

and Retirement Longitudinal Study (CHARLS) in 2011 and 2015 ( $n = 9,083$ ), to clarify the hypertension care cascade for the older population in China by specifying the level of diagnosis, treatment, and control of hypertension. We then examine the characteristics of those (1) who received appropriate hypertension care and (2) whose care improved over time. Diagnosis and care improved between 2011 and 2015. Among those with hypertension, 55% and 67% were diagnosed in 2011 and 2015 respectively; 46% and 60% were treated with modern medication; and 20% and 29% were effectively controlled. Those who had higher income ( $OR=1.52$ ;  $P<0.01$ ) or obese ( $OR=2.43$ ;  $P<0.001$ ) were relatively more likely to be diagnosed, while those living in the western region ( $OR=0.65$ ;  $P<0.01$ ) or living in urban areas with a rural hukou ( $OR=0.54$ ;  $P<0.01$ ) were less likely. Persons age 75+ ( $OR=0.55$ ;  $P<0.05$ ) were less likely to have their blood pressure controlled, while those who had higher income ( $OR=1.50$ ;  $P<0.05$ ) were more likely. The improvement from 2011 to 2015 in hypertension care was concentrated among those that are obese or living in the West.

#### IS CANCER HISTORY RELATED TO NEUROLOGIC SPECIALTY CARE IN PATIENTS WITH DEMENTIA?

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**Background:** The incidence and prevalence of aging-related diseases such as dementia and cancer are increasing, as are cancer survival rates. Cancer and its treatments have been associated with cognitive effects for those who later develop dementia. Guidelines have suggested that cancer patients return to follow-up in primary care following remission and be referred to specialists for cognitive complications, but it is unclear how well these guidelines are followed. **Methods:** Electronic health record data at the University of Alabama at Birmingham were extracted from July 2003 May 2020. Rates of specialty care utilization on or after dementia diagnosis were compared by cancer history status in adults 50 years old or older at dementia diagnosis. Predictors of specialty care utilization were examined using logistic regression. **Results:** Rate of specialty care utilization was lower for those with cancer history compared to those without on the date of dementia diagnosis (11.3% vs. 17.1%) and after diagnosis (13.5% vs. 19.2%). Older age at dementia diagnosis, non-Hispanic Black race, anticholinergic burden, socioeconomic status, and vascular risk factors were associated with lower odds of specialty care utilization. Dementia medication use was associated with higher odds of specialty care utilization on and after dementia diagnosis. **Conclusions:** Cancer survivors with a dementia diagnosis are less likely to utilize specialty care than those with no history of cancer. Several factors predicted specialty care utilization. Additional studies should assess potential barriers in referring cancer survivors to specialty care for cognitive impairment.

#### MARKERS OF GLUCOSE METABOLISM AND MUSCLE STRENGTH DECLINE AMONG THE OFFSPRING OF LONG-LIVED INDIVIDUALS

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Diabetes has been linked to accelerated muscle strength decline with aging. However, the association between glucose metabolism and muscle strength decline among individuals without diabetes is less clear. We tested whether fasting plasma markers of glucose and insulin metabolism (glucose, insulin, hemoglobin A1c, and soluble receptor for advanced glycation end products (sRAGE)) are associated with grip strength decline among 1415 non-diabetic offspring of exceptionally long-lived individuals who have a low diabetes risk (age range 36-88; mean age  $\pm$  SD =  $60 \pm 8$  years; mean BMI  $\pm$  SD =  $27 \pm 4.7$  kg/m<sup>2</sup>; 57% women). Grip strength was assessed using a hand-held dynamometer at two clinic visits over an average of 7.9 years. Multiple linear mixed models were adjusted for age, sex, field center, lifestyle, comorbidities, body weight, height, weight change, and family relatedness. Each standard deviation higher fasting insulin (7.3 mIU/L) was related to greater grip strength decline ( $-0.38 \pm 0.16$  kg;  $p=0.016$ ), while each standard deviation higher fasting sRAGE (430 pg/mL) was related to slower grip strength decline ( $0.36 \pm 0.18$  kg;  $p=0.04$ ). Our findings suggest that even among non-diabetic individuals from families with a clustering of “healthier” metabolic profiles - insulin metabolism and advanced glycation end products may be important biomarkers of muscle strength decline with aging. Potential mechanisms, including genetic and metabolic mediators underlying the observed associations, warrant further investigation.

