

88% white) with MCI received the PrecivityAD blood-based biomarker test. The mean APS was 31 (range 0-91): 13 patients had low scores (APS 0-35), 2 had high scores (58-100) and 3 had intermediate (inconclusive) scores (APS 36-57). The mean probability of Alzheimer's disease (AD) diagnosis was rated by clinicians as 63% (range 25-80) pre-test and 31% post-test (range 5-95) ( $p < 0.0005$ ). AD probability rated by clinicians was decreased in 12/13 low APS patients and increased in 2/2 high APS patients. Donepezil was discontinued in 5/8 low APS patients on therapy and initiated in 1/1 high APS patients not on therapy, representing a change in treatment management in 33% (6/18) of study patients. In summary, this blood-based biomarker test showed clinical utility in its association with physician decision-making around diagnostic certainty and drug therapy management in MCI patients.

#### EFFECTIVENESS OF HOME- AND COMMUNITY-BASED SERVICES IN DECREASING HEALTH CARE SERVICE AND EXPENDITURE IN TAIWAN

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**Background** Whether long-term care service use decreases older adults' health care service use and cost has been a strong interest among aging countries, including Taiwan. The current study examined the impact of continuous use of HCBS offered by Taiwan's LTC plan 2.0 on older adults' health service utilization and cost overtime. **Methods** This study used the LTC Plan 2.0 database and the National Health Insurance Plan claim dataset, and included 151,548 clients who had applied for and were evaluated for LTC services for the first time from 2017 through 2019 and continuously used any LTC Plan 2.0 services for six months. Outcome variables were users' health service utilization and health care cost 12 months before and after starting to continuously use HCBS. Latent class analysis and generalized estimating equations were used to investigate the influences of different service use patterns on the changes in physical functions. **Results** Three subgroups of LTC recipients with different use patterns, including home-based personal care (home-based PC) services ( $n = 107324$ , 70.8%), professional care services ( $n = 30466$ , 20.1%), and community care services ( $n = 13794$ , 9.1%) were identified. When compared to care recipients in the community care group, those in the home-based PC group had more emergency room expenditures (1 point/month,  $p < 0.05$ ) but less hospitalization expenditures (38 points/month,  $p < 0.001$ ), while the professional care group had less emergency room and hospitalization expenditures (3 and 138 points/month,  $p < 0.001$ ). **Conclusion** Those receiving professional care and home care services spent less on health care service utilization.

#### EFFECTS OF GLYCINE SUPPLEMENTATION ON MITOCHONDRIAL FUNCTION AND PROTEIN DEGRADATION IN SKELETAL MUSCLE OF OLD MICE

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Glycine is the simplest amino acid and it has a pivotal role in different metabolic processes, such as being a building block of glutathione, collagen and purine bases, or taking part in methylation reactions, detoxication and ammonia metabolism. Although considered for many years a non-essential amino acid, glycine levels are decreased in certain conditions, as the endogenous synthesis cannot fulfill the needs required to sustain all the cellular processes in which glycine is involved. Here we describe that glycine levels are significantly lower in skeletal muscle of aged zebrafish and mice and in plasma of humans compared to young subjects. We therefore fed healthy old mice for 6 weeks with a glycine-supplemented diet and observed a significant restoration of glycine levels in skeletal muscle and liver towards young mouse levels. Moreover, old mice showed decreased mitochondrial function in glycolytic and oxidative fibers, and a significant increase in oxygen consumption was observed in glycolytic fibers after glycine supplementation. The improvement of mitochondrial function is not associated to an increased mitochondrial biogenesis or an increased antioxidant capacity, but glycine supplementation increases both total GSH and GSSG levels, suggestive of a pro-oxidant environment. Overall, glycine supplementation induced an increase in the cross-sectional area of fibers. Finally, we carried out RNA-Seq study to decipher the impact of higher glycine intake. Our results suggest that age-associated glycine deficiency plays an important role in atrophy of muscle, especially in glycolytic fibers, and is reversible with a dietary supplementation.

#### EFFECTS OF RELATIONSHIP TYPE ON QUALITY OF LIFE IN OLDER ADULTS WITH COGNITIVE IMPAIRMENT AND THE INFORMAL CAREGIVERS

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**Purpose:** The purpose of this study was to assess whether there was an association between care-recipient relationship type and the QoL of older adults and their informal caregivers, and whether this association pertained to older adults' cognitive function. **Methods:** This was a secondary data analysis. Older adults ( $n=1230$ ) and their informal caregivers ( $n=1871$ ) were identified from participants in the National Health and Aging Trends Study (NHATS) Round 5 and the National Study of Caregiving (NSOC) II. A series of bivariate and multivariable regression models examined the associations among the care-recipient relationship type and QoL in older adults and their informal caregivers, adjusted for socio-demographic variables as well as cognitive functioning. **Results:** Both older adults and caregivers'

QoL outcomes varied by the type of relationship. Recipients cared for by adult-child caregivers or multiple caregivers experienced higher functional limitation than those cared for by spousal caregivers ( $\beta=.79$ , CI [.39, 1.19];  $\beta=.50$ , CI [.17, .82], respectively). "Other" caregivers, such as siblings, friends, etc., had lower odds of experiencing negative emotional burden than spousal caregivers (OR=.26, CI [.13, .52]; OR=.53, CI [.35, .81], respectively). "Other" caregivers were also 51% less likely to experience social strain than spousal caregivers. Lower odds of experiencing negative emotional burdens were also found with multiple caregivers. The association between adult-child caregivers and social strain was explained by the recipients' cognitive function. Conclusions: Care-recipient relationship type impacts the QoL in both recipients and their informal caregivers. This association appears to be affected by care recipients' cognitive function level.

