expressed a strong desire for the healthcare organization to offer programs such as STAR-VTF much sooner. Many were interested in the virtual aspect of the training due to the convenience of receiving help from home and the perception that help from a virtual program would be timelier than traditional service modalities. Given caregivers’ limited time, they suggested dividing the STAR-VTF content into chunks to review as time permitted. Caregivers reported a preference for having the same coach for the program duration.

LONGITUDINAL EFFECTS OF CULTURAL AND PSYCHOSOCIAL FACTORS ON BIOMARKERS OF CARDIOVASCULAR RISK IN CAREGIVERS
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Dysfunctional thoughts about caregiving (DTAC) and familism (i.e. familistic obligation) were associated with worse caregiver emotional and cardiovascular health in cross-sectional studies. The aim of this study was to longitudinally examine the effects of familism and DTAC on cardiovascular health, considering caregiver kinship adjusting for well-established predictors of cardiovascular health. Study participants were 80 family dementia caregivers. Individual interviews and collection of blood samples were conducted in three yearly assessments. Linear mixed (random effects) regression analysis was performed to examine longitudinal associations of familism, DTAC, and levels of cytokine interleukin (IL)-6, a cytokine and biomarker of cardiovascular disease risk (CVD). Caregiver age, gender, alcohol consumption, body mass index (BMI), hours caring, frequency and reaction of behavioral problems and caregivers’ transitions were used as covariates. Results showed that increases in DTAC, in familism and higher caregiver age were independently and significantly associated with higher levels of IL-6 over time in the group of spousal caregivers. No significant effects were found for any of the other covariates in spousal caregivers. In contrast, increases in BMI and in frequency of behavioral problems were significantly associated with increases in IL-6 over time in adult child caregivers. No significant effects were found for any of the rest of predictors in adult child caregivers. Findings suggest that high level of obligation familism and DTAC may a profile of increased vulnerability for CVD in spousal caregivers. In contrast, problem behaviors of the care recipient may characterize adult child caregivers in terms of an increased CVD risk.

THE EFFECTS OF REMOTE ACTIVITY MONITORING ON FAMILY CAREGIVERS OF PEOPLE LIVING WITH DEMENTIA OVER AN 18-MONTH PERIOD
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Technology interventions for older persons and long-term care are generally utilized as real-time data capture tools to complement clinical or family care for older persons or as interventions themselves designed to improve important dementia care outcomes. Although research on novel technological interventions for people with Alzheimer’s disease and related dementias (ADRD) and their family caregivers has grown considerably in the past two decades, much of this work continues to focus on design, feasibility, and acceptability (with a need for conceptual refinement in these areas) and less on controlled outcome studies. The objective of this experimental mixed methods demonstration was to determine the 18-month effectiveness of remote activity monitoring (RAM) technology in improving outcomes among family caregivers of community-dwelling persons with dementia. We used an embedded experimental mixed methods design, collecting qualitative data within the structure of a traditional randomized controlled trial ([QUAN+qual]→QUAN) over an 18-month period for 171 dementia caregivers. Change in caregiver self-efficacy, sense of competence, and caregiver distress served as the main quantitative outcomes of interest. Individual growth curve models indicated that the RAM technology did not have direct effects on caregiving outcomes, and although the qualitative findings indicated several potential moderators of RAM effectiveness on caregiving outcomes, the inclusion of these qualitatively-identified moderators did not result in statistically significant (p < .05) effects. Ensuring effective human care management alongside RAM technology may help to overcome the barriers reported by dementia caregivers in this demonstration study.

Session 1010 (Symposium)
ADVANCING DEMENTIA CARE INTERVENTIONS WITH TECHNOLOGY SOLUTIONS
Chair: Jimmyoung Cho Discussant: Elena Fazio

Over the past two decades, a number of interventions have been developed and tested to help meet the complex care needs of persons living with dementia (PLWD) and the family care support system. Despite the large foundation of empirical evidence, they are often not readily available as part of dementia care support services. Interventions leveraging technology-based solutions have the potential to bolster their desirability, efficacy, and feasibility. While progress has been made, there is still a need to design and test new innovative solutions in real-world settings. This symposium will highlight three such innovative technology solutions for dementia care and explore lessons learned in their development and testing. Smith et al. demonstrate the feasibility of using a novel in-situ sensor system to assess daily functions for PLWD in home or assisted care settings. Results of detecting and classifying diverse forms of functional assessment and environmental conditions will be discussed in the presentation. Czaja et al. describe a randomized controlled trial evaluating the feasibility and efficacy of an innovative dyadic intervention (DT) delivered through an interactive
technology. Recruitment challenges and lessons learned from the feasibility of implementing a dyadic intervention will be presented. Stevens et al. introduce an online approach to delivering REACH II, GamePlan4Care (GP4C). Qualitative thematic analyses from GP4C user test sessions related to both the content and technical features will be discussed. Discussant Dr. Elena Fazio will address the role of technology solutions as a strategy within dementia care interventions and unique challenges and contributions of each project.