#### OLDER ADULT MAINTAINING AND IMPROVING HEALTH SELF-MANAGEMENT THROUGH PEER SUPPORTED SMART GOAL SETTING

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Non-medical interventions to address risk factors (such as reducing smoking, increasing physical activity, and tackling limited social interaction) are needed to help tackle escalating social and financial health costs. Peer supported interventions have been used successfully to support persons' health self-management; however, there is limited evidence for group interventions facilitated by older adults. A proof-of-concept study by the first author demonstrated the potential of older adults meeting in groups to each create and follow through with a single SMART goal for any area of health over one-month. This study extends SMART goal setting to enhancing health management over six months. Older adult participants from across Ontario will attend virtual SMART goal setting group sessions followed by six monthly support group meetings where they are free to choose any goal, whether a mitigation or a new behavior. Each month

the facilitator will assist participants to continue, modify, or set a new goal. At the end participants will complete surveys about their satisfaction with the method, their results and their desire to continue with SMART goals. They will also be asked if they would like to facilitate new groups to continue the spread of peer-supported SMART goal groups. This study is designed to empower older adults to maintain or improve management of their physical, psychological, and/or social health. It will reveal the impact of an older adult created and guided group health intervention on feelings of self-efficacy and well-being.

#### OPPORTUNITIES AND BARRIERS TO MEDICATION SAFETY IN COMMUNITY-DWELLING OLDER ADULTS

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Community-dwelling multi-morbid older adults are a vulnerable population for medication safety-related threats. We interviewed a sample of these older adults recruited from local retirement communities and from primary care practices to learn their perceptions of barriers and enablers for their medication safety. The present study is part of the Partnership in Resilience for Medication Safety (PROMIS) study. One of the aims of this project is to identify barriers and opportunities to improve older adults' medication safety. These interviews were conducted during COVID-19 pandemic conditions. Results from this qualitative study suggest that trust between these older adults and their healthcare providers is an essential component of medication safety. Overarching themes include disruptions in medication management, caregivers caring for each other, patient safety practices or habits, and medication management literacy. Participants also shared strain due to lack of skills to navigate telemedicine visits, trust in Primary Care Providers (PCPs) and pharmacists to prescribe and dispense safely for them, reliance on PCPs and pharmacists to give essential information about medications without having to be asked. Our interviews illustrated large variations in older adults' perceived role in medication safety, with some developing expertise in understanding how medications work for them and how long-term medications should be periodically reviewed. The types of information needs and supports from PCPs were likely different. Understanding these barriers and enablers for safe medication management can help us develop medication safety improvements for this vulnerable population.

#### PULMONARY AND PHYSICAL FUNCTION LIMITATIONS IN AGING MEN WITH AND WITHOUT HIV FROM THE MULTICENTER AIDS COHORT STUDY

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We sought to determine effects of age, HIV serostatus, and smoking on the associations between pulmonary function and physical function impairments using Multicenter AIDS Cohort Study data. Associations between physical function outcomes gait speed (m/sec) and grip strength (kg) with normalized pulmonary function tests (diffusion capacity for carbon monoxide (DLCO, n=1,048) and forced expiratory volume in one second (FEV1, n=1,029)) were examined. Adjusted mixed-effects models included interaction terms to assess effect modification. 574(55%) were HIV+, with median age 57(IQR=48,64) and mean cumulative smoking pack-years 12.2(SD=19.0). 349(33%) had impaired DLCO (<80% of predicted) and 130(13%) had impaired FEV1 (<80% of predicted). Participants with impaired DLCO had weaker grip strength than those with normal DLCO (estimate= -3.5[95% CI=-4.6,-2.4]kg; p<0.001). Participants with impaired DLCO had slower gait speed than those with normal DLCO (estimate= -0.04[95% CI= -0.06,-0.02] m/sec; p=0.002). Age modified the DLCO effect on gait (p-interaction=0.01) but not grip (p-interaction=0.09). The association between decreased DLCO and slower gait was more pronounced in older participants. Smoking or HIV serostatus did not significantly modify the DLCO effect on gait (all p-interaction≥0.14) or grip (p-interaction=0.74, p-interaction=0.058, respectively). As with DLCO, participants with impaired FEV1 had weaker grip strength (estimate=-3.0[95% CI= -4.7,-1.3]kg; p<0.001) than those with normal FEV1. FEV1 was not associated with gait speed(p=0.98). Age, HIV serostatus or smoking did not modify the associations between FEV1 and gait speed or grip strength (all p-interaction>0.05). Associations between lower DLCO/FEV1 and decreased physical function suggest that interventions to improve pulmonary function may also preserve physical function with aging.

#### THE IMPACT OF TOOTH RETENTION ON HEALTH AND QUALITY OF LIFE IN OLDER ADULTS

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America is aging rapidly, and older adults (age ≥65 y) are retaining more of their natural teeth, a trend expected to continue. Although much is known about the impact of complete tooth loss on overall health and well-being, less is known about the effect of partial tooth loss. We conducted a systematic review to advance our understanding of the impact of retaining ≥20 teeth on health and quality of life (QoL) in older adults using two tooth retention concepts – shortened dental arch (SDA) and functional dentition (FD). We searched seven scientific databases from 1981–2019 for publications on tooth retention and outcomes and impact on health and QoL. Ninety-six studies were included in this review. Most were assessed with low risk of bias (n=74) and of good quality (n=73) using the revised Cochrane Risk of Bias tool and Newcastle-Ottawa Scale. Tooth retention was defined as FD in 82 studies, SDA in 10 studies,