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Past research shows that major depression is associated with lower white matter integrity in fronto-lingbic and other areas. But it is not known whether the integrity of these white matter connections is associated with subsyndromal depression symptoms, a marker of risk for major depression, in family dementia caregivers (dCGs) who reported stress. If specific aspects of white matter integrity are related to depression symptoms in this high-risk group, this could provide a biomarker of vulnerability or target for treatment. Participants included 41 dCGs (average age=69, standard deviation=6.4), who underwent a 7 Tesla 64-direction (12-minute) diffusion-weighted imaging sequence. Analyses compared dCGs with (n=20) and without (n=21) subsyndromal depression symptoms (nine-item Patient Health Questionnaire scores ≥5). Using fractional anisotropy (FA), we assessed differences in the integrity of 11 white matter aspects implicated in prior studies of major depression. We found that caregivers with subsyndromal depression had lower FA in tracts connecting to the posterior cingulate cortex (Cohen’s D=−0.9, p-value=0.006, FDR=0.03) and in white matter connecting the dorsolateral prefrontal cortex with the rostral cingulate cortex (Cohen’s D=−1.2, p-value=0.0005, FDR=0.006). Thus, differences in the integrity of white matter (and related functions) reaching the posterior cingulate (autobiographical memory/planning) and connecting dorsolateral prefrontal and rostral cingulate regions (emotion re-appraisal) may contribute to depression vulnerability in dCGs. These observations require contextualizing further (e.g., assessing roles of depression history and other risk factors) for their meaning to be fully elucidated. Potentially, relationships between known risk factors (e.g., subjective stress) and depression emerge from or drive changes in white matter.

CARDIAC MYBP-C IN C57BL/6 MICE: THE EFFECTS OF AGE
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Aging is a known contributor to cardiovascular dysfunction. It is well-established that with age there are functional changes in the heart; yet, the proteins responsible for maintaining sarcomere integrity are not well understood during the aging process. A key protein, cardiac myosin binding protein C (cMyBP-C), contributes to the structural integrity and the regulation of actomyosin interactions. To date, little is known about the effects of aging on cMyBP-C. Therefore, the first step in evaluating this sarcomere protein was to determine the expression of cMyBP-C in cardiac tissue across the lifespan. Using ten C57BL/6 male mice per age group (adult (6-7 months), old (22-25 months), and very old (≥29 months)), body and heart mass were determined. Next a portion of the cardiac tissue was homogenized, and protein concentration was determined (BCA assay). The protein samples were probed for cMyBP-C with MYBPC3 (Abcam, #ab133499) by Western Blot. One-way ANOVA was performed to evaluate differences between groups. Results indicated there was an increase in heart mass with age, but relative to body weight there was no significant difference between the three age groups. Western blot analysis revealed no significant age-related difference in the expression of cMyBP-C. Although there was no change in expression levels, it is not possible to rule out cMyBP-C as a contributor to age-related cardiac dysfunction because phosphorylation is known to play a critical role in the function of cMyBP-C. Thus, further investigation of the phosphorylation status of cMyBP-C is needed and is ongoing.

EXAMINING COMMUNITY-BASED SERVICES DISCONNECTS IN LATE OLD AGE: PATHS FOR REACH THROUGH THE COMMUNICATION ECOSYSTEM
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As potentially eligible recipients continue to increase in number, understanding service system utilization and barriers can help ensure very old adults can access support from their communities when needed. A communication disjunction between seniors and community-based service providers was revealed through a multi-year, county-wide older adult needs assessment utilizing data from 1,870 individuals. In response, officials convened a post assessment team that formed the three-person Community Advisory Group (CAG, ≥69 years) who participated in this community-based participatory research (CBPR) study. This applied, qualitative study, guided by an ecological health communication research framework, conducted multilevel examinations of interactions among older adults and their social environment. Twenty in-depth, face-to-face, semi-structured interviews (mean = 82.5 years) were conducted based on a critical threshold of understanding achieved via researcher immersion in the community preceding this study, data collected, and CAG insight revealed through collaborative analysis. Communication Infrastructure Theory helped to reveal how participants’ diminishing social network interrelated with the communication environment acted to impede connections to services. In addition to utilization impediments, enabling elements of the communication infrastructure were identified so those resources might be leveraged to bridge the senior-provider divide. Findings from this study suggest new outreach approaches for connecting to older adults through their communication ecology. The findings add to the growing convergence of evidence that calls for improved communication with older adults to minimize poor interactions that hinder accessing resources that may enhance their social, emotional, and physical well-being.

