitalist acted as the attending physician, there was an increase in the number of distinct hospitalists billing for that admission despite a declining length of stay. The proportion of hospitalizations in which a PCP saw the patient prior to the hospitalization decreased from 45% in 2000 to 32% in 2010. A similar trend was seen in the PCP seeing the patient post hospitalization (decrease 30% to 21%). Increasingly, hospitalized advanced dementia patients are cared for by hospitalists, with increased fragmentation of the hospitalist attending physician and declining continuity between the outpatient and inpatient settings.

DEATHS FROM RESIDENT-TO-RESIDENT AGGRESSION AMONG NURSING HOME RESIDENTS IN AUSTRALIA, 2000-2013

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Resident-to-resident aggression (RRA) among nursing home residents is a growing area of concern. This research aims to describe the frequency and nature of deaths from RRA in Australia, and examine associated individual, incident-level, organisational, and societal factors. Data on RRA deaths was obtained by reviewing the original coroner's (medical examiner) investigation file. The study identified 28 deaths resulting from RRA in Australia (2000-2013). The majority of residents involved in RRA incidents had a diagnosis of dementia (n=50, 89.3%), and a history of behavioural issues including aggression and wandering (n=43, 76.7%). The dyad typically involved male exhibitors (n=24, 85.7%), targeting either female (n=15, 53.6%) or male residents (n=13, 46.4%), who were younger (mean age difference of 6.1 years) and had resided in the nursing home for a shorter duration than targets of aggression (mean difference of 8.7 months). Incidents frequently occurred during the afternoon nursing shift (2pm-10pm) (n=14, 50.0%), in communal areas (n=17, 60.7%), and often involved a "push and fall" type assault (n=14, 50.0%). Incidents commonly

occurred in larger facilities (>60 residents) (n=18, 64.3%), offering both high and low care services (n=16, 57.1%). An inquest, or formal public hearing, into the death was held in one quarter of cases (n=7, 25.0%), and criminal charges were laid against exhibitors in only two cases (7.1%). This is the first national Australian study describing fatal cases of RRA and will assist to develop prevention policy. This study contributes new knowledge internationally as it examines incident-level and organisational factors in addition to individual factors.

PSYCHOLOGICAL WELL-BEING AMONG INFORMAL CAREGIVERS CARING FOR PERSONS WITH DEMENTIA LIVING AT HOME

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This study investigated informal caregivers' psychological well-being and predicted increase in psychological well-being, when caring for persons with dementia (PwDs) living at home, related to caregiver, PwD and formal care (FC) factors. This was a cohort study, at baseline and follow-up in eight European countries. Caregivers included (n=1,223) were caring for PwDs aged ≥ 65 years living at home, in risk of being institutionalized. Data was collected using standardized instruments. Logistic regression analysis of factors associated with caregiver psychological well-being at baseline and 3 months later was performed. Factors associated with presence of caregiver psychological well-being at baseline were positive experience of caregiving, low caregiver burden, high quality of life (QoL) for caregivers, male gender of PwD, high QoL of PwD and few neuropsychiatric symptoms for the PwD. At follow-up, caregivers with increased psychological well-being experienced quality of care (QoC) higher and were more often using dementia specific service. Predicting factors for caregivers' increased psychological well-being were less caregiver burden, positive experience of caregiving, less supervision of the PwD and higher caregiver QoL, if PwD were male, had higher QoL and less neuropsychiatric symptoms. Higher QoC predicted increased caregivers' psychological well-being. It can be concluded that informal caregiving for PwDs living at home is a complex task. Our study showed that caregivers' psychological well-being was associated with, among other things, less caregiver burden and higher QoL. Professionals should be aware of PwD neuropsychiatric symptoms that might affect caregivers' psychological well-being, and provide proper care and treatment for caregivers and PwDs.

CAN A REFORM OF PRIMARY CARE IMPROVE THE MANAGEMENT OF PATIENTS WITH DEMENTIA?

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The Quebec government has started implementing an Alzheimer Plan (AP) in 42 family medicine groups (FMGs) to improve the management of patients with dementia. We aimed to evaluate the change in the quality of dementia care management and the rate of cognitive testing and diagnosis after the implementation of this reform. Two independent sets of charts were extracted: one pre (2011–2013) and one post (2014–2015) implementation. We collected data from 13 FMGs in Quebec who have implemented the AP with a total of 945 randomly selected charts of patients 75+ with dementia or MCI and 1919 charts of patients 75+. The score on quality of dementia care management was based on 10 validated quality indicators including the evaluation of cognition, functional status, behaviour, weight, caregiver status, driving ability, medication and support services. We also looked at the proportion of patients 75+ with a cognitive test and with a diagnosis of dementia. The quality of dementia care increased from 44.1% to 52.0% ($p<0.001$) after the AP. The proportion of patients 75+ with a cognitive test was 14.5% pre and 17.0% post AP; a diagnosis of dementia was present in 13.5% of charts pre and 14.5% post AP. These results provide an initial portrait of the impact of the AP in Quebec. The government plans to use these results to refine the Alzheimer Plan before province-wide dissemination.

AN AUTOMATED APPROACH TO IDENTIFYING PATIENTS WITH DEMENTIA USING ELECTRONIC MEDICAL RECORDS

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To efficiently identify persons with dementia to serve as a comparison group for a dementia care management program, we created and validated an automated electronic health record (EHR) dementia identification method. We used 3 data elements in the UCLA EHR that would indicate the presence of dementia: 1) ICD-9 code for dementia, 2) documentation of dementia medication use (cholinesterase inhibitors, memantine), and 3) natural language processing (NLP) of clinical notes for evidence of dementia. We examined the positive predictive value (PPV) of combinations of these 3 elements to identify dementia compared to physician medical record review. Physicians reviewed 60 records stratified by age (40–64, 65–84, 85+). The 3-element model had a PPV of 87%, but PPV for the 2-element models that included medications were lower (27% and 47%). Thus, we dropped medications from the method and reviewed an additional 64 cases identified only by NLP+ICD9. The NLP+ICD9 approach was less accurate among 40–64 year-olds (PPV 48%); however, when this younger group was excluded, the PPV was high (93%). By applying the NLP+ICD9 approach to 989 patients with verified dementia in a dementia management program, we estimated its sensitivity to be 63%. In summary, using a

combination of ICD codes and NLP, we created a method to identify persons with dementia with a high PPV – especially among older patients – and reasonably high sensitivity. Advantages of an automated dementia identification system include readily identifying patients for care management programs, recruitment for research, or creation of observational cohorts and appropriate comparison groups.

SESSION 5185 (SYMPOSIUM)

DIABETES AND MUSCULOSKELETAL HEALTH IN OLD AGE

Chair: A. Koster, *Maastricht University, Netherlands*

Discussant: E.S. Strotmeyer, *University of Pittsburgh, Pittsburgh, Pennsylvania*

The prevalence of diabetes is rapidly increasing worldwide and its complications and comorbidities have an enormous impact on patients, health care systems and society. The objective of this symposium is to understand the association between diabetes and various factors that impact musculoskeletal health: physical activity, muscle strength, falls, bone quality, and osteoarthritis. Physical activity is important in the prevention and management of type 2 diabetes. Using data from The Maastricht Study, Dr. Koster will present the effects of replacing sedentary behavior with standing or stepping on type 2 diabetes. Dr. Tiainen will show the association between diabetes and muscle strength decline over 11 years of follow-up in the Finish Health 2000 Survey. Diabetes has been associated with falls, fractures and other musculoskeletal health outcomes. Dr. Sagawa will present the fall injury risk for impaired fasting glucose and diabetes using data from the Health ABC Study. Decreased bone quality may contribute to the increased fracture risk in type 2 diabetes. Dr. de Waard will share results from The Maastricht Study on the association between diabetes and bone quality measures using high-resolution peripheral quantitative computed tomography. Finally, Dr. Schaap will present the relationship between type 2 diabetes and clinical knee osteoarthritis using data from the European Project on Osteoarthritis (EPOSA). Taken together, this symposium will provide insight into the broad health impact of diabetes on musculoskeletal function and outcomes in old age.

EFFECTS OF REPLACING SEDENTARY TIME WITH STANDING OR STEPPING ON TYPE 2 DIABETES

A. Koster, J. van der Berg, J. van der Velde, E.A. de Waard, H. Bosma, H.H. Savelberg, N. Schaper, C. Stehouwer, *Maastricht University, Maastricht, Netherlands*

We examined associations of theoretical reallocations of sedentary time to standing or stepping with cardio-metabolic risk factors and type 2 diabetes (T2D) in The Maastricht Study. Participants ($n=2,213$, 52% men, mean $\pm$ SD age 60.0 ± 0.8 years), who were asked to wear an activPAL accelerometer for 8 days were included. Daily amounts sedentary, standing, and stepping time were calculated. An isothermal substitution modelling approach was applied to examine replacement effects on waist circumference, body mass index (BMI), blood pressure, levels of cholesterol, triglycerides, glucose, and insulin, HbA1c, and T2D. Replacement of sedentary time (30min/day) with stepping was associated with

a 1.42 cm ($B=-1.42$, (95%CI=-1.78,-1.06)) smaller waist circumference, a 0.48 kg/m² ($B=-0.48$ (-0.62,-0.35)) lower BMI, a lower odds for and T2D (0.79 (0.72,0.87), and improved cholesterol, triglyceride and glucose levels. Replacing sedentary time with standing was associated with favourable outcomes in waist circumference, and cholesterol, triglyceride and insulin levels.

DIABETES AS A PREDICTOR OF MUSCLE STRENGTH DECLINE AMONG INDIVIDUALS AGE 55 AND OLDER

K. Tiainen¹, S. Stenholm^{1,2}, T. Strandberg^{3,4}, A. Jula⁵, S. Koskinen⁵, 1. *School of Health Sciences and Gerontology Research Center, University of Tampere, Tampere, Finland*, 2. *Department of Public Health, University of Turku, Turku, Finland*, 3. *Institute of Health Sciences/Geriatrics, University of Oulu and Unit of General Practice, Oulu University of Hospital, Oulu, Finland*, 4. *Department of Medicine, University of Helsinki, Helsinki, Finland*, 5. *Department of Health, National Institute for Health and Welfare, Helsinki, Finland*

The aim was to examine diabetes as a predictor of grip strength decline during an 11-years follow-up among individuals aged 55 and older.

This study is based on the representative population-based Health 2000 Survey and its follow-up in 2011. The study population consisted of 1257 individuals, aged 55–86 years at baseline. Baseline diabetes status was defined as increased level of fasting glucose (7.0 mmol/l or more) or use of diabetes medication. Grip strength was measured with a handheld dynamometer. Generalized Estimating Equation was used for statistical analysis.

During the 11-year follow-up, grip strength declined 68 Newtons (N) among non-diabetic and 98 N among diabetic men and the difference in change between groups was significant ($p=0.014$). Among women, grip strength declined 19 N in non-diabetic and 24 N in diabetic women ($p=0.644$).

In conclusion, diabetes is a strong predictor of muscle strength decline among older men but not among older women.

DIABETES, IMPAIRED FASTING GLUCOSE, AND FALL INJURY RISK IN OLDER ADULTS: THE HEALTH ABC STUDY

N. Sagawa¹, R. Boudreau¹, A. Vinik³, A. Schwartz⁴, T. Waters⁵, J.A. Cauley¹, T.B. Harris², E.S. Strotmeyer¹, 1. *University of Pittsburgh, Pittsburgh, Pennsylvania*, 2. *National Institute on Aging, Bethesda, Maryland*, 3. *Eastern Virginia Medical School, Norfolk, Virginia*, 4. *University of California, San Francisco, San Francisco, California*, 5. *University of Tennessee, Memphis, Tennessee*

Diabetes increases fall and fracture risk, but the association of impaired fasting glucose (IFG) with treated fall injuries is unknown. We assessed diabetes (diagnosed/treated and/or $FG\geq 126$ mg/dl) and IFG ($FG\geq 100$ mg/dl) in Cox Proportional Hazard models for fall injury from linked Medicare Fee-For-Service claims over 8.6 ± 3.3 years in Health ABC ($n=2363$, age 73.5 ± 2.8 years, 52% women, 38% black, 18% IFG, 17% diabetes). Fall injuries ($n=680$; 29%) were 76% fractures and 24% non-fracture fall injuries. After adjusting for demographic/lifestyle, medication and comorbidity factors, IFG had lower non-fracture fall injury risk vs. normal

glycemia (HR 0.59, 95%CI: 0.35–0.97). Diabetes had higher non-fracture fall injury risk vs. IFG (HR 2.06, 1.15–3.68), though no association existed vs. normal glycemia. No association existed for glycemic status and total fall injury or fracture risk. Non-fracture fall injury risk differs by glycemic status. Further investigation is necessary to understand the mechanism of IFG and fall injury risk.

BONE QUALITY MEASURED BY HR-PQCT IS NOT COMPROMISED IN TYPE 2 DIABETES—THE MAASTRICHT STUDY

E.A. deWaard^{1,8}, J.J. de Jong^{1,8}, H.H. Savelberg^{2,8}, T.A. van Geel^{3,4}, P.P. Geusens^{5,6,4}, A. Koster^{7,4}, J.P. van den Bergh^{5,9,8}, 1. Maastricht University, Department of Internal Medicine, Subdivision of Rheumatology, Maastricht, Netherlands, 2. Maastricht University, Department of Human Movement Science, Maastricht, Netherlands, 3. Maastricht University, Department of Family Medicine, Maastricht, Netherlands, 4. CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands, 5. Maastricht University Medical Centre, Department of Internal Medicine, Subdivision of Rheumatology, Maastricht, Netherlands, 6. University of Hasselt, Biomedical Research Institute, Hasselt, Belgium, 7. Maastricht University, Department of Social Medicine, Maastricht, Netherlands, 8. NUTRIM School for Nutrition and Translational Research in Metabolism, Maastricht University, Maastricht, Netherlands, 9. VieCuri Medical Center, Department of Internal Medicine, Subdivision of Endocrinology, Venlo, Netherlands

Patients with type 2 diabetes mellitus (T2DM) are thought to have an increased fracture risk. Decreased bone quality could contribute to this increased risk. In this cross-sectional study of 306 participants from The Maastricht Study, we compared volumetric bone mineral density (vBMD), microarchitecture and strength at the distal radius in participants with T2DM (N=60, median HbA1c 6.9%, median diabetes duration 8.8 years) and with normal glucose metabolism (NGM, N=246) using high-resolution peripheral quantitative computed tomography. Unadjusted analyses showed increased cortical porosity ($p<0.001$) and pore volume ($p<0.001$) in T2DM compared to NGM. However, after adjustment for age, sex and BMI, the associations between T2DM and cortical porosity and pore volume were no longer significant ($p>0.05$). vBMD, trabecular microarchitecture and bone strength were not significantly different between both groups in both unadjusted and adjusted analyses ($p>0.05$). Concluding, in this group of relatively well-treated T2DM participants bone quality may not be compromised.

