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

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

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

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

Results: 1729 participants (89.9%) had 25OHD≤75nmol/L, 1288 (66.9%) had 25OHD≤50nmol/L, and 525 (27.2%) had 25OHD≤25nmol/L. MLP using 16 clinical variables was able to diagnose hypovitaminosis D≤75nmol/L with accuracy=96.3%, area under curve(AUC)=0.938, and κ=79.3 indicating almost perfect agreement. It was also able to diagnose hypovitaminosis D≤50nmol/L with accuracy=81.5, AUC=0.867 and κ=57.8 (moderate agreement); and hypovitaminosis D≤25nmol/L with accuracy=82.5, AUC=0.835 and κ=55.0 (moderate agreement).

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

SESSION 35 (SYMPOSIUM)

INNOVATION IN HEALTH CARE DELIVERY FOR ADULTS AGING WITH DISABILITIES

Chair: J. Caldwell, *National Council on Aging*
Co-Chair: M. Campbell, *Grapeview, Washington*

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

AGING WITH A PHYSICAL DISABILITY IN MEDICAID MANAGED CARE

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

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

INNOVATION FOR INDIVIDUALS AGING WITH LIFELONG DISABILITY

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

INNOVATION IN CARE COORDINATION FOR INTELLECTUAL OR DEVELOPMENTAL DISABILITIES

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

SESSION 40 (SYMPOSIUM)

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

Chair: N.R. Barzilai, *Albert Einstein College of Medicine, New York*
Co-Chair: V. Gorbunova, *Rochester University, Rochester, New York*
Discussant: D. Sinclair, *Harvard Medical School, Boston, Massachusetts*

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

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

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

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

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

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

THE NIA INTERVENTIONS TESTING PROGRAM: AN UPDATE

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