UNDERSTANDING DEMENTIA PREVALENCE AND HEALTH CARE USE PATTERNS IN RURAL NORTH CAROLINA
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Rural and remote communities have limited access to high quality dementia care, prompting a need for innovative
POST DISCHARGE WALKING ACTIVITY AND 30-DAY READMISION IN OLDER ADULTS
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The Centers for Medicare and Medicaid Services has determined high rates of unplanned 30-day readmission to be an indicator of substandard care. More research is needed to identify strong, objective markers of readmission risk. The purpose of this analysis was to investigate the utility of average steps per day as a biomarker in determining the 30-day readmission risk of recently discharged older adults. 133 men and women, aged 65 and older, who were capable of walking on their own, recently hospitalized with an acute illness, and discharged to home were given a StepWatch Activity Monitor and monitored for up to 30 days following discharge. Average steps per day and clinical characteristics were assessed and compared with 30-day readmission. 20 discharges were assessed and compared with 30-day readmission. 20 patients without dementia were assessed and compared with 30-day readmission. 20 patients with dementia in this rural setting was higher than patients without the disease, similar to urban settings. These findings suggest opportunities to improve care coordination and access to resources to help reduce the need for acute care services among patients with dementia and can help tailor interventions to address the health care needs of this group.

THE ASSOCIATION OF A FRAILTY INDEX AND INCIDENT DELIRIUM IN HOSPITALIZED VETERANS
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Frailty is an accumulation of deficits that helps identify patients who are vulnerable to stressors. Acute illness and hospitalization are stressors that may result in delirium. Delirium is significant in older adults, resulting in increased hospital stays, institutionalization, morbidity, and mortality. This study aimed to determine if a frailty index (FI), calculated on hospital admission, was associated with the development of incident delirium. An FI was built on an accumulation of deficits model which included assessments of cognition, physical function, and medical comorbidities for a cohort of 218 patients admitted to a Veteran Affairs medical facility. The FI was calculated as a proportion of possible deficits (range 0-1; higher scores indicate increased frailty). Delirium was assessed daily by expert clinician interview. Participants were, on average, 71 years (SD=9.53), white (92.7%), and male (91.7%). Participants were grouped using FI ranges as non-frail (FI<0.25; 26%), pre-frail (FI=0.25-0.35; 39%), and frail (FI>0.35; 35%). Incident delirium was more likely to occur in those who were frail (29.3%, p=0.001), compared to those who were pre-frail (20.9%) or non-frail (3.6%). The association of FI and incident delirium remained after adjustment for age, education, and other demographics (pre-frail: adjusted OR=5.64, 95%CI; 1.23, 25.99; frail: adjusted OR=6.80, 95%CI; 1.38, 33.45). Continued data analysis will include an AUC model to demonstrate robustness of the FI. The results from this study support the use of frailty assessments at hospital admission to identify patients at high risk of delirium and in need of additional clinical support and interdisciplinary resources.

CHALLENGES FOR BLIND AND VISION IMPAIRED USERS OF A VISUAL QUESTION ANSWERING TOOL: IMPLICATIONS FOR AGING ADULTS
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Recent technological developments provide individuals with vision impairment the transformative ability to upload pictures they take and promptly receive descriptions from remote workers. This study aimed to: identify challenges for visually impaired individuals to use such technology to obtain health-related information and provide recommendations for crowd-workers and the future development of assistive artificial intelligence (AI) design. In spring and summer of 2019, we analyzed 265 images of medication packages submitted by users of a visual question answering (VQA) application called VizWiz -- a smartphone application that provides near real-time assistance to visually impaired users by employing crowd-workers. We developed a 4-category coding scheme to analyze image quality, with two independent coders achieving excellent intercoder reliability (85%-95%). Of the 265 images, we found less than half were legible (46%), contained clear indicators for information sought (40%), or had minimum background