THE ASSOCIATION BETWEEN DIABETES AND OSTEOARTHRITIS: THE ROLE OF WAIST CIRCUMFERENCE

L. Schaap¹, E. Timmermans², S. Zamboni⁴, S. Maggi³, D.J. Deeg², 1. Health Sciences, VU University, Amsterdam, Netherlands, 2. VU University Medical Center, Amsterdam, Netherlands, 3. CNR Center on Aging, Padova, Italy, 4. Department of Medicine, University of Padova, Padova, Italy

Literature suggests that diabetes mellitus type 2 (DM2) and osteoarthritis (OA) often co-occur in old age. This comorbidity might be explained by the presence of metabolic

risk factors such as increased body weight. Logistic regression analyses using data from the European Project on OsteoArthritis (EPOSA) were performed to examine the association between self-reported DM2 and clinical knee OA in 2361 older men and women (mean age 73.9 years, SD 5.0). DM2 and OA were present in 13% and 18.3% of the study sample, respectively, and 3% had a combination of both diseases. After adjustment for demographics and lifestyle factors, persons with DM2 were 1.5 times more likely to have OA compared to persons without DM2 (OR 1.53 (95%CI 1.13 – 2.07)). However, after additional adjustment for waist circumference, the association was attenuated (OR 1.31 (95%CI 0.96 – 1.78)), suggesting that the association between DM2 and OA is dependent of waist circumference.

SESSION 5190 (SYMPOSIUM)

ADDRESSING THE INTERSECTIONALITY OF RACE, GENDER AND IMMIGRATION STATUS IN LONG-TERM CARE

Chair: N.R. Hooyman, University of Washington, Seattle, Washington

Discussant: S. Gupta, Caring across Generations, Washington, District of Columbia

To ensure quality culturally appropriate care for older adults and persons with disabilities within long term services and supports, it is essential to address the interconnections among the well-being of family caregivers, direct care workers and care recipients as well as the intersectionality of race, gender and immigration status. In many instances, low-income women of color, frequently immigrants, are providing care, but are unable to access affordable care themselves. The issues facing the direct care workforce and family caregivers require new approaches that legitimize the importance of care work and build on the interconnections between the need for care and a strong home care workforce. In designing community-based long-term care initiatives, policy expertise and grass roots organizing must be combined with a multi-sector, multigenerational and intersectional approach. This includes culture change, increased access to and choices for affordable quality care, more support for informal caregivers, and improved job quality of the direct care workforce. This symposium will address both national and state level policy initiatives that value the work of caregiving, expand access to home care options and ensure that solutions are inclusive and reduce inequities based on race, gender and immigration status. Presenters will highlight the accomplishments of Caring across Generations, a national coalition of more 200 organizations, PHI, Justice in Aging and the International Domestic Workers Federation as well as state-level initiatives to reduce disparities in care, improve long-term services and supports and advance public long-term care insurance that benefits both caregivers and those who receive care.

CULTURE AND SYSTEM CHANGE TO ENSURE JUSTICE FOR CAREGIVERS

S. Gupta, Jobs with Justice, District of Columbia, District of Columbia

Given the increasing number of older adult and persons with disabilities who require long-term services and

supports and the near universal desire to heal at home and in communities, demands are increasing on both informal family caregiving structures and the formal care workforce. Women, many of whom are caring for a child or grandchild and an aging or disabled relative, are most impacted by these demands. These demographic and social trends are putting immense strain on families and on existing social structures, and without real solutions will continue to widen the already existing disparities in wages, health outcomes, retirement security, and education that already negatively impact women. This paper will address the ways in which Caring Across Generations is leading national culture change, state-level policy initiatives, and grassroots organizing to shift the current long-term care system so that it works for all women as providers and recipients of care.

After attending this session, participants will:

Articulate the interconnections among the needs of family caregivers, direct care workers and care recipients, most of whom are women

Identify interconnections among national and state level culture and policy changes and grassroots organizing to ensure justice for all caregivers

INCREASING CARE INEQUITIES WITH AGE AMONG HISTORICALLY MARGINALIZED POPULATIONS

K. Prindiville, *Justice in Aging, Oakland, California*

Justice in Aging—formerly the National Senior Citizens Law Center – is a national nonprofit that fights senior poverty by securing access to health care and economic security for low-income older adults. Populations that have traditionally lacked legal protections - women, people of color, LGBT individuals, and people with limited English proficiency - are most at risk of aging in poverty and experiencing barriers to quality, person-centered health care and long-term services and supports. This paper will address obstacles faced by low-income older adults, especially women and people of color, and their family caregivers in accessing quality long-term care. It will also highlight systemic disparities—due to race, gender, and immigration status—within senior poverty that become amplified over a lifetime for both formal and informal caregivers and older adults and engender distinctive long-term care needs. It will conclude with strategies utilized by Justice in Aging to address such inequities.

After attending this session, participants will:

Articulate disparities that increase by age, race, gender and immigration status among informal and formal caregivers

Communicate effective national and state-level strategies to address such inequities and reduce poverty

THE NEED FOR A CULTURALLY COMPETENT WORKFORCE TO ADDRESS DIVERSITY AND INCLUSION

D. Wilson, *PHI National, District of Columbia, District of Columbia*

As more individuals of color are aging and need long-term services and supports, it is imperative that the home care workforce is trained to handle diseases specific to them. PHI, a national organization that aims to enhance the lives of people who need care by improving the lives of the workers who provide that care, offers disease-specific training for direct care workers so that they are equipped to give

culturally appropriate care. For instance, when working with African American elders who face high rates of hypertension and diabetes, direct care workers who have received training in those areas will be equipped to notice if an elder is having a diabetic or cardiac episode and call for interventions. This paper addresses PHI's state- and national-level strategies to ensure that home care workers have knowledge and skills to ensure the inclusion of and effective supportive care for an increasingly diverse older population.

After attending this session, participants will:

Identify the need for disease-specific training to ensure culturally appropriate home care

Communicate strategies utilized by PHI to prepare home care workers able to address diversity in an inclusive manner

DOMESTIC WORKERS AND LABOR PROTECTIONS GLOBALLY

A. Poo, *Domestic Workers Association, New York, New York*

Domestic workers worldwide are primarily women, increasingly migrants, and too often excluded from basic labor protections. However, due to increased labor organizing of this sector, domestic workers are succeeding in winning improved labor standards around the world, including passage of ILO Convention 189, which has been ratified by 22 countries as of July 2016. This presenter will describe the growing need for homecare worldwide and key recommendations from the international domestic workers' movement. The paper will address what domestic workers need to ensure care jobs are good jobs, provide specific policy recommendations with global implications, and share inspiring examples of domestic workers coming together with care recipients to achieve dignity for all.

After attending this session, participants will:

Understand the labor inequities faced by domestic workers worldwide

Identify policy and community organizing strategies that are advancing quality jobs for home care workers globally

SESSION 5200 (SYMPOSIUM)

HIGH QUALITY OF LIFE FOR ELDERLY CARE CENTER RESIDENTS: REALISTIC VISION AND TESTED CARE STRATEGIES

Discussant: J. Hamers, *Department of Health Services Research, CAPHRI School for Public Health and Primary Care, Maastricht University, Maastricht, Netherlands*
R.A. Kane, *University of Minnesota, Minneapolis, Minnesota*

Individualized services, normal approaches to everyday life, and improved residential spaces in care homes in combination are meant to enable a good resident quality of life (QOL). This Symposium summarizes evidence-based ideas from 4 countries how to deliver high-quality physical care for frail nursing home residents without over-managing the residents' lives. Rosalie Kane and Lois Cutler discuss implementation of small-house nursing-homes in the United States, an intervention that simultaneously transforms physical settings, staff roles, and philosophy of care. Enhanced environments were crucial but insufficient; staff actions and organizational

policies were also crucial for the new environments to maximally benefit residents. Veronique Boscart presents research on the Neighborhood Team Development (NTD) model in care settings in Canada, where the goal is to provide excellent physical care within a team ethos where all staff mindfully apply techniques to preserve resident's autonomy and dignity and emphasize their QOL. Gørill Haugan highlights lessons about QOL from her study of care centers in Norway, including work on self-transcendence, sense of meaning, and spirituality for NH residents. Claire Goodman envisages realistic QOL for residents with substantial dementia, and actively-dying residents, including contributions of a caregiving workforce to resident QOL. Jan Hamers, whose Living Lab for Care of Older People in The Netherlands, has pioneered in how to create real homes in nursing homes, serves as discussant. We intend ample time for dialogue with panel and audience members on the essence of QOL in residential care for frail elders and how to achieve it.

RESIDENTS' BENEFITS FROM TRANSFORMED ENVIRONMENTS NOT AUTOMATIC: STUDY OF SMALL-HOUSE HOMES IN THE U.S.

R.A. Kane, *Health Policy and Management, SPH, University of Minnesota, Minneapolis, Minnesota*

In a national study, we identified the universe of small-house nursing homes (S-NHs) in the US, including trademarked Green House Nursing Homes (GH-NHs). We described implementation in 48 SH-NH models in which the unit of care are self-contained houses or apartments with under 16 residents; we site visited 10 S-NH projects for in-depth study. The model required simultaneous transformation of physical environments; all staff roles and reporting structure; and philosophy of care—the latter towards individualization and quality of life. In many instances, we observed resident-directed lifestyles that would have been impossible in traditional NHs. Transformed environments were essential but insufficient without supportive staff behavior and organizational policies. Implementation was an arduous process, and conscious effort was needed to avoid regression to institutional models. This presentation is illustrated by photographs, which we find an important adjunct to research, education, quality control, and advocacy.

CULTURE CHANGE IN CANADA: IMPLEMENTATION AND EVALUATION OF A NEIGHBOURHOOD TEAM DEVELOPMENT MODEL

V. Boscart, *Conestoga College Institute of Technology and Advanced Learning, Kitchener, Ontario, Canada*

The Neighbourhood Team Development (NTD) model was created to enhance resident-centeredness in nursing homes; Staff work in a framework of accountability and enhance resident-centredness by using techniques to preserve resident's autonomy and dignity, and emphasize quality of life. This multifaceted study examined: the fidelity of the NTD model, process and contextual factors associated with implementation and outcomes, and effects of the NTD model on care experiences of residents, staff, family and organization. A repeated measure, mixed method design is underway with 72 Neighborhoods in 11 long-term-care Villages. This presentation discusses the NTD model and initial findings on quality of life measures, satisfaction surveys, interviews, staff engagement, observations, and organizational data.

Encouraging staff to work to their full scope of practice while providing better coordinated care is key to resident-centred care, as is seamless team functioning in which all team players work to their fullest capacity and residents come first.

MEANING OF QUALITY OF LIFE IN NURSING HOMES FOR PEOPLE WITH DEMENTIA AND PEOPLE WHO ARE DYING

C. Goodman, *University of Herfordshire, Hertfordshire, United Kingdom*

The author has been part of a collaborative group working on quality of care for dementia in the United Kingdom and she has also conducted a "realist review" of effective health care for those living and dying in care homes. Her presentation will briefly touch on definitions for QOL in care settings, particularly for people with dementia or people who are actively dying. She will touch on how a caring and caregiving labor force might best be prepared and configured for enhancing the QOL of care center residents. She also considers the "uneasy alliance" of primary health providers and care home staff as they try to generate high quality proactive health care yet respect individuality and QOL.

SESSION 5205 (SYMPOSIUM)

HEARING LOSS INITIATIVES FROM THE NATIONAL ACADEMIES AND THE WHITE HOUSE—RECOMMENDATIONS AND PROGRESS

Chair: F. Lin, *Johns Hopkins University, Baltimore, Maryland*

Co-Chair: M.I. Wallhagen, *University of California, San Francisco*

Discussant: L.N. Gitlin, *School of Nursing, Johns Hopkins University, Baltimore, Maryland*

Two-thirds of adults 70 years or older have a clinically-significant hearing loss, but less than 20% of these individuals receive any form of treatment. Importantly, the potential functional consequences of age-related hearing loss for older adults are beginning to surface in epidemiologic studies demonstrating independent associations of hearing loss with cognitive functioning, dementia, and poorer physical functioning. However, for the vast majority of these adults, hearing health care (HHC) remains unaffordable and inaccessible. Recent national initiatives in the United States coming from the National Academies of Science, Engineering, and Medicine (NASEM) and from the White House President's Council of Advisors on Science and Technology (PCAST) are focused on increasing the accessibility of HHC and addressing hearing loss as a critical and neglected public health priority. This symposium will present the findings from the NASEM consensus study report and from the PCAST report to the President. Subsequent presentations will highlight early research studies that are addressing report recommendations through exploring innovative, accessible, and affordable models of HHC delivery for older adults.

NATIONAL INITIATIVES IN THE UNITED STATES ADDRESSING HEARING LOSS AS A PUBLIC HEALTH PRIORITY

F. Lin, *Johns Hopkins University, Baltimore, Maryland*

Growing recognition of the potential impact of hearing loss on older adults has spurred initiatives from the White House

President's Council of Advisors of Science and Technology (PCAST) and from the National Academies of Science, Engineering, and Medicine. The White House PCAST initiative on hearing loss followed the White House Conference on Aging in 2015 with a specific request to address hearing loss coming from the White House. This report was published in October 2015 and called for FDA regulatory changes to allow for greater innovation and affordability in hearing aids. In parallel, the National Academies initiated a consensus study in early 2015 after initially hosting a workshop on hearing loss and health aging in 2014. The final report from the National Academies was released in June 2016 and presents a set of recommendations spanning needed changes in regulation, policy, legislation, and clinical practice.

SOCIAL DESIGN AS A USER-CENTERED APPROACH TO INNOVATIVE INTERVENTION DEVELOPMENT: LESSONS FROM HEARS

C.L. Nieman^{1,2}, S. Mamo³, H. Han^{2,3}, L.N. Gitlin^{2,3}, S.L. Szanton^{2,3,6}, B. Slogeris⁴, M. Weikert⁴, F. Lin^{1,2,6}, 1. *Johns Hopkins University School of Medicine, Baltimore, Maryland*, 2. *Center on Aging and Health, Baltimore, Maryland*, 3. *Johns Hopkins University School of Nursing, Baltimore, Maryland*, 4. *Maryland Institute College of Art Center for Social Design, Baltimore, Maryland*, 5. *University of Massachusetts Amherst School of Public Health and Health Sciences, Amherst, Massachusetts*, 6. *Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland*

Effective behavioral interventions reflect the complexity and context of the communities with which they are tailored and the behaviors they seek to address. However, methodology that captures these complexities are limited, particularly for hearing care, where significant hearing care disparities persist despite its highly prevalent nature. Social design or design thinking is an innovative approach that places the user at the center, continually returning to the needs, preferences, goals, and experiences of the user and target community in an iterative process. We partnered with a team of social designers through a semester-long, graduate-level course to develop a user-centered approach to developing an affordable, accessible hearing care intervention through a process characterized by phases of 'ideation', 'inspiration', and 'implementation'. Our experience serves as an example of social design as a transdisciplinary approach to intervention development that may systematically and holistically address the multiple and complex barriers that characterize public health problems.

