settings. In this Symposium, we feature three Collaboratory-funded investigators who are partnering with health care systems to determine how to engage informal caregivers most pragmatically, with the goals of improving caregivers’ capacity to manage dementia and provide sustained input into the clinical care of PLWD. Symposium presenters Quincy Samus and Hillary Lum are the first two Collaboratory-funded Health Care System Scholars and Richard Fortinsky is a pilot study awardee. Dr. Samus will present on her experiences and lessons learned in her multiple efforts to adapt and embed the MIND at Home family-focused care management model into health care systems, including her current work with a large managed care organization. Dr. Lum will explain ongoing capacity-building stakeholder engagement activities at a large academic health system in preparation for pragmatic clinical trials for PLWD and their caregivers. Dr. Fortinsky will present on experiences and lessons learned from ongoing efforts to identify caregivers of PLWD to join caregiver support programs, and store caregiver data electronically, in two health system outpatient care settings. Dr. Christopher Callahan, Leader of the Training Core for the Collaboratory, will serve as Symposium Discussant.

PILOT STUDY TO PRAGMATICALLY EMBED CAREGIVER DEMENTIA EDUCATION AND SUPPORT IN HEALTH CARE SYSTEMS

Richard Fortinsky, University of Connecticut Center on Aging, Farmington, Connecticut, United States

Evidence-based interventions offering meaningful benefits to informal caregivers of people living with dementia (PLWD) would be attractive to office-based practitioners if pragmatic linkages could be made between these interventions and outpatient care settings. This presentation will explain experiences and lessons learned in an ongoing pilot study in which we are: pragmatically identifying and inviting caregivers of PLWD to join online dementia education and support programs; collecting and storing caregiver outcomes data into electronic health records where these data are accessible to clinicians. Participating outpatient health care settings are a geriatrics practice at UConn Health and a memory care clinic at Emory Healthcare. Caregivers recruited at both sites participate in either Tele-Savvy or Caregiving During Crisis programs. Outcomes data will inform effects of program participation on caregivers’ competence and stress, and help clinicians gain insights into caregivers’ capacity to manage PLWD. Implementation evaluation strategies and results also will be discussed.

BUILDING CAPACITY FOR DEMENTIA CAREGIVER TOOLS AND PRAGMATIC TRIALS THROUGH STAKEHOLDER ENGAGEMENT

Hillary Lum, University of Colorado Anschutz Medical Campus, Aurora, Colorado, United States

Caregivers face challenges communicating and coordinating health-related needs on behalf of persons living with dementia (PLWD). This presentation will highlight capacity building activities at UCHealth, a large academic health system in Colorado and Wyoming, to prepare for pragmatic clinical trials to test integrated health informatics tools to improve the care of PLWD and their family caregivers. We will describe foundational activities of: 1) convening diverse patient and family caregivers to identify communication priorities and refine health informatics tools, 2) engaging health system leaders to develop a system-based value proposition, and 3) partnering with health informatics teams to adapt tools (i.e., dementia registry, refined patient portal tools) and implement reports of pragmatic outcomes. Through support as an NIA IMPACT Health Care System Scholar, we will discuss lessons learned related to highlighting the preferences of diverse caregivers, especially related to use of health informatics tools in the context of dementia care.

FLEXIBILITY MEETS COMPLEXITY: LESSONS FROM EMBEDDING A DEMENTIA CARE COORDINATION MODEL IN PRACTICE

Quincy Samus, Johns Hopkins School of Medicine, Baltimore, Maryland, United States

People living with dementia (PLWD) are among the highest-need and highest-cost individuals because of the complexity, duration, and range of medical, behavioral, environmental, and social needs. There is a growing evidence base showing that family-centered active management approaches that include activation and empowerment of care partners are well suited to improve care quality and health-related outcomes, and have potential to curb high ADRD-related healthcare costs. This presentation will outline key experiences and lessons learned after a decade of work developing, adapting and embedding a comprehensive family-focused care management model called MIND at Home into practice. The work, supported in part by the IMPACT Collaboratory Health Care System Scholars Award to partner with Centene Corporation, a large managed care organization, illustrates two overriding principles: (1) the necessity of “meeting people and health systems where they are” (literally and figuratively), and (2) the importance of effectively matching intervention to outcome and context.

SESSION 4290 (PAPER)

FRAILTY AND PHYSICAL AGING

ABNORMALITIES IN THE CITRATE CYCLE METABOLISM ARE ASSOCIATED WITH DECLINED INTRINSIC CAPACITY IN OLDER ADULTS

Yiming Pan, Pan Liu, Yun Li, and Lina Ma, Xuanwu Hospital Capital Medical University, Beijing, Beijing, China (People’s Republic)

Background:

Aging is accompanied by a decline in physical and mental functions, manifested as the declines in intrinsic capacity. However, there is still a lack of understanding about the metabolic mechanisms underlying the declining intrinsic capacity. Objective: To explore the metabolic characteristics and pathways of the declines in intrinsic capacity with the assistance of metabolomics methods.

Methods: Our study recruited 38 participants in total. The Short Physical Performance Battery, Mini-Mental State Exam, 30-item Geriatric Depression Scale, self-reported hearing/visual impairment and Mini Nutritional Assessment were used to assess the five domains of intrinsic capacity respectively. The untargeted liquid chromatography-mass spectrometry-based metabolomics was performed on the
serum of participants. Multivariate statistical analysis and pathway analysis were then implemented.

Results: Among the 38 participants aged 66.50±15.20 years, 22 were with the declines in at least one domain of intrinsic capacity. In the 349 identified metabolites, 35 were candidate biomarkers for declining intrinsic capacity with variable importance in the projection > 1.5 and p < 0.05. Citrate cycle, tryptophan metabolism, phenylalanine and tyrosine metabolism, and Arginine biosynthesis were significant pathways associated with the declines in intrinsic capacity.

