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### Title

Geriatric Conditions and Health Care Utilization Among Older Adults Living in Subsidized Housing

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estimates. The proportion of elderly Americans without any living biological or step children increased from 8.1% in 2004 to 9.4% in 2014. Compared to childless elders in 2004, those in 2014 were younger (mean age=76.8 years versus 73.8 years,  $p<0.01$ ) with a higher proportion completing college education (20.7% versus 37.5%,  $p<0.01$ ) or were cognitively intact (64.6% versus 73.6%,  $p<0.01$ ). However, childless elders in 2014 had more chronic conditions than those in 2004 (mean=2.5 versus 2.3,  $p<0.01$ ). The proportion of childless elders living independently (alone or with a spouse) (81.6% in 2004 versus 82.6% in 2014) or living with others (10.0% in 2004 versus 13.5% in 2014) remained relatively stable, whereas the proportion living in nursing homes declined significantly from 8.4% in 2004 to 4.0% in 2014 (adjusted odds ratio [OR]=0.07,  $p<0.01$ ). A sensitivity analysis limited to childless elders without biological children showed that they accounted for 9.9% of the elderly population in 2004 versus 11.9% in 2014, while other results were generally similar. These findings can help inform long term care needs of childless elders.

#### AGE-FRIENDLY COMMUNITIES: ENHANCING COMMUNITY CONNECTIONS

Patricia A. Oh<sup>1</sup>, 1. *University of Massachusetts, Boston, Boston, Massachusetts, United States*

Age-friendly communities promote active, healthy, socially connected aging. Opportunities for social connections are key for older residents to enjoy the best possible health and well-being. Communities that join the AARP Network of Age-Friendly States and Communities (AARP NAFSC) include an aging lens in eight areas of community life—social participation, respect and social inclusion, civic participation and employment, communication and information, housing, transportation, community support and health services, and outdoor spaces and buildings. By addressing factors in these eight areas, communities encourage residents to enjoy formal participation in activities and groups and informal contacts with friends, neighbors and other residents. The purpose of this exploratory study was to find out if communities that join the AARP NAFSC plan and implement changes to enhance social connectedness. A review of 62 AARP-approved action plans nationwide, showed that social connectedness was included in 74% of the mission statements and was a goal in 92% of the plans. The lack of resources in rural communities creates special challenges; many age-friendly initiatives depend on community volunteers to implement changes on a shoe-string budget. To learn how rural age-friendly communities promote social connections, an email survey was distributed to 46 AARP NAFSC communities in rural Maine. All the communities responded. Fostering social connectedness was an explicit goal for 88% of the communities. Areas of implementation included services and activities (83%), communication (61%), transportation (30%), programming to include isolated residents (26%), accessible public spaces (22%), and intergenerational volunteering (17%). Implications will be discussed.

#### IDENTIFYING SALIENT TRAINING AND SUPPORT NEEDS WITHIN A STATEWIDE LIFELONG COMMUNITIES NETWORK

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As the older adult population grows in the United States, the need for community planning approaches that respond to the needs of older adults is of increasing importance. As a result, lifelong community movements, encompassing models such as Age-Friendly Communities, Livable Communities, and “Aging-in-Place” initiatives are proliferating. Maine, the oldest state by median age, currently hosts the largest number of AARP designated Age-Friendly Communities efforts. Given the size of this network, the purpose of this study was to collect descriptive information about the status of existing lifelong communities initiatives, their training and support needs, and the desired format and configuration of future training programming. An electronic survey was distributed to community representatives from 76 lifelong communities initiatives throughout Maine. A total of 38 communities responded to the survey representing a response rate of 50%. The majority of respondents (80.4%) reported having a committee or other coordinating group guiding their work. A large portion have completed planning phase activities including hosting focus groups (79.5%), carrying out a survey (66.7%), and identifying a list of local assets (59%). Fewer have completed the plan drafting phase (17.9%). A majority reported receiving assistance from AARP (66%) and a regional educational consortium (66%). The areas with highest self-reported training needs (based on mean ratings) are: Volunteer recruitment and retention, specialized trainings on Age-Friendly Community topics, Dementia-Friendly Communities topics, and outreach and engagement strategies. Implications will be discussed including optimal configuration of training and support for similar such networks.

#### GERIATRIC CONDITIONS AND HEALTH CARE UTILIZATION AMONG OLDER ADULTS LIVING IN SUBSIDIZED HOUSING

Sarah E. Kler,<sup>1</sup> Sun Young Jeon,<sup>2</sup> Kanan Patel,<sup>2</sup> Christine Ritchie,<sup>2</sup> Krista Harrison,<sup>2</sup> Kali S. Thomas,<sup>3</sup> and Rebecca Brown<sup>4</sup>, 1. *Warren Alpert Medical School of Brown University, Providence, Rhode Island, United States, 2. UCSF, San Francisco, California, United States, 3. Providence VA Medical Center, Providence, Rhode Island, United States, 4. University of Pennsylvania, Philadelphia, Pennsylvania, United States*