SAN ANTONIO HEARS: ADAPTING A RESEARCH PROTOCOL FOR HEARING LOSS AND DEMENTIA TO CLINICAL PRACTICE

B.B. Powers^{1,2}, S. Espinoza^{1,2}, V. Taylor¹, L. Arevalo^{1,2}, C.L. Nieman³, S. Mamo³, F. Lin³, 1. *Geriatric Research Education and Clinical Center, South Texas Veterans Health Care System, San Antonio, Texas*, 2. *The University of Texas Health Science Center at San Antonio, San Antonio, Texas*, 3. *Johns Hopkins University, Baltimore, Maryland*

The San Antonio HEARS Clinic is a clinical demonstration project in the San Antonio VA's Dementia Clinic. It adapts the dementia version of the Baltimore HEARS (Hearing Equality

through Accessible Research and Solutions) community-based hearing research protocol for patient-care. The VA is ideal for initial translation of this research as veterans have unrestricted access to audiology and hearing aids, but seek treatment at similar rates as community-based patients. The HEARS Clinic offers hearing screening to dementia clinic patients not wearing hearing aids, and patients who fail the screening are given the option of an audiology referral or participation in the San Antonio HEARS clinic. Those in the HEARS clinic receive a pocket-talker and undergo the dementia version of the HEARS intervention with their caregiver. The clinic monitors outcomes including the Cornell Scale for Depression in Dementia, MoCA, NPI, ADLs/IADLs, Zarit Caregiver Burden Interview, IOI-HA, and satisfaction surveys.

COMPARISON OF PSAPS AND HEARING AIDS: THE ROLE OF AFFORDABLE AND ACCESSIBLE DEVICES IN HEARING HEALTHCARE

N. Reed¹, P. Korczak², N. Polyak², F. Lin¹, 1. *Dept of Otolaryngology, Johns Hopkins University, Baltimore, Maryland*, 2. *Towson University, Towson, Maryland*

Personal sound amplification products (PSAPs) may represent a potentially affordable and accessible option in hearing health care.

15 adults (mean age = 71.2 years) with mild-to-moderate hearing loss completed sentence-based speech-in-noise testing under 7 conditions: unaided, aided with 1 advanced hearing aid (HA), aided with 4 different mid to high-performance PSAPs, and aided with 1 low-end PSAP. All devices were adjusted by an audiologist for best fitting possible. Device and sentence list order were randomized.

The absolute change in correct score percentage from unaided was compared across devices. Overall, mean score improvement with was within 15% of HA with 2 PSAPs and within 5% with 2 PSAPs. One PSAP was associated with a decline in score.

Our pilot results suggest that some PSAPs may be comparable to HAs in a controlled environment. These data support further investigation of PSAPs as potential introductory or transitory technologies in hearing rehabilitation.

SESSION 5210 (PAPER)

ELDER ABUSE, NEGLECT, AND EXPLOITATION

WHAT AMERICANS (NEED TO) KNOW ABOUT ELDER FINANCIAL EXPLOITATION

M. Howe¹, C. Jaress¹, K. Pudelek¹, A. Fontes¹, B. Dugoni¹, H. Breslau^{2,1}, 1. *Academic Research Centers, NORC at the University of Chicago, Chicago, Illinois*, 2. *University of Chicago, Chicago, Illinois*

Elder financial exploitation (EFE) is one of the most common types of elder mistreatment in the United States. Yet analyses of new, nationally representative, survey data (n = 1,042) suggest that many Americans (ages 18 and older) do not know how to detect, prevent, or intervene in EFE. To inform and improve upon elder financial exploitation (EFE) prevention and intervention efforts, we report findings on what Americans already know about EFE and how public assumptions about EFE vary within the population. With

support from NORC at the University of Chicago (NORC), nationally representative survey data were collected including information on to what extent Americans are aware of elder financial exploitation, its prevalence, its different forms, and resources available for intervening in or preventing it. Analyses also incorporate financial profile data for nearly half of respondents, including financial literacy measures. Data from 1,042 Americans, ages 18+, were collected using the AmeriSpeak Omnibus Survey (December 2015). Among other findings to be presented, analyses indicate that 41% of Americans know someone who has been a victim of theft of money or property, 37% know someone who has been a victim of scams, 27% know a victim of identity theft, and 22% know a victim of power of attorney abuse. Additionally, only 56% of Americans surveyed know whom to contact if they suspect EFE; of that 56%, only 31% would contact APS. We aim to use these data to provide: baseline measures of public perceptions of EFE, key correlates, and evidence-based prevention recommendations.

LISTENING TO STAKEHOLDERS TO BETTER MANAGE OLDER ADULT MISTREATMENT IN LONG-TERM CARE FACILITIES

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Many types of older adult mistreatment exist in long-term care (LTC) facilities: psychological, physical, sexual, financial, violation of rights, organisational, and ageism. Close to 20% of LTC establishments in the United States are "convicted" of older adult mistreatment each year. In Canada, the problem is also acknowledged by managers and administrators of these types of facilities. However, few studies have described the experience of diverse stakeholders regarding the management of older adult mistreatment situations within LTC facilities. As part of a project using a participative approach to develop and validate a policy template for LTC facilities, 105 key stakeholders (including administrators, managers, long-term care employees, residents/user committees, union representative, complaint commissioners, etc.) were surveyed about the perceived causes, the main difficulties encountered and priorities to address older adult mistreatment in their LTC establishment. The main issues identified were: 1) disparity between the ever-growing needs of residents and the lack of resources; 2) limited knowledge regarding older adult mistreatment and how to identify it properly; 3) a conspiracy of silence and a fear of reporting; 3) non-existent or unclear policies and procedures; as well as 4) no specific person mandated within the facility to respond to mistreatment situations administratively or clinically. Overall, the issues identified by the stakeholders could be addressed with additional training and the implementation of policies and procedures specifically adapted for LTC facilities.

INVESTMENT MINDSET AND BEHAVIORAL CHARACTERISTICS OF OLDER VICTIMS OF INVESTMENT FRAUD

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Background: Older adults lose billions of dollars to financial fraud each year, and investment scams are the most costly. The purpose of this study is to identify older adults' specific attitudes towards risky investing, values about wealth accumulation, and experience of negative life events that may increase their risk of victimization.

Methods: Data are from an AARP telephone survey of 700 victims who were independently verified by the FBI and state securities regulators to have lost money to investment fraud. Scams included investments in precious metals, oil and gas exploration, commodities online trading, and multilevel marketing schemes. Victims were compared to a random sample from the general investor population, matched by age, race/ethnicity, and sex.

Findings: Compared to non-victims, we predicted that investment fraud victims would have more positive attitudes toward risky investment opportunities, would be more open to investment solicitations, and be more likely to have experienced negative life events prior to making the investment. We found that victimization is associated with ongoing housing, relationship, and financial trouble (OR=1.26, p=0.021). Victims differed from non-victims in their values toward wealth accumulation, greater interest in risky investment opportunities, and willingness to trust investment advice from friends and family.

Implications: This is the first study to investigate the attitudes, behaviors, and negative life experiences of confirmed victims of investment fraud and assess how they differ from non-victims. Victims demonstrated significantly poorer awareness of common investment fraud persuasion messages, suggesting that more education about investing safely is needed in the older population.

OPENING THE DOOR: A TRAINING PROMOTING ENGAGEMENT SKILLS IN ADULT PROTECTIVE SERVICES WORKERS

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The global population of older adults will reach 2 billion in 2050. WHO estimates that 1 in 10 elders experience abuse each month, but this is likely underestimated; research indicates for every known case, 24 go unreported. Reasons for under-detection include inadequate training and older adults' reluctance to report abuse. Training adult protective services (APS) workers to interact with elders in a manner maximizing disclosure is imperative. Various theories support fostering strong worker-client relationships to enhance disclosure, facilitate appropriate interventions, and guide programs and policies.

An 8-hour training in relational engagement and assessment of older adults at risk for abuse was developed in response to and in extensive collaboration with NYC APS workers. The training, grounded in adult learning theory, includes case examples, role-plays, and self-reflection. Participants learn techniques for cultivating trust and eliciting information, learn to build relationships with alleged victims and abusers, and begin a person-centered, problem-solving process responsive to clients. Skills on use-of-self, self-awareness, and self-care are covered.

The training was piloted and evaluated with 3 groups of APS workers (n=55). We found statistically significant improvements in pre- and post-training items measuring self-efficacy and knowledge gain. Focus groups 6 weeks post-training revealed high satisfaction with training and self-reported application of specific skills learned, but continuing gaps and needs for training and support with elder abuse cases. We discuss national and international implications for APS training, practice, and policy, as well as future research directions to increase sustainability of the knowledge and skills acquired through this promising program.

EFFECT OF A WORKSHOP FOR HOMECARE PROVIDERS TO PROMOTE INTERPROFESSIONAL COLLABORATION IN JAPAN

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Homecare providers in the community work with various professionals. However, little is known about how interprofessional collaboration can be promoted.

The purpose of our study was to evaluate the effect of a community-based workshop to promote homecare provider interprofessional collaboration. Quasi-experimental design was used. Participants were homecare professionals (e.g., homecare nurses, care managers) recruited from each professional organization in a suburban city of Japan. The workshop lasted 2 hours, which included small-group discussions. Three groups were studied: two-workshop group, one-workshop group, and control group. Mail surveys were conducted twice; each study group answered an anonymous self-administrated questionnaire before, and 6 months after the first workshop. To assess interprofessional collaboration, a scale to measure face-to-face cooperation levels among homecare providers (Fukui, 2014) was used. Two-hundred seventeen participants were analyzed (two-workshop 59, one-workshop 86, and control group 72). Approximately 40 % were men. Mean age (45.9±10.2 years) and profession type (physician 24, nurses 28, care-manager 72, others 94) differed between the groups. An analysis of covariance revealed after adjusting for age, number of training sessions, profession type, and pre-intervention score, “recognizing face and belief” and “getting a chance to meet” at month six improved in the two-workshop group ($p = 0.012$ and 0.095 , respectively) and one-workshop group ($p = 0.033$ and 0.020 , respectively), compared with the control-group. The two-workshop and one-workshop group were not significantly different at 6 months. This workshop might be effective for developing face-to-face relationships. Attending a single workshop may be enough to promote interprofessional collaboration.

SESSION 5215 (SYMPOSIUM)

BRIDGING INTERNATIONAL RESEARCH ON FEAR OF FALLING: NEW FINDINGS FOR PRACTICE AND POLICY

Chair: G. Zijlstra, *Maastricht University, Netherlands*

Co-Chair: K. Hauer, *AGAPLESION Bethanien Hospital, Geriatric Center at the University of Heidelberg, Heidelberg, Germany*

Discussant: H.W. Lach, *Saint Louis University, Missouri*

Fear of falling is common in different older populations, both in fallers and non-fallers. Previous studies have shown that fear of falling may lead to activity avoidance, and has a negative impact on balance, gait, mobility, social activity, mental health and independence. Internationally the research on fear of falling has taken a flight but researchers are still searching for a better understanding of fear of falling, factors that contribute to fear of falling and sustainable prevention strategies for the different older populations. Additionally linking the research findings to practice and new policy is challenging. This warrants connecting existing evidence, good practices and new international research findings, and searching for new opportunities to relate research, practice and policy. During this symposium five presenters from The Netherlands, Germany and Sweden will present their research on: 1) a successful approach to reduce fear of falling and its trajectory from development to nationwide implementation, 2) older adult's preferences regarding behavior change techniques in a fear of falling program, 3) measures for falls efficacy and fear of falling in hip fracture patients, 4) an overview of a series of studies on contributors to fear of falling in people with Parkinson's Disease, and 5) the effects of a physical activity intervention on fear of falling in nursing home residents. Professor Lach from the USA, our discussant, will reflect on the presented outcomes. The audience will be invited to interact with the presenters and discussant.

REDUCING FEAR OF FALLING: FROM DEVELOPMENT TO NATIONWIDE IMPLEMENTATION OF A SUCCESSFUL APPROACH

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Concerns about falls are prevalent among older persons and have serious adverse consequences. Between 2002–2009 Maastricht University in The Netherlands developed and evaluated a Dutch version of A Matter of Balance (AMB-NL) to reduce concerns about falls. AMB-NL proved to be effective on a range of outcomes in an RCT and this cognitive-behavioral group program was nationwide implemented between 2009–2012. However, a process evaluation showed that around 40% of the target population did not complete the program. As a result a home-based version (AMB-Home) was developed and evaluated between 2013–2016. This latter study showed that – similar to AMB-NL – AMB-Home significantly reduces concerns about falls, activity avoidance and ADL-limitations. In addition, the number of indoor falls and the use of home and informal care were lower in the intervention group. Therefore, AMB-Home was also nationally implemented and eligible participants may now choose the format that suits their ability and preferences.

OLDER ADULTS' PREFERENCES REGARDING BEHAVIOUR CHANGE TECHNIQUES IN A FEAR OF FALLING PROGRAM

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In an RCT a multicomponent group intervention showed to be feasible and effective (moderate effect size) in managing concerns about falls, also called fear of falling, in older adults. The program's effectiveness may be enhanced by tuning the program's behaviour change techniques (BCTs) to the preferences of participants; yet, their preferences are unknown. In this cross-sectional study older adults (N=25) rated the program's 27 BCTs in view of their feasibility and effectiveness during a structured, individual face-to-face interview. For both feasibility and effectiveness, the technique 'salience of consequences' was rated lowest and 'restructuring the physical environment' was rated the highest. The current study provided insight into the preferences for BCTs of potential users of the program. These preferences do not fully match with the preferences for BCTs by scientific experts, as studied previously; this is ground for further discussion and study.

FALLS EFFICACY AND FEAR OF FALLING IN HIP FRACTURE PATIENTS

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The question of how to assess fear of falling (FoF) and falls efficacy in hip fracture patients is still not clearly resolved. While the Fall Efficacy Scale International (FES-I) shows good reliability and structural validity in this population, it appears more related to functional performance than to more general anxiety symptoms (Visschedijk et al. 2015). Based on data of 124 community-dwelling elderly after hip or pelvic fracture (Mean age = 82.5 years; 76.6 % female) associations between different specific measures on FoF and falls efficacy (Short FES-I, Perceived Ability to Manage Falls, single item questions), functional ability, general anxiety symptoms, and additional measures that refer to emotion regulation (psychological flexibility, anxiety control) are presented and discussed. After attending this presentation, participants will have a better understanding of what they are measuring with different FoF measures in this high-fall risk population.

WALKING DIFFICULTY IS THE MAIN CONTRIBUTOR TO FEAR OF FALLING IN PEOPLE WITH PARKINSON'S DISEASE

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Fear of falling is more common and pronounced in people with Parkinson's disease than in controls. We conducted a series of studies that used multivariable regression analyses to identify explanatory factors of fear of falling in people with Parkinson's disease. Three independent samples were used. The first study (n=154) was a postal survey study that used well-established self-rating scales. The second study replicated the first one by using a clinical sample (n=104) and added unexplored motor aspects (e.g., gait speed, functional balance performance) as well as global cognition. The third clinical study (n=241) included independent variables that focused on personal (e.g. general self-efficacy) and environmental factors as well as Parkinson-related disabilities. In all three studies, walking difficulties was the strongest explanatory (60–68%) factor. The results imply that walking difficulties in daily life should be the primary target in order to reduce fear of falling in people with Parkinson's disease.