Conclusions: Decreased intrinsic capacity is an age-related change with characteristic metabolomics features. Many pathways, especially the dysregulation of the citrate cycle metabolism, may be involved in the pathogenesis of intrinsic capacity decline.

ARE INTRINSIC CAPACITY AND MULTIMORBIDITY ASSOCIATED TO FRIED'S FRAILTY REVERSIBILITY? Emmanuel Gonzalez Bautista1, Aarón Salinas Rodríguez2, Ana Rivera Almaraz2, and Betty Soledad Manrique Espinoza2, 1. Institute of Aging, Toulouse University Hospital (CHU Toulouse), Toulouse, Midi-Pyrenees, France, 2. National Institute of Public Health, Cuernavaca, Morelos, Mexico

Our objective was to characterize older adults with reversible frailty in their baseline intrinsic capacity and multimorbidity status. Methods: We used data from the most recent waves of the SAGE Mexico study (3 and 4), representative of older adults at a national level. Study n=749. We objectively measured gait speed and grip strength based on Fried's frailty criteria. Weight loss exhaustion was self-reported and physical activity (using the IPAQ). Reversible frailty was defined as going from frailty to pre-frail or robust and from pre-frail to robust. Worsening and stable frailty were coded similarly. Intrinsic capacity was measured using a summary index (0-100) based on five domains: cognition, locomotion, sensory, nutrition, and psychological. Multimorbidity was coded yes/no if the participant self-reported two or more chronic conditions. We compared the odds of being in the reverse group versus not in it according to baseline intrinsic capacity score and multimorbidity status, adjusting for age, sex, rural/urban, and wealth. Results: Reversible frailty=33% of those pre-frail or robust at baseline. Intrinsic capacity was higher in the reverse group than in those with worsening frailty but not significantly higher than those with stable frailty. Having multimorbidity significantly decreased the chances of frailty reversibility, adjusting for covariates. Conclusions: As an expression of lifecourse damage to the physiological reserve, multimorbidity limits the chances of reversible frailty in Mexican older adults. High levels of intrinsic capacity did not characterize frailty reversibility in our study. Yet, low intrinsic capacity levels are a marker for older adults prone to frailty worsening.

PATTERNS OF AGING CHANGES IN BODY WEIGHT AND BMI MAY PREDICT CHANCES OF ALZHEIMER'S DISEASE AND LONGEVITY
Svetlana Ukrainscheva, Konstantin Arbeev, Hongzhe Duan, Rachel Holmes, Igor Akushevich, Arseniy Yashkin, Heather Whitson, and Anatoliy Yashin, Duke University, Durham, North Carolina, United States

Background: Lower bodyweight/BMI was previously linked to AD and frailty; however, the role of long-term changes in the bodyweight/BMI in both AD and longevity is not well understood, as is the role of APOE polymorphism in such changes.

Methods: Using longitudinal data from the Framingham Heart Study (FHS) and the Health and Retirement Study (HRS), we estimated trajectories of the weight and BMI at ages 40 to 75, and compared them between individuals who did and who did not develop AD at ages 75+. We also evaluated associations between APOE4 carrier status and key characteristics of the age-trajectories of weight/BMI, including the age at peak value of the bodyweight/BMI (AgeMax), and slope of the decline in bodyweight/BMI after reaching the maximum.

Results: Women with late-onset-AD had lower bodyweight/BMI values up to three decades before AD diagnosis. They reached the peak of bodyweight in their 50s, about 10 years earlier than AD-free women. Younger AgeMax was associated with lower survival chances after age 80 in women. APOE4 carriers showed earlier/faster declines in weight and BMI than non-carriers; however, relevance of this to AD was unclear.

Conclusion: Younger age at peak value of the bodyweight/BMI indicates higher chances of late-onset-AD, while older age can predict better survival later in life and may favor longevity in women. The earlier start of the decline in bodyweight/BMI values could be sign of accelerated aging, which may contribute to AD. Relevance of APOE4 effects on age-trajectories of weight/BMI to AD warrants further investigation.

THE ROLE OF SYSTEMIC INFLAMMATION IN HEALTH NOW, LATER, AND CHANGE OVER TIME: EVIDENCE FROM MIDUS
Julie Ober Allen, University of Oklahoma, Norman, Oklahoma, United States

Systemic inflammation is theorized to be a biological pathway through which chronic stressors (e.g., discrimination, social marginalization) contribute to adverse health outcomes and disparities among older adults. Cross-sectional research documents associations between inflammation and a broad array of health outcomes. Less is known about whether and how inflammation may influence health longitudinally. This study investigated whether a composite measure of inflammatory burden predicted physical health: a) concurrently, b) approximately 7 years later, and c) changes during that time. Data derive the National Survey of Midlife in the United States (MIDUS) participants who provided inflammatory biomarker data (2004-2009 Biomarker study) and health data in MIDUS 2 (2004-2006) and MIDUS 3 (2013-2014) (N=931, Mage 57, 45% male, 91% White). Inflammatory burden reflected the number of inflammatory biomarkers in the highest risk quartile, out of five: C-reactive protein, interleukin-6, fibrinogen, E-selectin, and intracellular adhesion molecule. Three general indicators of physical health were examined: number of commonplace chronic physical health conditions, out of 7; functional limitations; and self-rated physical health. Multivariate regression analyses indicated that inflammatory burden predicted all three concurrent physical health outcomes and the same health outcomes seven years later (p-values <.02). Inflammatory burden was unrelated to changes in these outcomes over