#### EGG CONSUMPTION AND 4-YEAR CHANGE IN COGNITIVE FUNCTION: THE RANCHO BERNARDO STUDY

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The role of dietary cholesterol in cognitive decline is unclear. Eggs are a rich source of nutrients and dietary cholesterol. This study examines the association of egg consumption with 4-year change in cognitive function in 890 older, community-dwelling adults. Participants were 357 men and 533 women aged  $\geq 55$  y (means=70.1 $\pm$ 8.4 and 71.5 $\pm$ 8.8, respectively,  $p=0.016$ ), from the Rancho Bernardo Cohort who attended a 1988-91 clinic visit. Egg intake was obtained with a food frequency questionnaire. Cognitive function was assessed with the Mini-Mental Status Exam (MMSE), Trails B and category fluency, and reassessed in 1992-96. In this sample, rates of egg consumption ranged from never (14.0% of men, 16.5% of women) to  $\geq 5$ /week (7.0% of men, 3.8% of women;  $p=0.0013$ ). Mean 1988-91 cognitive function scores for men vs. women were 27.5 vs. 27.7 on the MMSE ( $p=0.08$ ), 105.9 vs. 121.6 on Trails B ( $p<0.0001$ ), and 20.2 vs. 18.2 on category fluency ( $p<0.0001$ ). Sex-specific regression analyses examined associations of egg consumption with change in cognitive function. In women, after adjustment for age and education, egg intake was associated with less decline over time in category fluency (beta=-.10,  $p=0.01$ ), which remained significant after adjustment for smoking, alcohol, exercise, cholesterol, calorie intake, and protein intake ( $p=0.02$ ). No other associations were found in women, and no associations were observed in men before and after adjustment for covariates. Results suggest that while high in dietary cholesterol, egg consumption is not associated with decline in cognitive function. For women, there may be a small beneficial effect for verbal memory.

#### ERECTILE FUNCTION, SEXUAL SATISFACTION, AND COGNITIVE DECLINE IN MEN FROM MIDLIFE TO OLD AGE

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We investigated how changes in erectile function and sexual satisfaction relate to cognitive decline in men from midlife into early old age. This is a major transitional period for increased incidence of erectile function and for cognitive decline. We examined 833 men from the Vietnam Era Twin Study of Aging whose mean ages were 56, 61, and 68 at the time of assessment. Erectile function and sexual satisfaction were measured using scores from the International Index of Erectile Function. Individuals with erectile dysfunction at baseline were excluded. Cognitive performance was measured using factor scores for separate domains of episodic memory, executive function, and processing speed. We tested linear mixed models hierarchically adjusted for demographics, sexual activity, as well as physical and mental health confounders to examine how changes in erectile function and sexual satisfaction related to changes in cognitive function. Declines in erectile function were associated with declines in episodic memory ( $p=.004$ ,  $d=.25$ ), while declines in sexual satisfaction were associated with declines in processing speed ( $p=.006$ ,  $d=.19$ ). Decreasing erectile function and sexual satisfaction may be indicative of individuals also likely to be facing cognitive decline. Possible mechanisms accounting for these changes may include white matter microvascular disease and/or various lifestyle influences. Discussing and tracking sexual health with middle aged men may be a crucial step in identifying those likely to face cognitive decline.

#### EXAMINING THE IMPACT OF COVID-19 ON LONELINESS AND SOCIAL ISOLATION AMONG AFFORDABLE HOUSING RESIDENTS

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Loneliness and social isolation are serious public health concerns associated with higher risks of clinical depression, suicidal ideation, coronary artery disease, stroke, functional decline, an increased risk of developing dementia and cancer mortality. Recent reports indicate the prevalence and dangers of loneliness and social isolation have increased as a result of the COVID-19 pandemic, especially among older populations. In order to address these concerns among residents living at Northgate II (NGII), a 302-unit affordable housing development in Camden, NJ, Fair Share Support Services, Inc. (FSSS), the non-profit arm of Fair Share Housing Development, collaborated with the New Jersey Institute for Successful Aging (NJISA) and the DHHS-funded Geriatric Workforce Enhancement Program (GWEP) to develop a loneliness/social isolation survey using two evidenced-based tools, the UCLA Loneliness Scale and the Steptoe Social Isolation Index. FSSS piloted the loneliness and social isolation survey with 192 low-income minority older adults residing at NGII. Results indicate that 49% of the NGII residents surveyed fall into 5 "at-risk" categories: 1) lonely and isolated (9%), 2) lonely/somewhat isolated (8%), 3) lonely/not isolated (9%), 4) isolated/somewhat lonely (9%), and 5) isolated/not lonely (14%). FSSS will utilize survey results and follow-up interviews to tailor social service/other interventions to meet the needs and preferences of residents with