EFFECTS OF A PHYSICAL ACTIVITY INTERVENTION ON FEAR OF FALLING IN NURSING HOME RESIDENTS

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Study objective was to examine the effect of an intervention program on fear of falling, physical performance and life space in nursing home residents.

Frail, multi-morbid nursing homes residents (n=83, mean age: 82.6 ± 10.1, MMSE 19.5 ± 7.4) took part in a controlled intervention trial to promote physical activity. The intervention group (IG: n=56) took part in impairment-adjusted activity groups while the matching control group (CG, n=27) received usual care.

Residents with low baseline fall -related self-efficacy (FRSE) (documented by the Falls Efficacy Scale International) significantly increased life space (documented by a high-tech sensor network, S-net®) during intervention (p=.044, motor performances (Sit-to-stand, p=.031) and FRSE. Baseline FRSE and motor performances were significantly associated (SPPB: p=.022, gait speed: p=.012; TUG: p=.043).

An impairment adjusted activity program increased FRSE, motor performance and life space in multi-morbid nursing home residents with low FRSE, while FRSE and motor performances were highly associated.

SESSION 5220 (PAPER)

ESPO BIOLOGICAL SCIENCES SESSION: FUNCTIONAL CONSEQUENCES OF BIOLOGICAL AGING ON: GERIATRIC SYNDROMES, CHRONIC DISEASES AND CONDITIONS, AND IMMUNE RESPONSES

THE ASSOCIATION BETWEEN INFLAMMATORY BIOMARKERS AND FRAILTY SYNDROME AMONG CHINESE OLD PEOPLE

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Chronic low-grade inflammation has been postulated to be one of the most important pathway in the development of frailty. The common reported inflammatory markers were interleukins-6, tumor necrosis factor- α , and C-reactive protein. However, the relationship between MCP and MIP with frailty syndrome is not well understood. Here, we investigated the associations between frailty and these inflammatory markers, using a community dwelling cohort from Southwest China, which is a part of the Comprehensive Geriatric Assessment and Health Care Service Study. Participants older than 60-year-old were included and grouped into frail, pre-frail, and non-frail groups according to the revised Fried frailty criteria. Serum levels of IL-10, MCP-1, MCP-3, MIP-1 α , MIP-1 β were measured using enzyme-linked immunosorbent assay. Total enrolled participants were 306, of which the frail were 15(4.9%), pre-frail 146(47.7%), and non-frail 145(47.4%). The mean age of the participants was 70.48 ± 6.6 years. The concentrations of MCP-1 and MIP-1 β were significantly different among frail, pre-frail, and non-frail groups (Mean for MCP-1 is 199.8 pg/ml, $p=0.003$ and Mean for MIP-1 β is 166.0 pg/ml, $p=0.004$). After adjusting for age, sex, body mass index, comorbid conditions and biochemical index, elevated serum levels of MCP-1 ($250.91 > \text{pg/ml}$) and MIP-1 β ($211.41 > \text{pg/ml}$) was positively associated with frail/pre-frail status (for MCP-1 $p=0.047$, OR=1.004, and for MIP-1 β $p=0.043$, OR= 1.005). No significant associations were found for IL-10, MCP-3, MIP-1 α level with frailty in this sample. We concluded that high serum levels of MCP-1 ($250.91 > \text{pg/ml}$) and MIP-1 β ($211.41 > \text{pg/ml}$) may be indicators of frailty syndrome in a sample of Chinese old people.

CEREBRAL HYPOPERFUSION DURING OVERGROUND WALKING IS RELATED TO ARTERIAL STIFFNESS IN OLDER ADULTS

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Posture-related cerebral hypoperfusion is thought to contribute to a large proportion of falls in older adults (OA). Impaired vascular health, which might alter cerebrovascular hemodynamics, can increase the risk of cerebral hypoperfusion. The present study sought to examine posture-related reductions of cerebral tissue oxygenation ($t\text{SO}_2$) during a transition to walking and its association to indices of vascular stiffness. Twenty-three OA (87 ± 5 yrs) performed postural transitions from supine-to-walking over-ground with a walker. Near infrared spectroscopy measured $t\text{SO}_2$ at 3 time points: baseline, the lowest point upon walking (nadir) and between 40s to 60s during walking. Arterial stiffness was assessed from carotid pulse pressure (cPP) and compliance coefficient (cCC). K-cluster-analysis (clustering variables: $\Delta t\text{SO}_2$ and cPP) divided participants into good- and poor-cerebrovascular-regulation (CVR: $n=16$ and $n=7$, respectively). A one-way-ANOVA compared group difference with significance set to $p \leq 0.05$. $t\text{SO}_2$ at baseline, nadir and walking were significantly lower ($p < 0.001$) in the poor-CVR group versus the good-CVR group during the baseline $61 \pm 7\%$ vs. $67 \pm 5\%$, nadir $54 \pm 8\%$ vs. $65 \pm 5\%$, and walking $58 \pm 10\%$ vs. $66 \pm 5\%$. The poor-CVR group had stiffer carotid arteries compared to the good-CVR group as indicated by higher cPP

(71 ± 16 mmHg vs. 49 ± 9 mmHg, $p < 0.001$) and lower cCC ($0.36 \pm 0.11 \text{ mm}^2/\text{Kpa}$ vs. $0.51 \pm 0.14 \text{ mm}^2/\text{Kpa}$, $p=0.027$). This is the first study to show differences in $t\text{SO}_2$ in OAs during a transition to walking. Importantly, this study reveals that OAs with poor-CVR have significantly stiffer vessels and lower cerebral oxygenation during rest, upon standing and during walking, which may be placing them at greater risk of a future fall.

RIGHT VENTRICULAR FUNCTIONAL DECLINE WITH AGING IN THE BABOON MODEL

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As nonhuman primates, the baboons represent a unique model for translational studies on aging for extrapolation to humans. However, baseline right ventricle function with aging is not yet established in any primate species. Using cardiac MRI, we examined the key RV parameters in 28 male and female baboons at two age points. Cardiac MRI was performed to evaluate for RV systolic function to include steady-state free precession and tissue tagging sequences. Two groups of baboons were studied, young (YNG, $N=16$, 8M, 5.6yr) and elderly baboons (OLD, $N=12$, 6M, 16yr). Data analysis was performed with CMR42 Circle and Harmonic Phase Flow. Statistical analysis: student's t-test, linear regression, and Pearson correlation, significance $p < 0.05$. RV ejection fraction (EF) declined with aging (YNG $49 \pm 2\%$, OLD $39 \pm 3\%$, $p < 0.01$). RV EF correlated with previously reported values of left ventricular EF ($p < 0.05$) without any sex differences. RV stroke volume, end-systolic volume, and end-diastolic volume correlated with body surface area (BSA) ($p < 0.01$). After normalization, females demonstrated persistent lower stroke volume compared to males (M $25 \pm 1 \text{ mL/m}^2$, F $18 \pm 2 \text{ mL/m}^2$). Normalized RV stroke volume decreased in both sexes with age (YNG $27 \pm 2 \text{ mL/m}^2$, OLD $18 \pm 2 \text{ mL/m}^2$). Similar to previously reported human studies, sex difference in seen in RVSV/BSA but not RVEF. Greater age related decline is seen in the RVSV/BSA compared to humans. Additionally, age related decline in RV EF is seen, not previously reported in human studies.

CHRONIC EFFECTS OF PASSIVE MECHANICAL STRETCHING EXERCISE ON SOLEUS MUSCLE OF FEMALE AGED RATS

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The loss of muscle mass related to ageing process, known as sarcopenia, occurs through a decrease of muscle fiber cross-sectional area (MFCSA). However, physical exercises can maintain and/or increase skeletal muscle mass. The aim of this study was to analyze the chronic effects of passive mechanical stretching exercise on soleus muscle of female aged rats. Fourteen aged female rats (28 months) divided

into two groups: Stretching (SG, $n=7$, 335 ± 39 g) and control (CG, $n=7$, 321 ± 32 g) were included. Rats were previously anesthetized and to stretch soleus muscle the left ankle was held mechanically in full dorsal flexion through an apparatus constituted by a load cell, to measure the force (N) to induce the muscle-tendon unit deformation. The stretching was performed on the left soleus muscle, 4 repetitions of 1 minute each with 30 seconds interval between each repetition through an apparatus, 3 times a week, for 3 weeks. After three sessions, left soleus muscles were removed, and the following analysis were performed: muscle weight with a scale and histological slides with transverse muscle section to measure MFCSA. The muscle weight was significantly higher in the SG when compared to CG (0.26 ± 0.03 mg *vs* 0.14 ± 0.03 mg, $p=0.003$, Kruskal-Wallis) and MFCSA of SG was significantly lower in the SG when compared to CG ($3919 \pm 1694 \mu\text{m}^2$ *vs* $4172 \pm 1446 \mu\text{m}^2$, $p=0.002$, Kruskal-Wallis). Despite increased muscle weight, the stretching protocol applied in aged muscle of female rats showed atrophy effect.

IMPAIRMENT OF MITOCHONDRIAL FUNCTION IN MURINE SEPSIS SURVIVORS

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Sepsis, a life-threatening condition accompanied by profound systemic inflammation, is a serious problem among the aging population as both susceptibility and mortality increase dramatically with age. Among survivors, >70% report muscle weakness for years after hospital discharge. Published studies aimed at elucidating the underlying mechanism for this phenomenon have been limited to analysis during sepsis due to the lack of an appropriate model (*i.e.* models are too severe and cause early death or are too mild to induce long-term weakness). Despite this limitation, these studies have consistently observed mitochondrial dysfunction during sepsis. The objective of the current study was to determine if mitochondria remained dysfunctional weeks after recovery from severe sepsis. Experimental sepsis was induced in 16-month-old mice by cecal slurry injection in combination with ICU-like interventions (antibiotic and fluid resuscitation). Two weeks later, mice were euthanized and mitochondria from the tibialis anterior (TA; fast-twitch) and soleus (slow-twitch) muscles were isolated and subjected to respiration analysis using Seahorse Biosciences technology. The maximum ATP phosphorylation rate was significantly reduced in the TA of survivors however State IV was unchanged, suggestive of increased electron leakage. State V-driven-Complex I activity was also reduced. No significant changes were observed in the soleus-derived mitochondria, demonstrating that fast-twitch muscles are more susceptible to sepsis-induced damage. These data indicate that mitochondria remain dysfunctional long after recovery from sepsis and may be responsible for long-term sepsis-induced muscle weakness. Targeting mitochondria could be a potential therapeutic target for preventing or resolving long-term muscle dysfunction in sepsis survivors.

THE ROLE OF ANTI-CYTOMEGALOVIRUS CD8 TCELL RESPONSES IN ADIPOSE METABOLIC DYSREGULATION AND DIABETES

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Cytomegalovirus (CMV) infection results in a lifelong and persistent infection that is characterized by stochastic bouts of replication. Furthermore, the primary and definitive location of viral replicative senescence has yet to be identified. As CMV has a broad tissue and cellular tropism the identification of a 'viral reservoir' has been difficult. The objective of this study was to investigate the potential involvement of adipose tissue in acute and chronic immune responses during CMV infection. Adipose tissue is a highly heterogeneous tissue containing the adipocytes and stromal vascular fraction (SVF). The SVF consists of numerous immune cells and specifically CD8a T cells, which are crucially important for the control of CMV infection. Inflammation within adipose tissue has been increasingly investigated in the context of obesity, but whether CMV infection adipose tissue and the downstream consequences of such an infection have not been reported. Here we demonstrate, using the mouse model of CMV infection (mCMV) that mCMV is capable of infecting the cellular constituents of adipose tissue and this results in a significant CD8a+ T cell response that is maintained in both the acute and lifelong infection, possibly leading to a decline in metabolic health, increase our knowledge of mCMV tropism, and identify a neglected reservoir for viral replication and persistence.

SESSION 5225 (SYMPOSIUM)

CAPABLE: FINDINGS, COST SAVINGS, AND SCALING FROM AN AGING-IN-PLACE DEMONSTRATION

Chair: S.L. Szanton, *Johns Hopkins University School of Nursing*

Discussant: J. Gajardo, *University of Chile, Chile*

As the global population of older adults continues to expand, it is ever more urgent to identify promising programs that decrease disability. The Community Aging in Place, Advancing Better Living for Elders (CAPABLE) program, funded by the Center for Medicare and Medicaid Innovation, is designed to reduce the health impact of impaired physical function among low-income older adults by addressing both individual capacity and the home environment. Using an inter-professional team composed of an occupational therapist, nurse, and handyman, CAPABLE helps older adults attain self-identified functional goals. With clinician input, participants develop action plans to achieve their goals. Home repairs, assistive devices, and home modifications support these goals. In this symposium, we present overall results, and cost savings from a Center for Medicare and Medicaid Innovation (CMMI) project of CAPABLE, plus scaling possibilities, and current scaling of the program to new cities. The 1st presenter will report results and multivariable models of the primary outcomes from the CMMI trial. The 2nd presenter discuss the association between home hazards and disability The 3rd presenter will report an economic analysis of cost savings to Medicaid from the CAPABLE program. The 4th presenter will report results

from testing CAPABLE in 3 cities in Michigan through a program called MI-CAPABLE. The 5th will present efforts by the AARP Foundation to scale CAPABLE through multiple channels and markets. The discussant will provide perspectives on barriers and opportunities to implement CAPABLE in diverse income settings and global health context.

CAPABLE IS ASSOCIATED WITH DECREASED DISABILITY IN LOW INCOME OLDER ADULTS IN BALTIMORE

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We present final results from the 281 CAPABLE participants in a CMMI project. Participants were low-income, cognitively intact, older adults with functional difficulty. They were 74.9 (SD=7.4) years old and predominantly African American (80%) women (83%). They had an average of 3.3 (SD 1.33) chronic conditions and reported difficulty in 3.9 (SD 2.04) out of 8 activities of daily living at baseline. Five months later, at the conclusion of the program, participants had difficulty with only 2.0 (SD 2.05) of 8 ADLs. 75% of the study participants reported difficulty with fewer ADLs at follow-up. In multivariate models, age, race, and depressive symptoms at baseline were not related to improvements. Depressive symptoms improved in 53% of the cohort. Home hazards decreased from an average of 3.3 hazards (SD=1.83) to 1.4 hazards (SD=1.14). Participants who had been hospitalized in the prior year benefited as much as their non-hospitalized counterparts ($p=0.14$).