TECHNOLOGY INNOVATIONS IN DEMENTIA CARE: IMPROVEMENTS IN FUNCTIONAL ASSESSMENTS THROUGH BACKGROUND SENSING

Matthew Smith,1 Marcia Ory,2 Gang Han,3 Ashley Wilson,4 Zane Foster,2 and John Fitch,1 1. Texas A&M School of Public Health, College Station, Texas, United States, 2. Texas A&M University, College Station, Texas, United States, 3. Texas A&M University School of Public Health, College Station, Texas, United States, 4. Texas A&M Center for Population Health and Aging, Texas A&M University School of Public Health, College Station, Texas, United States, 5. Birkeland Current LLC, Waco, Texas, United States

Technological innovations are becoming commonplace in research among persons living with dementia (PLWD) and their caregivers. However, few studies attempt to validate technology’s ability to appropriately monitor functional assessment in dementia care research. Bringing together industry, academia, and health care, we demonstrate the feasibility of using a novel in-situ sensor system to continuously and accurately assess daily functions for PWLDs in home or assisted care settings. PhaseI revealed a high accuracy (~85%) of detecting and classifying ADLs between sensors and human loggers across 26 defined activities. Phase 2, which will target 140 PLWDs, has already demonstrated the value of such sensors in detecting safety concerns (e.g., no heat). Technology-driven research for PLWD and their caregivers have practical applications for assessing diverse forms of functional assessment and environmental conditions which can improve measurement precision over time and space and the ability to better tailor care plans for PLWDs and their caregivers.

A DYADIC TECHNOLOGY-BASED INTERVENTION FOR INFORMAL CAREGIVERS AND PATIENTS WITH DEMENTIA

Sara Czaja,1 David Loewenstein,2 and Sarah Weingast,3 1. Weill Cornell Medicine/Center on Aging and Behavioral Research, New York, New York, United States, 2. University of Miami Miller School of Medicine, Miami, Florida, United States, 3. Weill Cornell Medicine, Weill Cornell Medicine, New York, United States

Most intervention programs in the dementia domain have exclusively focused on the caregiver (CG) or the patient (CR), despite evidence of a reciprocal interaction between the dyad. This presentation will describe a randomized controlled trial that is evaluating the feasibility and efficacy of an innovative dyadic intervention (DT) that is delivered through an interactive technology that includes an evidenced-based CG component, an evidenced-based cognitive training component for the CR and a dyadic component. The program is designed to: be synergistic and emphasize issues important to CGs in the earlier stages of caregiving. The sample involves 200 informal CGs and CRs with early-stage dementia. Data will be presented regarding factors influencing the feasibility of implementing a dyadic intervention such as recruitment challenges (e.g., mutual consent and eligibility), and mutual engagement of both the CG and CR. Strategies implemented to maintain the trial during the COVID-19 pandemic will also be discussed.

USER INTERFACE AND USER EXPERIENCE TESTING OF AN ONLINE TRANSLATION OF THE REACH II INTERVENTION: GAMEPLAN4CARE

Alan Stevens, Thomas Birchfield, Kira Swensen, Joseph Banda, and Jimmyoung Cho, Baylor Scott & White Health Research Institute, Temple, Texas, United States

GamePlan4Care (GP4C) is a web-based adaptation of the Resources for Enhancing Alzheimer’s Caregiver Health II (REACH II) caregiver intervention, redesigned and reformatted for online delivery. The goal of GP4C is to create an online family caregiver support platform that facilitates self-directed exposure to evidence-based skills-training and support for dementia caregivers. This approach of utilizing technology enhanced with live support has the potential for scalability and sustainability. In preparation for an ongoing randomized clinical trial, the GP4C platform underwent industry standard user interface/user experience (UI/UX) testing with dementia caregivers as part of an iterative design process. Testing of caregiver’s reaction to technical and content-related aspects of the system was conducted with 31 caregivers. The thematic analysis revealed three themes for technical aspects (logical flow, suggestions on features, innovative resource) and two themes for content aspects (satisfaction and engagement). We will discuss technical and content modifications resulting from UI/UX.

Session 1015 (Symposium)

AGING BIOMARKERS FOR CLINICAL TRIALS AND DRUG DISCOVERY

Chair: Margarita Meer Co-Chair: Raghav Sehgal Discussant: Morgan Levine

Developing targeted therapies first requires a working definition of the condition of interest. Unfortunately for aging, this very initial step poses a challenge since chronological age is often not indicative of biological age nor modifiable. This symposium will demonstrate the enormous progress being made towards developing more reliable and valid measures for quantifying biological aging. First, Dr. Albert T. Higgins Chen will show how inaccuracy caused by noise at individual CpG sites can lead to high technical variability in the most widely applied biomarkers of aging—epigenetic clocks. He will further discuss how this can be overcome through novel statistical techniques. Second, Dr. Benoit Lehallier, will discuss plasma proteomic clocks and share insights into their potential roles in Alzheimer’s disease and utilization in clinical trials. Third, quantifying the multifactorial aging process can be facilitated by projects incorporating multimodal biomarker data. Pei-Lun Kuo from the Baltimore Longitudinal Study of Aging will present an analysis of longitudinal trajectories of more than 30 phenotypes, which when combined into a single summarized score yield important insights. Fourth, our ability