In the US, 1.7 million low income older adults live in subsidized housing. Previous research suggests that subsidized housing residents have poorer health status than older adults in the general community. However, little is known about the prevalence of geriatric conditions. To understand these factors we conducted a retrospective cohort analysis of 11,558 Medicare enrollees ages 65+ who were enrolled in the National Health and Aging Trends Study in 2011 or 2015, including 507 living in subsidized housing and 11,051 in the general community. We compared subsidized housing residents to general community residents across measures of sociodemographics, functional limitations, and geriatric syndromes. We also compared the prevalence of hospitalization, move to a higher level of care, and death within five years. Results suggest that compared to general community

residents, subsidized housing residents were more likely to be women (66% vs. 55%,  $p < 0.01$ ), racial/ethnic minorities (50% vs. 18%,  $p < 0.01$ ), and to lack a high school diploma (50% vs. 20%,  $p < 0.01$ ). They also had poorer health status, including higher rates of self-reported functional impairment (difficulty with 2 or more ADLs; 16% vs. 10%,  $p < 0.01$ ), probable dementia (15% vs. 8%,  $p < 0.01$ ), and frailty using the three-level Fried frailty index (55% vs. 26%,  $p < 0.01$ ). Subsidized housing residents also had higher rates of hospitalization (29% vs. 22%,  $p < 0.01$ ), move to a higher level of care (4% vs. 3%,  $p < 0.01$ ), and death (10% vs. 7%,  $p < 0.01$ ) compared to community-residing peers. These findings will help inform targeted interventions to improve aging in place for this vulnerable population.

## SESSION 1310 (POSTER)

### BIOLOGY OF AGING

#### ANTI-AGING PROTEIN CD9 AFFECTS AGE-RELATED HEART FAILURE

Sriya T. Jonnakuti,<sup>1</sup> and Mujib Ullah<sup>1</sup>, *1. Stanford University, Palo Alto, California, United States*

The CD9 is transmembrane protein that plays a critical role in many cellular processes including aging associated cardiac pathologies. The heart function declines in the aged population. Ageing is strongly associated with many age-related conditions such as increased risk of heart failure. If aging can be prevented slowed down or even reversed, heart failure and other signs of aging could be controlled or even cured. It is unknown whether CD9 is cardioprotective. The objective of this study is to investigate whether a decline CD9 levels contributes to aging-related heart failure. Our data shows that CD9-deficient aged mice develop cardiac abnormalities and pathological cardiac hypertrophy, Cardioprotection by CD9 in old mice is followed by the downregulation of SIRT6 in the heart, and CD9 overexpressed exosomes ameliorates cardiac pathologies in treated mice and improves their long-term survival. Additionally, the serum level of CD9 decreased significantly in aged mice. CD9 overexpressed exosomes are cardioprotective and improve cardiac function in aged mice. These exosomes mediate their paracrine effects by attenuating, blood pressure, heart beat, reactive oxygen species and fibrosis. Remarkably, CD9 overexpression reversed fibrosis associated brain natriuretic peptide (BNP), Sirt6, and galectin 3 (Gal-3). These results provide a new perspective on the pathogenesis of cardiomyopathies and open new avenues for treatment of the disease.

#### THE ROLE OF POLYGENIC SCORE AND COGNITIVE ACTIVITIES ON COGNITIVE FUNCTIONING OF OLDER ADULTS

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Purpose of study: This study investigated whether and to what extent genetics for cognition and engagement in cognitive activities are related to trajectories of cognitive functioning in older adulthood. Furthermore, we explored whether engaging in cognitive activities could moderate the

effect of genetic traits on cognitive functioning in general and across different dimensions: fluid and crystallized intelligence. Design and Methods: Growth curve models were estimated using the sample of 3,129 individuals aged 50 or older (10,000 observations) in the U.S. from 2000-2012 waves of the Health and Retirement Study. Polygenic score for general cognition (PGS) was used to measure genetic traits for cognition, and the number of hours spent per week on each of nine cognitive activities was used to measure individuals' level of the engagement in cognitive activities. Results: PGS for cognition, reading books, using a computer, and playing cards/games/solving puzzles had positive effects on cognitive functioning. The positive effect of PGS on cognitive functioning was reduced from excessive TV watching. The positive effect of PGS on cognitive functioning was strengthened by spending more hours reading papers/magazines. The measure of fluid, rather than crystallized intelligence, appeared to drive these results. Conclusion: Findings suggests that while genetic factors predict cognitive functioning, engaging in different types of cognitive activities could yield different cognitive functioning trajectories in later life. Practical implications are that older adults should be more selective when choosing their leisure activities to promote cognitive health.

#### DETERIORATING HEALTH AMONG OLDER ADULTS AND CORTISOL: LONGITUDINAL EVIDENCE FROM THE MIDUS STUDY

Julie Ober Allen<sup>1</sup>, *1. University of Michigan, Ann Arbor, Michigan, United States*

Various mental and physical health conditions common among older adults have been linked to cortisol dysregulation (i.e., blunting of daily cortisol patterns) in predominantly cross-sectional studies. Researchers have suggested that cortisol dysregulation interferes with regulatory functions throughout the body and brain, disrupting multiple biological systems, and contributing to the development or progression of negative health outcomes over time. Prospective studies are needed to investigate the causal direction of cortisol dysregulation and poor health outcomes. This study examined whether diurnal cortisol patterns predicted subsequent health deterioration using longitudinal data from the National Survey of Midlife in the US (MIDUS). Analysis was restricted to 1,336 participants who provided salivary cortisol (4 samples/day for 4 days) and health data in MIDUS II (2004-2009) and updated health data in MIDUS III (2013-2014) (mean age=56, 45% male, 94% White). We simultaneously modeled multiple measures of diurnal cortisol patterns and their relationships to changes in mental (depressive symptomology) and physical (self-rated physical health, functional limitations, and number of new chronic health conditions) health from MIDUS II to III. All indicators of physical health deterioration were associated with cortisol, though not all measures demonstrated relationships in the expected direction. Mental health change over time was unrelated to cortisol. Older age was also associated with increased functional limitations and more new chronic conditions but improvements in mental health over time. Findings suggest that diurnal cortisol patterns contribute to physical health deterioration over time, independent of age-related decline, but not mental health changes in later life.