THE INFLUENCE OF INTRA- AND EXTRA-INDIVIDUAL FACTORS ON THE ASSOCIATION BETWEEN FUNCTIONAL PERFORMANCE AND DISABILITY

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Disability is a serious health outcome in older adults, as it increases the risk for further functional decline, injuries and falls, institutionalization and even mortality. Disability reflects the gap between an individual's abilities and the environment in which that person functions. Consequently, in this study the moderating effects of environmental factors (i.e., home hazards) on the pathway from physical performance towards disability were studied using the baseline data of the CAPABLE study. Mean age of the sample ($n=300$) was 75.7 years and 88% was female. The average

score on the Short Physical Performance Battery were 4.9 (theoretical range 0–12, higher scores indicate better performance) and 4.0 and 5.9 for ADLs and IADLs, respectively (theoretical range 0–16, higher scores indicate more disability). Older adults had on average 8.8 home hazards. Preliminary analyses showed main effects of both home hazards and physical performance and some interaction effects on ADLs and IADLs.

COST SAVINGS FOR CAPABLE PROGRAM DRIVEN BY DECREASES IN HOSPITAL AND LONG-TERM CARE FOR PARTICIPANTS

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The direct cost for CAPABLE program participation, including visits, coordination, mileage, home repairs, modifications, and assistive devices, was \$2825 per participant. In a population of low income participants we used finite mixture model regression estimates in a Markov model to estimate monthly average expenditure and likelihood of high cost or low cost utilization for eight healthcare service categories. We found that Medicaid spending was \$833 less per month for the average CAPABLE participant, compared to a matched comparison group in the observation period (observations ranged from 6–24 months). While home health care utilization and primary care provider visits increased, the CAPABLE program was associated with decreased likelihood of hospital and long term care which drives overall lower spending in participants. The extent of the decrease could pay for program participation, as well as provide further savings for Medicaid.

IMPLEMENTING CAPABLE (COMMUNITY AGING IN PLACE FOR BETTER ELDERLY LIVING) AS MICAPABLE IN A WAIVER

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Normalization Process Theory was used to adapt CAPABLE to MiCAPABLE for a Medicaid Waiver adding social workers (SWs) to address psychosocial needs, and modifying the electronic health record to monitor fidelity. The Home and Community Based Medicaid Waiver serves low-income, nursing home eligible adults in the community to delay institutionalization. Kotter Change model guided implementation of MiCAPABLE for 55 participants at 3 Waiver sites. Mean age was 66.8 years (standard deviation 11.64, range 42–96), 83.64% ($n=46$) female, and 71.15% ($n=37$) Caucasian, 25.00% ($n=13$) African American. Mean occupational therapist (4.26 [SD 1.65]), RN (3.13 [SD 1.12]), SW (1.79 [SD 1.53]) visits; 2.83 (SD 0.89) interdisciplinary coordination events. Enrollment/data collection is ongoing. Reductions in falls, depression, pain, institutionalization, and cost will be reported. We will also present lessons learned in adding a new component to an established model. Testing implementation of adapted interventions is recommended prior to scaling-up to improve sustainability.

MOVING FROM TRIAL TO MULTIPLE MARKETS: PLANNING WITH A NATIONAL FOUNDATION FOR IMPLEMENTATION

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Many successful programs with vital evidence for improving aging do not get scaled beyond their initial trial. The AARP Foundation has a mission of improving life for low income older adults. Together, the AARP Foundation and the Principal Investigator of the CAPABLE program are using a multi-stage process to examine ways to scale CAPABLE through multiple potential channels. These channels include Accountable Care Organizations, Medicare Advantage plans, bundled payment in health insurance plans, homeowners insurance riders, and the self-pay market. The exploration process identified possible revenue streams, examination of each delivery aspect to make CAPABLE more scalable, as well as critical assumptions requiring testing. This process augmented more typical dissemination and implementation models by including a business development planning process. The multi-stage process will be presented along with the challenges and assumptions necessary to drive such a partnership.

SESSION 5230 (PAPER)

CHRONIC CONDITIONS IN OLDER ADULTS III

COMORBIDITY PATTERNS AND RISK FACTORS OF SEXUAL PROBLEMS IN LATE-LIFE: A LATENT CLASS ANALYSIS

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Past studies on aging and sexuality examine sexual problems separately, but sexual problems rarely occur in isolation. The study identifies subgroups of midlife and older adults with similar comorbidity patterns of sexual problems empirically. The study also examines shared risks as a possible explanation for comorbidities between sexual problems. Participants (1431 men and 1687 women) were drawn from the Wave 2 dataset of the National, Social Life, Health, and Aging Project (NSHAP). Latent class analysis was conducted separately for men and women using 7 dichotomous self-report sexual problems to identify subgroups with similar patterns of co-occurring sexual problems. Multinomial regression was conducted to identify predictors of the subgroups. Four subgroups of men with different patterns of comorbidity were identified: unaffected group, moderately affected group, climaxing-erectile difficulties group, and multiple sexual problems group. Three subgroups of women were identified: unaffected group, desire-climaxing problems group, and multiple sexual problems group. Depression predicted the multiple sexual problems group for men and women. Men's patterns were predicted by older age and physical health indicators, whereas women's were predicted by education and ethnicity. In summary, our results indicate that shared risks contribute to comorbidities between sexual

problems. Mental health appears to play a larger factor in reporting multiple sexual problems than physical health. Our findings offers a nuanced view of comorbidity patterns of sexual problems and provides insight to clinical assessment and treatment of sexual problems in late-life.

INCREASED INCIDENCE OF MEDICALLY- ATTENDED NOROVIRUS AMONG OLDER ADULTS WITH CHRONIC DISEASE

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Background

Norovirus exerts a significant burden of disease among the elderly, yet little is known about its relationship with underlying chronic disease. The goal of our work was to compare rates of norovirus-associated, medically-attended acute gastroenteritis (MAAGE) among elderly individuals with and without a previously-diagnosed, chronic condition.

Methods

We identified MAAGE episodes based on ICD-9 and chief complaint codes recorded during health care encounters among Kaiser Permanente Northwest members aged ≥ 60 years occurring from 4/1/2014-3/31/2015. We tested a sample of stool specimens from these individuals for norovirus. We defined the presence of a chronic condition as having at least one ICD-9 code associated with disease in one of eleven categories (i.e. diabetes, heart disease, kidney disease, cancer, etc.).

Results

We observed 6,238 MAAGE episodes among our study population of 117,185 (53.2 episodes per 1,000 individuals). Of these, 4,881 episodes (78%) occurred among those with at least one chronic condition. Despite similar norovirus positivity rates between those with (23/367, [6.3%]) and without (10/142, [7.0%]) a chronic condition ($p=0.74$), the incidence of norovirus-associated MAAGE was higher among those with a chronic condition (2.6 per 1,000; 95% confidence interval [CI] 1.6–3.9) than those without (0.8; CI 0.4–1.4).

Discussion

Our findings suggest an increased incidence of norovirus-associated MAAGE among those with a chronic condition. Additional research is necessary to compare norovirus-associated MAAGE among patients with different types of conditions, to determine whether having a chronic condition alters the clinical course and severity of acute norovirus-associated disease, and whether norovirus infection affects chronic disease outcomes.

SEX AND GENDER DIFFERENCES IN PAIN-RELATED DISABILITY AMONG PERSONS INITIATING CHRONIC OPIOID THERAPY

M. Thakral¹, K. Saunders¹, S. Shortreed^{1,2}, M. Von Korff¹, L. LeResche³, S. Thielke^{4,6}, D. Rosenberg¹, J. Turner^{4,5,7}, 1. *Kaiser Permanente Washington Health Research Institute, Seattle, Washington*, 2. *Department of Statistics, University of Washington, Seattle, Washington*, 3. *Department of Oral Medicine, University of Washington, Seattle*,

Washington, 4. Department of Psychiatry and Behavioral Sciences, University of Washington, Seattle, Washington, 5. Department of Rehabilitation Medicine, University of Washington, Seattle, Washington, 6. Geriatric Research, Education, and Clinical Center, Puget Sound Veterans Affairs Medical Center, Seattle, Washington, 7. Department of Anesthesiology and Pain Medicine, University of Washington, Seattle, Washington

Older women with chronic pain experience a higher prevalence of severe pain, widespread pain and pain-related disability than men, but little is known about whether sex/gender contributes to pain-related disability independent of differences in chronic pain. The purpose of this study was to determine whether sex/gender is associated with pain-related disability independent of differences in chronic pain, and to test for an age and sex/gender interaction among chronic opioid therapy (COT) patients. The Middle-Aged/Seniors Chronic Opioid Therapy (MASCOT) Study is a prospective longitudinal telephone survey of persons aged ≥ 45 years identified as initiating COT for chronic pain ($n=1262$). Baseline assessment included the Chronic Pain Risk Score, a combined measure of pain severity, widespread pain, depression, and days bothered by pain in the past 6 months. Disability was defined as moderate-to-severe pain-related disability ($> \text{Grade } 3$) using the Graded Chronic Pain Scale at 1 year. Women were more educated with more severe and widespread pain and more pain days than men. After controlling for covariates, women were more likely than men to have moderate-to-severe pain-related disability at 1 year (AOR 1.68, 95%CI 1.68, 1.33–2.14), which remained significant after controlling for Chronic Pain Risk Score (AOR 1.37, 95%CI 1.06–1.79). Age was no longer significant after controlling for Chronic Pain Risk Score and other covariates and there were no significant interactions between sex/gender and age. Further investigation is necessary to understand the biological/social factors that contribute to the differences in pain and pain-related disability among older men and women.

SESSION 5235 (SYMPOSIUM)

TRANS-DISCIPLINARY RESEARCH IN FRAILTY TO ACHIEVE HEALTHY AGEING

Chair: R. Visvanathan, University of Adelaide, Adelaide, South Australia, Australia

Co-Chair: O. Theou, Dalhousie University

The benefits of recognizing frailty and addressing the syndrome sooner rather than later range from a healthier older population to reduction in the demand on clinical health services, to a better quality of life for older people, that is more productive, enjoyable activity with more confidence. The National Health and Medical Research Council of Australia has funded a Centre of Research Excellence (CRE) for five years in the health services category to address the 'silent' public health issue of frailty. This 'global' CRE provides the platform for a diverse team of researchers to collaborate and engage with key stakeholders with the mission of developing and conducting innovative, high quality and trans-disciplinary frailty research with one goal in mind: to prevent and better manage frailty so that people can achieve 'Healthy Ageing'. This CRE brings together clinician researchers from

geriatric medicine, general practice, rehabilitation medicine, orthopaedics, pharmacy, nursing and allied health together with research experts in knowledge translation, economics, demography and geography. The four broad aims of this Frailty CRE are to: a) define the extent of frailty and inform health service policies; b) develop and test a new health economics model for frailty; c) test the implementation of a screening pathway to support early risk identification in general practice; and d) develop and test interventions to treat older people at risk for frailty in the community. As a direct result of our research, we hope to influence the development of innovative and translatable models of care.

FRAILTY IN THE NORTH WEST ADELAIDE HEALTH STUDY USING THE FRAILTY PHENOTYPE AND INDEX APPROACHES

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This study examined the prevalence of frailty in community-dwelling adults aged 65+ from the North West Adelaide Health Study ($n=945$, 74.7 ± 6.4 years, 56.1% females). Frailty was operationalized using the frailty phenotype and frailty index (FI) approaches. The mean FI was 0.23 ± 0.15 and the prevalence of frailty based on the phenotype was 20.6%, while 50.3% of the cohort was classified as pre-frail. Levels of frailty were higher in the oldest old (aged 75+ FI 0.26 ± 0.15 and 31.7% frail vs aged 65–75 0.20 ± 0.13 and 11.5%), in females (FI 0.25 ± 0.15 and 26.2% vs males 0.20 ± 0.14 and 13.5%), those with a lower income ($< \$20k$ p.a. FI 0.25 ± 0.15 and 24.5% vs $\geq \$20k$ p.a. 0.14 ± 0.10 and 5.9%), and a lower level of education (up to secondary level FI 0.23 ± 0.14 and 22.7% vs bachelor degree or higher 0.16 ± 0.14 and 6.7%). We are currently examining the ability of the both frailty tools to predict outcomes at four years.

THE IMPACT OF SARCOPENIA DEFINITIONS AND THE ASSOCIATION WITH LUNG FUNCTION IN OLDER AUSTRALIANS

S.C. Yu^{1,2,3}, T. Nguyen³, R. Adams⁴, R. Visvanathan^{1,2,3}, 1. National Health and Medical Council Centre of Research Excellence Trans-disciplinary Frailty Research To Achieve Health Aging and the Adelaide Geriatrics Training and Research with Aged Care (GTRAC) Centre, School of Medicine, Faculty of Health Sciences, University of Adelaide, South Australia, Adelaide, South Australia, Australia, 2. Aged & Extended Care Services, The Queen Elizabeth Hospital, Central Adelaide Local Health Network, South Australia, Adelaide, South Australia, Australia, 3. Adelaide Geriatrics Training and Research with Aged Care (G-TRAC) Centre, School of Medicine, Faculty of Health Science, University of Adelaide, Adelaide, SA 5000, Australia, Adelaide, South Australia, Australia, 4. Health Observatory, School of Medicine, Faculty of Health Sciences, University of Adelaide, South Australia, Adelaide, South Australia, Australia

The relationship between sarcopenia and lung function is uncertain. The aim of the current study is to compare the relationship between sarcopenia [using three different definitions for low appendicular skeletal muscle mass (ASM)

adjusted for either: a) height squared, b) height and fat mass; or c) body mass index (BMI)], in combination with low grip strength and lung function in 470 (53.4% women) community dwelling older people. Body composition was assessed using DXA and lung function assessed using spirometry. Forced expiratory volume (FEV₁) and forced vital capacity (FVC) were significantly correlated with grip strength and the three low ASM definitions. After adjustment for age, gender, smoking and physical activity, ASM adjusted to fat mass definitions of sarcopenia remained independent predictors of lower FEV₁ and FVC. Sarcopenia definitions that account for fat mass may therefore be more relevant in clinical practice.

AUSTRALIA'S FRAIL POPULATION—IMPLICATIONS OF PREVALENCE AND SPATIAL DISTRIBUTION

H. Barrie, *The University of Adelaide, Adelaide, South Australia, Australia*

In Australia and globally an unprecedented number of older people will be moving into a 'third age' over the coming decades. There are, however, common conditions associated with growing older that pose serious health risks; *frailty syndrome* is one of these conditions and a major threat to ageing well. The reported international prevalence of frailty is 4% for those aged 65–69 years, increasing to 16% in the 80–84 years age group. One in four older people aged 85 years and older are frail. Using national Australian Census data for 2011 and 2016 this presentation will examine the prevalence and spatial distribution of Australia's likely frail, older population. Spatial analysis of this older, frail population enables us to explore links to health services accessibility and the relationship between frailty and the built environment.

FRAILTY IN AUSTRALIAN RESIDENTIAL AGED CARE FACILITIES: RELATIONSHIP WITH ONE-YEAR OUTCOMES

O. Theou¹, J. Sluggett², J. Bell², E.C. Tan², T. Emery³, J.E. Morley⁵, K. Rockwood¹, R. Visvanathan⁴, 1. *Dalhousie University, Halifax, Nova Scotia, Canada*, 2. *Monash University, Melbourne, Victoria, Australia*, 3. *Resthaven Incorporated, Adelaide, South Australia, Australia*, 4. *University of Adelaide, Adelaide, South Australia, Australia*, 5. *Saint Louis University, Saint Louis, Missouri*

This study aimed to investigate the ability of the FRAIL-NH and Frailty Index to predict hospitalization and mortality in residential age care facilities over a 12-month follow up. A total of 383 residents (age 87.5 ± 6.2 years, 77.5% females) of six Australian facilities participated in the study. At baseline 35.9% of residents were classified as most frail based on the 7-item FRAIL-NH scale. Their median 66-item Frailty Index score was 0.33 (IQR 0.24–0.46). During the follow up period, 22.2% of residents died and 34.4% were hospitalized. Residents who died had higher FRAIL-NH (45.2% vs. 35.2% most frail) and Frailty Index [median (IQR) 0.41 (0.29–0.53) vs. 0.31 (0.23–0.42)] scores at baseline. Residents who were hospitalized had lower FRAIL-NH (25.2% vs. 41% most frail) and Frailty Index [median (IQR) 0.31 (0.24–0.41) vs. 0.35 (0.24–0.48)] scores at baseline. The FRAIL-NH scale and Frailty Index may help identify residents most vulnerable to hospitalization and mortality.

THE PERSPECTIVES OF OLDER PEOPLE AT-RISK OF FRAILTY ON BEING ADVISED ABOUT EXERCISE

A.D. Jadcak^{1,2,3}, J. Dollard^{2,3}, N. Mahajan¹, R. Visvanathan^{1,2,3}, 1. *Adelaide Geriatrics Training and Research with Aged Care (G-TRAC) Centre, School of Medicine, Faculty of Health Sciences, University of Adelaide, Adelaide, South Australia, Australia*, 2. *Aged and Extended Care Services, The Queen Elizabeth Hospital, Central Adelaide Local Health Network, Woodville South, South Australia, Australia*, 3. *National Health and Medical Research Council Centre of Research Excellence: Frailty Trans-Disciplinary Research to Achieve Healthy Ageing, University of Adelaide, Adelaide, South Australia, Australia*

Exercise prescription increases older peoples' participation in exercise. However, little is known about older peoples' perspectives on being advised about exercise. Semi-structured interviews were conducted with twelve older (mean age 83.42) participants at risk of frailty. Their attitudes towards exercise, the advice received, their access to relevant information and their perceptions of the general practitioner's (GP's) role in promoting exercise were explored using thematic analyses. The participants had mostly a positive attitude to exercise and indicated a preference for being advised firstly by their GP. The majority of participants reported minimal or no advice from their GPs. Participants also reported difficulties accessing advice on exercise and indicated that community councils and GP practices should promote exercise for older people more actively. This research has identified a gap in current practice and this should be viewed as an opportunity where change might lead to increased participation in exercise by older people.

SESSION 5240 (SYMPOSIUM)

FORMAL AND INFORMAL VOLUNTEERING IN LATER LIFE: TWO SIDES OF THE SAME COIN?

Chair: K.J. Ajrouch, *Eastern Michigan University*
Co-Chair: C. Tesch-Roemer, *German Centre of Gerontology (DZA)*

Formal volunteering comprises activities within an organizational context, while informal volunteering includes activities performed outside of an organizational context. In this symposium, we ask whether formal and informal volunteering compete with one another ("competition hypothesis") or if they are instead two sides of the same coin ("same coin hypothesis"). If the "competition hypothesis" holds true, there would be a negative correlation between formal and informal volunteering (individuals involved in formal volunteering would be less likely to provide informal neighborhood support). One of underlying causes for the "competition hypothesis" might be competing resources (e.g. finite time). If the "same coin" hypothesis holds true, there would be a positive correlation between formal and informal volunteering (an individual involved in formal volunteering is more likely to provide informal neighborhood support). One of the underlying causes for the "same coin hypothesis" might be overlapping motives (e.g. altruism). The relationship between formal and informal volunteering might differ across different societal groups and change with age. Restrictions in resources and entry barriers might lead

to competition between formal and informal volunteering in some groups (e.g. individuals with lower education). Across age groups there might also be differences in the relationship between formal and informal volunteering. As people grow older and individual resources dwindle, one might assume there is a positive correlation between formal and informal volunteering up to the third age, and a negative correlation in the fourth age. Participants in the symposium will report empirical findings from studies on volunteering.

ASPECTS OF THE COMPETITION BETWEEN INFORMAL AND FORMAL VOLUNTEERING AMONG OLDER PEOPLE

S. Pettigrew¹, M. Jongenelis¹, R. Newton², J. Warburton³, B. Jackson⁴, 1. *Psychology, Curtin University, Perth, Western Australia, Australia*, 2. *Edith Cowan University, Perth, Western Australia, Australia*, 3. *La Trobe University, Wodonga, Victoria, Australia*, 4. *University of Western Australia, Perth, Western Australia, Australia*

The relationship between engagement in formal and informal volunteering activities is complex and likely to be bi-directional. Interview data collected from 242 non-volunteers in Western Australia were used to explore the barriers to participating in formal volunteering activities. Results indicate that the “competition hypothesis” applies to those providing informal volunteering services to family and friends; many felt too committed to also engage in formal volunteering. Three aspects of competition were evident: (1) temporal factors – primarily the time taken to perform informal volunteering duties; (2) logistical factors – the need to be flexible to accommodate short-notice requests for assistance from loved ones; and (3) psychological factors – the cognitive dissonance associated with cancelling their formal volunteering commitments which would inevitably clash with the informal commitments that were of markedly higher priority. This presentation will address these factors in the context of the “same coin” and “competition” hypotheses and suggest relevant potential recruitment strategies.

FORMAL AND INFORMAL VOLUNTEERING AMONG OLDER PEOPLE IN GERMANY – COMPLEMENT OR COMPETITION?

J. Simonson, *German Centre of Gerontology, Berlin, Germany*

Formal volunteering as well as informal volunteering (e.g. neighborly help) provide opportunities for social participation. In Germany, the rates of formal and informal volunteers among people aged 65 years and older are similar (34.0 percent and 31.8 percent). We investigate if these forms of participation compete against each other (people decide between them, e.g. due to limited time resources) or if they are positively associated (people combine them, e.g. due to an underlying motivation to help others). Based on the German Survey on Volunteering 2014 (n=28,960; individuals aged 65 years and older: n=7,271), we find a positive correlation between informal and formal volunteering among older people, supporting the hypothesis of association: those who volunteer formally are more likely to volunteer informally, and vice versa. Smaller participation rates in lower educated individuals for both forms indicate similar restrictions for

individuals with fewer resources to participate both in informal and formal volunteering.

PREDICTORS OF FORMAL AND INFORMAL VOLUNTEERING OVER TIME

T.C. Antonucci², K.J. Ajrouch¹, N.J. Webster², 1. *Eastern Michigan University, Ypsilanti, Michigan*, 2. *University of Michigan, Ann Arbor, Michigan*

Volunteerism has increased dramatically over the last few decades. To better understand this trend, we examine the extent to which age, race, class and gender influence whether adults participate in formal and informal volunteering over time. Data come from the longitudinal Social Relations Study. We focus on individual's aged 40–70 interviewed in 2005 at Time 1 (N=574). Individuals reported a higher prevalence of formal volunteering at Time 1 compared to informal, yet 10 years later they were just as likely to engage in both types of volunteering. Moreover the proportion who volunteered both formally and informally was higher at Time 2. Multinomial logistic regression showed that age was the most powerful predictor of change in volunteering patterns. Older respondents were more likely to engage in formal volunteering at Time 2 compared to engaging in both formal and informal volunteering together. Findings are discussed within a life course/life span developmental framework.

INFORMAL VOLUNTEERING AMONG OLDER MIGRANTS – AN ALTERNATIVE ROUTE INTO SOCIAL PARTICIPATION?

C. Vogel, *German Centre of Gerontology, Berlin, Germany*

Volunteering enables individuals to participate in society, but opportunities are unequally distributed. Migrants living in Germany are less likely to volunteer in formal organisations – even more so in leadership positions – than German citizens who have been born in Germany. Does informal volunteering provide participation opportunities for those who are more likely to be excluded from formal volunteering such as older migrants? Based on the German Survey on Volunteering 2014 (n=28,690; migrants aged 50 and above n=1,810), we investigate how group differences in volunteering can be explained and how formal and informal volunteering correlates. Results indicate that migrants aged 50 and above are as likely to volunteer informally as older non-migrants (33% respective 34%) but less likely to volunteer formally (29% respective 42%). As older migrants who formally volunteer at the same time are more likely to volunteer informally, informal volunteering is rather an additional than an alternative route into social participation.

SESSION 5245 (SYMPOSIUM)

PATTERNS AND CONSEQUENCES OF PARENT-ADULT CHILD TIES IN DIVERSE CONTEXTS

Chair: J. Sutor, *Purdue University, West Lafayette, Indiana*

Co-Chair: M. Gilligan, *Iowa State University, Ames, Iowa*

In this symposium, we consider patterns and consequences of parent-adult child ties, using data collected from multiple nations and from Black and white families within the U.S. The first two papers shed light on the social factors that shape relationship quality, support and interaction

between parents and adult offspring. Deane and Zhou use NSFH data to explore parent-child contact and support in Black and white families, focusing on separating between- from within-family effects on these processes. Next, Deng, Thomese, and Silverstein use the Chinese Longitudinal Aging Social Survey to assign relationships to four relationship/family types distinguishing co-residence, exchange of support, and emotional closeness. The second set of papers examines the consequences of parent-child relations on well-being. Graham, Kim, Birditt, Zarit and Fingerman use data from the Family Exchanges Study to explore how middle-aged adults' provision of support to parents and grown children differentially affects cortisol levels depending on the contexts of the support. Next, Sutor, Gilligan, Peng and Pillemer use panel data from the Within-Family Differences Study to compare the relative risk of single-time versus sustained perceptions of mothers' favoritism and disfavoritism on adult children's depressive symptoms in Black and white families. Finally, Kalmijn and Leopold use the Netherlands Kinship Panel Study to examine how parental death changes relationship quality, interaction, and support among adult siblings. Taken together, this diverse set of studies, using data from China, the Netherlands, and from Black and white families in the U.S., explores the complexity of patterns and consequences of later-life intergenerational ties.

EFFECTS OF WITHIN-FAMILY VARIABILITY ON PARENT-CHILD CONTACT AND SUPPORT

G. Deane¹, Y. Zhuo², 1. *University at Albany, Albany, New York*, 2. *St. John's University, Queens, New York*

We utilize an NSFH data extraction (from work by Spitze, Ward, & Deane 2006) of parent-child contact and support, and relevant parent- and (adult) child-covariates, which retains the family context (yielding clusters of adult siblings). We explore parent-child contact and support within the framework of the "between-within" (BW) method. Although this method was developed to reap the benefits of strong causal inference of a fixed effects (FE) estimator, while retaining cluster-level attributes that would normally be swept out by differencing or inclusion of a vector of fixed effects, our interest is explicitly in its ability to separate within- from between-cluster effects. We examine the heterogeneity of within-family differences and show how and why within-cluster effects are a conceptual and methodological match to the objective of modeling within-family differences on parent-child contact and support. NSFH oversampling of Black families allows exploration of race differences in these patterns.

INTERGENERATIONAL SOLIDARITY BETWEEN OLDER PARENTS AND ADULT CHILDREN IN CHINA

Y. Deng¹, F. Thomese², M. Silverstein³, L. Li¹, D. Pavlopoulos², 1. *Hunan University, Changsha City, China*, 2. *Free University Amsterdam, Amsterdam, Netherlands*, 3. *Syracuse University, Syracuse, New York*

Family change in China has been substantial over recent decades, with profound implications for how intergenerational relationships are maintained and managed in later life. In a nation where cultural norms of filial piety and strong son-preferences still govern behavior, concerns have been

expressed about the consequences of smaller family size and growth in single-gender families for intergenerational cohesion and support. This paper uses data concerning 32,737 intergenerational relationships reported by 11,511 older parents participating in the baseline (2014) Chinese Longitudinal Aging Social Survey. A multidimensional Latent Class typology of solidarity was used to assign relationships to four relationship/family types distinguishing co-residence, exchange of support, and emotional closeness. One-child families are geographically and emotionally closer, and sons and firstborns are either co-resident or have migrated. Urban and younger families are more cohesive, and tend toward downward intergenerational support. Implications are discussed in the context of contemporary family dynamics in China.

MIDLIFE ADULTS' SUPPORT TO PARENTS AND CHILDREN: IMPLICATIONS FOR DIURNAL CORTISOL RHYTHMS

J. Graham¹, M. Huo¹, K. Kim², K. Birditt³, S. Zarit⁴, K.L. Fingerman¹, 1. *University of Texas-Austin, Austin, Texas*, 2. *University of Massachusetts-Boston, Boston, Massachusetts*, 3. *University of Michigan, Ann Arbor, Michigan*, 4. *Pennsylvania State University, State College, Pennsylvania*

Middle-aged adults provide regular support to their aging parents and their grown children. Prior studies have shown that providing support may have negative or positive implications for well-being, but studies have not examined how providing support on a daily basis may influence physiology such as daily cortisol responses. Middle-aged adults ($N = 171$; $Age = 56.16$) from the *Family Exchange Study* participated in a diary study and provided 4 days of saliva collection sampled 4 times a day. Multilevel models revealed that providing support to parents was associated with flatter cortisol declines across the day. Additionally, adults providing support to children showed elevated cortisol awakening responses and steeper cortisol declines compared to adults who did not provide support to children. Thus, providing support in normative situations (e.g., to adult children) may be rewarding, but providing support in nonnormative or demanding contexts (e.g., to aging parents) may exert a physiological toll.

CONSEQUENCES OF ADULT CHILDREN'S PERCEPTIONS OF MATERNAL DIFFERENTIAL TREATMENT ACROSS TIME

J. Sutor¹, M. Gilligan², S. Peng¹, J. Meyer¹, G. Con¹, K.A. Pillemer³, 1. *Sociology, Purdue University, West Lafayette, Indiana*, 2. *Iowa State University, Ames, Iowa*, 3. *Cornell University, Ithaca, New York*

Perceptions of mothers' favoritism and disfavoritism in adulthood are strong predictors of psychological well-being; however, it is not known whether perceptions that are sustained across time increase the risk for depressive symptoms beyond those found at a single point in time. In the present paper, we use data collected from 479 adult children nested within 219 later-life families as part of the first and second waves of the Within-Family Differences Study to explore the relative risk of single-time versus sustained perceptions

of mothers' differentiation. Preliminary findings reveal that adult children's perceptions of both favoritism and disfavoritism are relatively stable, consistent with findings based on mothers' own reports. Consistent with theories of cumulative stress, perceptions of sustained favoritism and disfavoritism were found to be stronger predictors of depressive symptoms than were perceptions at any single point. The effects are particularly strong for Black offspring who perceive sustained disfavoritism.

POSITIVE AND NEGATIVE EFFECTS OF PARENTAL DEATH ON ADULT SIBLING RELATIONSHIPS

M. Kalmijn, T. Leopold, *University of Amsterdam, Amsterdam, Netherlands*

How does the death of a parent affect the adult sibling relationship? Different theoretical perspectives suggest different outcomes. A solidarity perspective implies mostly positive effects on the sibling tie. In this perspective, the death of a parent is a major life event which increases the need for family support. A structural perspective implies mostly negative effects. In this perspective, the death of a parent implies the disappearance of a coordinating member in the family network, thereby gradually weakening the relationship between adult siblings. To test the perspectives, we analyze data from the *Netherlands Kinship Panel Study*, a large-scale survey that was collected over three waves between 2003 and 2010. The data allow us to examine changes in the sibling relationship before and after the death of the first and second parent. A range of characteristics of the sibling relationship can be used, including contact, support exchange, conflict, and quality.

SESSION 5250 (PAPER)

UTILIZING TECHNOLOGY IN THE CARE OF OLDER ADULTS

REGISTERED NURSES' USE OF COMPUTERIZED DECISION SUPPORT SYSTEMS IN DRUG MONITORING

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Registered nurses (RNs) working in long-term care settings have an important role in ensuring medication safety among older persons. There is an increasing focus on incorporating informatics, such as computerized decision support systems (CDSS) into RNs clinical practice. A qualitative interview study of 16 RNs aimed to identify and describe variation in RNs' perceptions of using a CDSS in drug monitoring. The CDSS provided information about e.g. inappropriate drugs and possible adverse drug reactions and was mainly used when performing medication reviews. The results showed that the RNs perceived the CDSS as supportive in terms of promoting standardized routines, team collaboration and giving possibilities for evidence-based clinical practice. However, there was a wish for increased collaboration and responsibility-taking from the physicians. Furthermore, in order to evaluate quality effects of medication reviews led

by RNs assisted with a CDSS, an exploratory study was performed. The study, performed in four nursing homes, had a cross-sectional follow-up design, three and six months after the introduction of the CDSS. The results demonstrated that the CDSS detected significantly more possible adverse drug reactions and drug-drug interactions, than the RNs suspected. However, RNs involvement in the performance of medication reviews, contributed with other valuable clinical information as untreated symptoms and lack of adherence. There was no significant improvement in the selected indicators of quality of drug use during the study period. Both studies suggest that a CDSS can support RNs in drug monitoring. Though, for the best results, a team-based approach should characterize the whole process.

TABLE- BASED CLINICAL FRAILTY SCALE— AGREEMENT BETWEEN ED PHYSICIANS, PATIENTS AND CAREGIVERS

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Frailty predicts adverse health outcomes, and the Clinical Frailty Scale (CFS) has been validated internationally to predict adverse outcomes and mortality. Emergency Departments (ED) are challenged to assess frailty due to a lack of training and limited time. We studied the agreement between ED physicians and patient self-assessments using a tablet-based CFS that includes graphics and short descriptors for each of 9 frailty categories.

We conducted a prospective observational cohort study of people >65 years seen in the ED of 3 Canadian academic centers. We excluded patients who were critically ill, visually impaired, or unable to communicate in English or French. We compared agreement on the tablet-based CFS between 4 categories of assessors: Patients, ED physicians, trained research assistants and caregivers using the kappa statistic.

We enrolled 274/380 eligible patients who provided complete data (72.1%). Their average age was 75.8 years, and 48.9% were female. Their median MOCA score was 23/30 (IQR = 17 – 26) and their median OARS was 26/28 (IQR 22–28). Agreement between physicians and research assistants was good ($\kappa=0.60$, 95% CI 0.50 – 0.70), as was physician-caregiver agreement and patient-caregiver agreement ($\kappa=0.66$, 95% CI 0.40 – 0.93). Agreement between ED physicians and patients was only moderate ($\kappa=0.47$, 95% CI 0.36 – 0.58). ED physicians more often rated patients as frail (40% vs 29%, $p<0.001$).

There was less agreement between ED physicians and patient self-assessments for the CFS compared to physicians-research assistant agreement and care-giver patient assessments. Future research should validate whether patient or physician assessments have higher predictive validity of frailty.

ONLINE GROUP EXERCISES FOR OLDER ADULTS: RANDOMIZED CONTROLLED TRIALS TO STUDY ADHERENCE AND EFFECTS

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Intervention programs to promote physical activity in older adults, either in group or home settings, have shown equivalent health outcomes but different results when considering adherence. Group-based interventions seem to achieve higher participation in the long-term. However, there are many factors that can make of group exercises a challenging setting for older adults. A major one, due to the heterogeneity of this particular population, is the difference in the level of skills. In this paper we report on the physical, psychological and social wellbeing as well as on the adherence outcomes of a technology-based intervention that enable online group exercises in older adults with different levels of skills.

A total of 122 older adults over 65 followed a personalized exercise program based on the OTAGO program for fall prevention, for a period of eight weeks. Participants could join online group exercises using a tablet-based application. Participants were assigned to study groups corresponding to technologies enabling different degrees of virtual group exercising and social interactions, and equipped with sensors detecting physical activity. Pre- and post- measurements were taken to analyze adherence, behavior change, and the physical, psychological and social wellbeing outcomes.

After the training program there were improvements in all groups in terms of physical outcomes, but the group with technology for virtual group exercising showed a significant and large positive difference in terms of adherence to the training program. In addition, this group showed a higher use of the process of behavior change, suggesting an effect of the persuasion strategies.

NEW COMMUNICATION TECHNOLOGIES FOR ENGAGING OLDER PATIENTS, FAMILIES, AND CAREGIVERS IN HEALTHCARE

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New communication technologies—such as the Internet, social media applications, mobile and “smart” phones—can facilitate patients, families and caregivers’ access and use of health information and navigation through the healthcare system. This scoping review mapped the literature on new communication technologies to engage older adults, their caregivers, and families in the healthcare system. The review identified types of technologies, how they are used, outcomes, strengths, weaknesses, and challenges. Peer-reviewed and grey literature was searched for empirical studies published between January 2002 and December 2014. Three reviewers reviewed the abstracts for inclusion. Articles were included if they focused on older adults (55+ years of age) and involved a “new” communication technology that facilitated an engagement with the healthcare system. 69 articles were identified as appropriate for inclusion. Overall findings indicate that various new communication technologies (i.e. e-health records, email and smartphone apps) can be used to improve engagement with the healthcare

system, even amongst frail older adults. Users’ concerns with using new communication technologies included design, usability, and lack of experience. There is a gap in the literature concerning social media applications and how technology might influence and/or improve the caregiving experience. These findings suggest that training is an important component for introducing technology use in older patients, caregivers and families. While new communication technologies are a viable option for improving engagement with healthcare systems, older adults’ particular health needs must be considered for effective uptake and usage of these technologies.

SESSION 5255 (SYMPOSIUM)

RESOURCE CENTERS ON MINORITY AGING: STATE-OF-THE-ART RESEARCH

Chair: S.P. Wallace, RCMAR National Coordinating Center @ UCLA, Los Angeles, California

Health disparities between elders of color and non-Hispanic whites are well documented and their elimination continues to be a public health and policy priority. Promoting state of the art research in reducing these disparities is the goal of the the Resource Centers for Minority Aging Research (RCMAR) network, a NIH/NIA-funded program that provides mentoring and career support for junior faculty (RCMAR Scholars) engaged in minority aging research. This session highlights recent research from selected RCMAR Scholars that is pushing the field forward in identifying sources of disparities and interventions to reduce them.

PSYCHOPHYSIOLOGICAL WELL-BEING AMONG AGING AFRICAN AMERICANS: A LATENT CLASS ANALYSIS

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Psychopathology and chronic physical health conditions often co-occur among aging populations. Yet African Americans generally report more physical than mental health problems. This study examined social patterns in psychophysiological well-being among African Americans. Analyses were based on 697 individuals ages 22 to 92 in the Carolina African American Twin Study of Aging. Outcomes assessed include depressive symptoms (CES-D), life satisfaction, hypertension, and body mass index. Analyses identified three latent classes (Entropy²=0.65; AIC=136.12; Adjusted-BIC=176.43): (1) good physical/poor mental health (34%), (2) fair physical/good mental health (50%), and (3) poor physical/mental health (16%). Health status varied significantly by sociodemographic characteristics; younger African Americans had higher risk of poor mental/good physical health ($p<0.001$), while poor mental/physical health was associated with older age ($p<0.001$). Study findings demonstrate social patterns in psychophysiological well-being and suggest that the co-occurrence of physical/mental health problems are more prevalent in later life among African Americans.

BIOBEHAVIORAL FACTORS AND SELF-RATED HEALTH IN AFRICAN AMERICAN MEN: NHANES 2009–2010

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Self-rated health is a predictor of health. Men with low self-rated health, and diabetes or psychological distress have an increased risk of mortality. This study assessed the relationships of diabetes, depressive symptoms, and physical activity with self-rated health.

Investigators used 2009 – 2010 NHANES data (survey measures of demographics, physical activity, mental and physical health, and perceived health) and participants were 45 years and older. Covariate-adjusted multiple linear regression was used to assess associations of self-rated health, diabetes, depressive symptoms, and physical activity.

Mean age (n=270) was 60.17 ± 9.36 years. Thirty percent (n=81) had low self-rated health and 27% had diabetes. Fewer days of vigorous recreational activities, reporting high levels of depressive symptoms, and diabetes were each associated with lower levels of self-rated health, p 's < .05.

Findings suggest the importance of interventions that target diabetes, depressive symptoms, and physical inactivity to improve self-rated health among this subset of men.

DIABETES EDUCATION AND INTERGENERATIONAL TECHNOLOGY TRANSFER

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We will describe how the implementation of an intergenerational diabetes and technology knowledge transfer program, developed from a proven intervention for HIV/AIDS, resulted in: 1) increased health literacy and self-efficacy for diabetes self-management (DSM), and 2) intergenerational technology knowledge transfer to support DSM. There are 2 groups of participants: 1) African Americans aged 65 or older diagnosed with type 2 diabetes and, 2) adolescents aged 18 – 25 connected to the diabetic participants via family or social-relationships. The 2 project sites were located in Flint and Detroit, Michigan.

We describe the current level of digital knowledge, technology readiness, and self-efficacy for African Americans aged 65 or older, and the impact adolescents have on African American elders' perceptions of relevance, knowledge, and self-efficacy concerning digital skills, access, and resources that can support DSM. We target a very important research problem, addressing health disparities by enhancing DSM skills via intergenerational technology transfer.

CULTIVATING LIFE IN A REVITALIZING CITY: GARDENS AND HEALTH AMONG OLDER AFRICAN AMERICANS IN DETROIT

J. Robbins-Ruszkowski, *Institute of Gerontology and Department of Anthropology, Wayne State University, Detroit, Michigan*

Gardening can promote physical, social, and emotional wellbeing for older adults in varied circumstances. Additionally, connections to place are important for wellbeing in later life, but can be threatened by transformations in the built environment. Several direct pathways from gardening to health may exist. Gardens can improve nutrition, bolster a sense of wellness, create and strengthen social connections, and transform urban landscapes. In contexts of urban structural inequality like Detroit, gardens have potential to transform bodies, persons, communities, cities, and broader polities. Indeed, gardening can be a medium for enacting self-efficacy and empowerment for African Americans. However, research has not yet focused on 1) the late-life-specific dimensions of urban gardening, or 2) how historical and political dimensions of place contribute to wellbeing in late life. In this presentation I will report on preliminary findings from an ethnographic pilot study of gardening among older African Americans in Detroit.

MEN LACKING A CAREGIVER HAVE GREATER RISK OF LONG-TERM NURSING HOME PLACEMENT AFTER STROKE

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It remains unclear whether racial differences in caregiving predicts nursing home placement (NHP). Within the REasons for Geographic and Racial Disparities in Stroke (REGARDS) Study linked to Medicare claims, caregiver availability was measured by asking, "If you had a serious illness or became disabled, do you have someone who would be able to provide care for you on an on-going basis?" NHP was determined using a validated algorithm and risk estimated using adjusted Cox regression. Among 703 beneficiaries (43% black) with stroke from 2004–2012, NHP occurred for 16%. Lacking a caregiver affected 28% with NHP, resulting in a 1.7 hazard ratio (HR) (95% CI 1.1–2.6). Low-income and lacking caregivers had greater risk, HR 2.8 (95% CI 1.4–5.5). Blacks were twice as likely low income (38% vs 17%, $\chi^2 = .28$, $p < .0001$). Caregivers and income are jointly important factors of NHP contributing to care disparities between blacks and whites.

SESSION 5260 (SYMPOSIUM)

COMMUNITY ENGAGED MODELS TO ENHANCE PHYSICAL AND SOCIAL DIMENSIONS OF HEALTH IN OLDER ADULTS

Chair: K. Khan, *University of British Columbia, Vancouver, British Columbia, Canada*

In Canada, older adults will soon outnumber children, and there will be a greater increase in the proportion of adults over age 80 than any other age group. Maintaining one's mobility is considered the best guarantee of older adults being able to cope and remain in their homes and communities. There is clear evidence that neighbourhoods, communities and social networks where older adults live, directly affect their mobility and health.

In this panel presentation, we draw on our community based research across four interconnected programs of inquiry to 1: highlight the need to move beyond the 'instrumental/functional' understanding of mobility to explore what conveys meaning for older people, particularly in public urban environments; 2: describe the physical activity implications of a newly developed Greenway among older adults living in a highly walkable urban environment; 3: emphasize the importance of evaluating implementation of a physical activity intervention delivered at-scale across BC, and 4: describe the impact of a scaled-up physical activity intervention on dimensions of older adults' physical and social health. This session will be of particular interest to those who work with an aging population and social and urban planners who work across the age spectrum to design inclusive communities for people of all abilities. To animate our discussion we will use a series of short (2–3 minute) video vignettes (produced by our team) to foreground the voices and experiences of older adults.

"IT MAKES YOUR LIFE WORTHWHILE, IT GIVES YOU A PURPOSE IN LIVING": MEANINGFUL MOBILITY EXPERIENCES

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In the ageing literature, mobility is often aligned most closely with physical movement while the relation between older adult's beliefs, attitudes, emotions and preferences and mobility are largely unexplored. To address this, we conducted a constructivist grounded theory study to explore what conveys meaning and motivation for older adults to engage in active forms of mobility. We conducted 24 qualitative in-depth interviews with 6 highly active, low-income community (urban) dwelling older adults across 4 years. Active forms of mobility were facilitated by participant's perceived benefit of physical movement, desire to establish control of the aging process and maintain independence, engagement in meaningful activities and affordability of transportation, social activities and daily needs (e.g. food). In conclusion, our study extends previous research to highlight

the crucial role that older adults' psychological and social dispositions play in facilitating active forms of mobility.

CHANGES IN PHYSICAL ACTIVITY AMONG OLDER ADULTS AFTER A NEW GREENWAY DEVELOPMENT IN VANCOUVER, BC

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Supportive built environments that promote walking can increase physical activity (PA), yet little work leverages construction of new infrastructure to examine changes in PA. We acquired GPS and accelerometry data from older adult residents (≥ 60 years) of the Active Streets, Active People study ($n=121$). We measured average change between 2012 and 2014 in transportation-related PA, after the 2013 development of the Comox-Helmcken Greenway, a 2 km corridor in downtown Vancouver. Number of trips along the Greenway and a nearby street remained constant (10 trips/week on the Greenway; 9 trips/week on nearby street), yet the amount of PA declined both along the Greenway and the control street (-35 min/week). However, among those 70–74 years, overall PA increased. Declines may represent age-related decreases in PA or a lag between infrastructure and adaptive behaviour changes. Our analysis provides insight into the nuanced ways that a Greenway encourages Vancouver's oldest residents to maintain PA.

IMPLEMENTATION MATTERS: SCALE-UP OF AN OLDER ADULT PHYSICAL ACTIVITY MODEL

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To improve the health of populations, effective interventions from research settings must be implemented at scale. Further, physical activity reduces the risk of chronic disease and improves older adult health. Despite this, we know little about delivery of physical activity interventions at scale. Thus, with key partners we developed, implemented and assessed an evidence-based intervention (Choose to Move; CTM) that aimed to increase physical activity and social connectedness of low active older adults across BC.

We describe our conceptual framework for implementation and evaluation of CTM at scale and share findings from our mixed methods implementation evaluation, with a focus on delivery partners. At baseline for decision makers at delivery partner organizations (semi-structured interviews); funding, relationships and infrastructure were perceived as key facilitators to delivering CTM at scale. Choose to Move has potential to be delivered more broadly as a feasible, scalable model for community-wide physical activity among older adults.

IMPACT OF A PHYSICAL ACTIVITY INTERVENTION ON PHYSICAL AND SOCIAL DIMENSIONS OF OLDER ADULTS' HEALTH

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Despite the many benefits of physical activity (PA), 85% of older adults in Canada do not meet PA guidelines.

With community partners, we implemented a scalable, activity coach supported, evidence- and choice-based PA intervention (Choose to Move (CTM)) for low active (self-identified or <150 mins PA/wk) older adults (age>65 y). CTM supports the older adult priority within British Columbia's PA strategy.

We conducted a 3-month pre-post evaluation of cycle 1 delivery of CTM at scale across BC. We assessed PA and social connectedness (loneliness, social exclusion and interaction) by questionnaire. We found that participants (n=51) were significantly more active (mean +2.2±2.5 days/wk) following the intervention. Social exclusion (n=53) did not change; however, both loneliness and social interaction improved slightly. In conclusion, a choice-based model of PA designed for scalability and delivered at scale may be one strategy to enhance PA and social connectedness in previously low active older adults.

SESSION 5265 (PAPER)

DEMENTIA CARE AND CAREGIVERS

BARRIERS AND FACILITATORS IN PREPARING CAREGIVERS FOR THE DEATH OF AN ELDER WITH DEMENTIA

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For caregivers the dying process and the death of individuals with dementia is particularly difficult due to the uncertainty surrounding the process of dying and the timing of death. Due to the ambiguous nature and uncertain dying trajectory of dementia, it is likely that caregivers find themselves unprepared for the death, putting them at risk for increased symptoms of distress. This study sought to address the gaps that exist in our understanding of the barriers and facilitators of preparedness. Results reported here are from a qualitative study in which over a twelve month period, I conducted 30 in-depth, one-time qualitative interviews with bereaved caregivers of family members age sixty-five and older who died with a dementia-related diagnosis. In this study, three central themes were emphasized and identified: *barriers to preparedness; welcoming death; and facilitators of preparedness*. These findings highlight the importance for healthcare professionals to ensure that a person with dementia is as physically and emotionally comfortable as possible, and that the caregiver is supported and validated in their experience of the decline of the person with dementia. Furthermore, these results suggest that in preparing a caregiver for the death, it may be helpful for healthcare professionals to assess

caregivers' internal/external supports, include a faith-based support assessment, and ascertain their desire/ability to be self-directed in seeking out information and resources. The results of this study indicate a number of potential implications for the development, implementation, and testing of interventions for caregivers of persons with dementia at the end of life.

AGITATION, AGGRESSION, AND REJECTION OF CARE IN RESIDENTIAL CARE FACILITY RESIDENTS WITH DEMENTIA

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Objectives: To estimate prevalence and co-occurrence of agitation, aggression, and rejection of care in persons with dementia (PwDs) in USA residential care facilities.

Methods: Cross-sectional analysis of the 2010 National Survey of Residential Care Facilities involving 3,434 residents with dementia. Behavioral symptoms data for past 30 days were obtained from interviews with staff. Presence of behaviors was based on the recorded value for behavioral items on the survey. PwDs exhibiting 'being excessively noisy' and/or 'moving aimlessly' were considered agitated. Those exhibiting 'destroying property', 'verbally threatening other persons', or 'being physically aggressive towards other persons' were considered aggressive. 'Refusing to take prescribed medicines' and/or 'refusing to bathe' was considered rejection of care.

Results: Of 3,434 PwDs, 55.2% (n=1,895) exhibited one of the three behaviors in previous month, with 40.3% exhibiting agitation, 21.7% aggression, and 35.9% rejection of care. Prevalence of aggression (1.7%, n=59) occurring alone was much lower than prevalence of agitation alone (12.8%, n=438) and rejection of care alone (10.8%, n=354). Among PwDs exhibiting any behavior, behaviors mostly co-occurred with 6.9% (n=131) exhibiting agitation and aggression, 17.3% (n=327) agitation and rejection of care, and 3.7% (n=70) aggression and rejection of care and 25.5% (n=483) exhibiting all three behaviors.

Conclusion: These are the first national estimates for agitation, aggression, and rejection of care in PwDs living in residential care facilities, indicating a high prevalence and co-occurrence. Identifying subgroups of co-occurring behaviors may facilitate developing effective treatment strategies for these behaviors as the context in which they occur may be different.

AN INTEGRATIVE MODEL PREDICTING HEALTH OUTCOMES OF FAMILY CAREGIVERS OF PERSONS WITH DEMENTIA

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Family caregiving for dementia is burdensome and challenging, and leads to poor caregivers' health. Research in this field has adopted the stress appraisal and coping process to explain the associated health impact. Little attention has been paid to how such process evolves synergistically with the intrapsychic, interpersonal and contextual factors in predicting caregiver's health. Integrating theories in

stress appraisal and coping, ecological system and human development, this study developed and tested an integrative model to precisely explain the caregivers' health in the context of dementia. A total of 400 family caregivers of PWD (mean age = 58.2 ± 12.9) were interviewed with validated questionnaires. Path analysis indicated that the effects of caregiving stressor, contextual (familism, social support) interpersonal (dyadic relationship) and intrapsychic factors (sense of coherence, neuroticism) on caregivers' health were mediated by stress appraisal and coping process. Caregivers who handled more dementia symptoms ($\beta=0.195$, $p<0.001$), with poorer dyadic ($\beta=0.326$, $p<0.001$) and social support ($\beta=-0.180$, $p<0.001$), and be more neurotic ($\beta=0.205$, $p<0.001$) perceived the caregiving situation as more burdensome, whereas those with better dyadic relationship ($\beta=-0.304$, $p<0.001$) perceived more caregiving gain. Caregivers with a stronger sense of coherence ($\beta=0.154$, $p<0.01$), and less strong belief on familism ($\beta=-0.171$, $p<0.001$) were more likely to use active coping. Active coping also mediated the effects of caregiving gain and burden, and had significantly positive direct effects on both physical ($\beta=0.285$, $p<0.001$) and mental health ($\beta=0.542$, $p<0.001$). based on the findings, various recommendations on service and theory development in the context of dementia caregiving were proposed.

WHY AREN'T PEOPLE WITH YOUNG ONSET DEMENTIA AND THEIR CAREGIVERS USING FORMAL SERVICES?

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Despite reporting high levels of burden, people with young onset dementia (YOD) and their caregivers underuse formal services. Whether barriers to use are similar to those for older people are unknown. The aim of this mixed-methods study was to assess both patient/caregiver-related and service-specific/contextual barriers to service use in YOD, and establish recommendations for service design.

86 people with YOD and/or caregivers reported use of a list of services, and reasons for non-use. Quantitative data included dementia severity, functional impairment, behavioural and psychological symptoms of dementia (BPSD), caregiver burden and social network, and informal care use. Qualitative structured interview and focus group responses were pooled and analysed for themes.

Although at least one service was recommended to most participants (96.8%), 66.7% chose not to use one or more of these. Service non-use was related to social isolation and BPSD (both $p<0.05$), but not to age, sex, language, severity of impairment, functional disability, caregiver burden, or informal care. The reported barriers to service use were primarily YOD-specific, such as the service age limits or availability outside of working hours. Participants reported that services were inflexible and did not provide meaningful engagement. Being grouped with older clients had a negative psychological impact for many.

Barriers to service use in YOD are different to those most important to older people with dementia, and were often specifically related to age. Policy makers and service designers

must allow for flexible delivery aimed at meaningful engagement for people with YOD.

ACTIVITIES OF DAILY LIVING AND BEHAVIORAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA

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Behavioral and psychological symptoms of dementia (BPSD) are a well-known risk factor for an increased burden of care for staff in long-term care facilities and family caregivers. We conducted a cross-sectional survey of older residents with dementia or similar symptoms ($n=312$) in 2015 at 10 selected long-term care facilities in Hokkaido, Japan. Data were collected with a questionnaire completed by care staff. The questionnaire included a standardized scale to assess activities of daily living (ADL), cognitive function (CF), and BPSD. Our previous study demonstrated that an imbalance between ADL and CF was associated with BPSD among residents in long-term care facilities. In this study, we investigated the association between ADL and BPSD among facility residents by CF, based on high and low CF groups. The prevalence of BPSD was calculated as: 1) having any symptoms (AS); 2) having only behavioral symptoms (BS); 3) having only psychological symptoms (PS); and 4) having both behavioral and psychological symptoms (BPS). Of the 312 residents with dementia or similar symptoms, the prevalence of AS was 64%, BS was 21%, PS was 15%, and BPS was 29%. Among residents with high CF, functional decline in grooming was associated with having PS. In contrast, among those with low CF, maintenance of feeding was associated with having PS. Our findings suggest that it is important to support residents' ADL functioning as their CF changes, to help manage BPSD in long-term care facilities.

SESSION 5270 (SYMPOSIUM)

SUPPORTING AT-RISK OLDER PERSONS IN SWEDISH, JAPANESE, AND U.S. COMMUNITIES: SOCIAL TIES AND HEALTH

Chair: M.E. McCall, *Samuel Merritt University, Oakland, California*

In this symposium, a group of researchers from Japan, Sweden and the United States present work examining various types of social networks and informal care supports for various groups of at-risk seniors. These include: the relationship between social participation and longevity in very-old community-residing seniors in Japan; those with varying levels of cognitive impairments in Sweden who are at risk of nursing home admission, community-dwelling elders who live alone in Sweden but participate in neighborhood meeting places who are at risk for social isolation; and social support through community meeting places for older persons in south Louisiana since Hurricane Katrina. As all of these societies age, and within environments of shrinking economic resources, the role of informal supports for older persons at risk is a critical component of maintaining independence and dignity of persons in late life. This symposium takes a variety

of cultural and need settings and examines them through a common lens of social ties, utilizing the theory of social networks and social ties by Mark Granovetter. We introduce the concept of thin ties, and how informal but regular connections with others can prevent loneliness, provide meaning, and delay nursing home admissions. Results from both quantitative analyses ($n=177$ of cognitively impaired persons in Sweden; $n=1,500+$ in Japan) and qualitative (interview studies in Sweden and the United States) demonstrate the important impact of thin, but significant, social ties on both longevity and quality of life among older persons at risk.

THIN TIES AND SOCIAL CONTEXT: THE IMPORTANCE OF MEETING PLACES FOR OLDER PERSONS

C. Henning, *Jonköping University, Jonköping, Sweden*

Granovetter's theory of social ties discusses strong ties, weak ties, and absent ties. In a study in Tröllhattan, Sweden, the concept of thin ties was established. Through interviews and focus groups, the outcomes for older persons visiting a local meeting place included creating a structure for their everyday life, the opportunity for functional and rehabilitative activities, a sense of social cohesion and connectedness, and the significance of this in providing meaning for their lives. Additional data from visitors and volunteers, as well as observations of the meeting place and its participants, showed that while a person's home may be the source for thick ties, as these diminish in late life, the role of thin ties, which can be facilitated through the creation of meeting places in communities, could prevent social isolation and the associated decline in physical and mental health functioning that can result from loneliness and lack of connectedness.

MEETING PLACES AS A RESOURCE IN POST-TRAUMATIC CITIES: HURRICANE KATRINA'S AFTERMATH

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In this ongoing study, older residents in areas of southern Louisiana have been followed since 2005, when Hurricane Katrina hit the United States and devastated a massive number of communities. Interviews and program evaluations were conducted. For both people who left their homes and returned later or never returned, and those who did not leave their communities after the storm, meeting places and the establishment of various ties were found to be critical components of survival, and the ability to recover and process the traumatic events and their consequences. In the context

of models of emergency response management, the role of establishing meetings places and facilitating the development of social ties within a community are discussed.

SUPPORT FOR PERSONS WITH VARIED COGNITIVE FUNCTIONS: FORMAL AND INFORMAL TIES AND SUPPORT

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Among persons with dementia at risk of nursing home admission and with various cognitive functions, structured interviews were conducted about functional capacities, amount of utilized formal and informal care and ties. Persons with dementia at risk of nursing home admission ($n=177$) were divided in two groups regarding cognitive function and compared across age, living circumstances and various levels of support need and mental status, as well as utilization of formal and informal support. Results showed that the group with more cognitive impairment was significantly younger, more often cohabitating, more dependent and had more neuropsychiatric symptoms. Regarding informal care and service, next of kin provided significantly more help and supervision regarding time and amount of days to the group more cognitively impaired. Improvements are desired to adapt formal care and service meeting increased needs in persons with dementia and reducing burden of next of kin

SOCIAL INTERACTION, SOCIAL TIES, AND LONGEVITY IN A COMMUNITY-DWELLING SAMPLE IN JAPAN

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Longitudinal studies of a village in Japan that has been followed for over 20 years provide data to analyze the relationship between various types of social interaction and participation and social ties, and longevity and functioning among older residents in a small fishing village ($n=5000$) in Japan. Data have been collected every three years in this village for over 20 years. Interviews and assessments include physical and mental health conditions assessments, as well as data about level and types of social interaction and participation (from telephone contacts to participation in local community meetings). Data have shown over time that social interaction is positively related to longevity and life satisfaction. More recent analyses focus on various types of social activities and how those change as one ages. While the types of activities may change (e.g., due to physical limitations), the simple element of being connected, even through thin ties, remains important.

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