had ≥high school education. Average Barthel(ADL) score was 81.5±22.8 and Lawton(IADL) score was 5.8±2.2. Younger Veterans (age<70) were more likely able to use Internet ((117(65%) vs 74(46%)),(p≤0.01) and email (106(58.9%) vs 67(41.6%),(p≤0.01). They were also more likely enrolled in MyHealtheVet (87(48.3%) vs 58(36%),(p=0.043). Secure messaging was used by 62(34.3%) younger and 37(23%) older Veterans,(p=0.026). More higher functioning Veterans (140(55.1%)) used email than lower functioning (33(37.9%)),(p=0.018). Among higher functioning Veterans, 148(58.3%) were willing to use videoconference for care coordination and 116(45.7%) owned a smartphone or computer with camera for this; more than lower functioning Veterans (33(37.9%) and 28(32.2%)), (p≤0.01 for both). Less dependent Veterans preferred to be contacted via cellphone (88(62.4%)) or Internet (10(7.1%)) compared to the more dependent (96(48%) and 6(3%)) respectively (p=0.01). Only 71(44.1%) of older Veterans were willing to use videoconference (p≤0.01) and 54(33.5%) owned a smartphone or computer with camera,(p≤0.01). There are significant variations in technology use by age and ethnicity. However, although there are differences by functional ability, a significant number of disabled veterans are willing and able to use technology, and this may provide a way to address access barriers in this population.

WEBCAMERA-BASED VISUAL PAIRED COMPARISON AS A REMOTE COGNITIVE SCREENING METHOD

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Alzheimer's disease (AD) is a form of dementia impacting memory and cognitive function of 131 million individuals worldwide. Though early cognitive decline detection is important, cognitive screening is limited among older adults and many cases go undetected. As easy-to-use cognitive assessments are not readily available to the general population, the purpose of this investigation was to determine the ability of a 5-minute webcamera-based eye-tracking cognitive assessment to discriminate between cognitively intact adults and adults with mild cognitive impairment (MCI) or AD. This prospective study included 56 participants (age=55.9±26.8) divided into three groups: younger cognitively intact (ages 18-46 years, n=25), older cognitively intact (ages >60 years, n=20), and older cognitively impaired participants with MCI or AD (ages>60 years, n=13). All participants completed the Digit Symbol Substitution Test (DSST) and Visual Paired Comparison test (VPC) to assess cognition. One-way ANOVA detected differences in cognition between groups. A Pearson correlation determined the association between cognitive assessments. Additionally, multiple regression determined the ability of VPC and age to predict DSST scores. Results revealed significant differences between cognitively intact and cognitively impaired groups for VPC (p=.001) and DSST (p<.001). Follow-up analyses revealed significant differences between cognitively intact and cognitively impaired adults (p=.005) with no differences between younger and older cognitively intact adults (p=.34). There was a significant association between the VPC and DSST cognitive assessments (r=.54, p<.001), with VPC and age accounting for 69% of the variation in DSST.

These results support the use of webcamera-based VPC as a viable option when screening tool MCI/AD.

FEASIBILITY OF MOBILE HEALTH FOR LOW-INCOME MINORITY HISPANIC PATIENTS WITH A STROKE

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Stroke is a leading cause of death and functional impairment that disproportionately impacts Hispanics. Several studies have supported the feasibility of mobile health interventions (mHealth) to provide health monitoring and patient education for improving chronic disease management, but none have focused on Latino stroke patients. The Hispanic Secondary Stroke Prevention Initiative is a randomized study of 200 stroke patients designed to evaluate the impact of a 12-month multi-modal Community Health Worker (CHW) and mHealth intervention on blood pressure control. Eligible participants were Latinos who experienced a mild-moderate stroke within the last five years. The CHW component included home visits, telephone calls, and daily text messages to obtain home blood pressure readings and provide patient navigation and health education. Feasibility was defined as the proportion of patients that responded to at least half the messages. Pre-post paired t-tests assessed improvements in question accuracy while correlation coefficients highlighted improvements in response rates. Among the 65 participants randomized to the intervention, the response rate was as follows: 37% - >50% response, 21% - 25-50%, 19% - 10-25%, and 23% - <10%, This finding suggests that mHealth interventions may be challenging in this population. However, the proportion of questions answered correctly increased from 63% to 84% in the intervention period's last two months (p<0.05). There was a positive correlation between increased response rates and response accuracy to patient education assessments (r=0.82, p<0.05). These improvements in health knowledge suggest that a subset of patients may benefit from mHealth interventions, and the benefit correlates with use.

NOVEL REMOTE ASSESSMENT OF THE STANDING POSTURAL CONTROL IN YOUNGER AND OLDER ADULTS USING SMARTPHONE APPLICATION

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In older adults, assessment of standing postural control under various task and/or environmental conditions provides valuable insight into cognitive-motor function. To date, however, such assessments have been limited primarily to laboratory or clinical settings. We therefore created a smartphone App to enable remote assessments of postural control. This App provides users with standardized multi-media instructions and harnesses the phone's internal motion sensors to capture postural sway, with the phone placed in the user's pants pocket, during trials of standing with eyes open, eyes-closed,

and while performing serial-subtractions (i.e., dual tasking). We then established the test-retest reliability of several metrics of postural sway derived from this assessment tool, as well as their sensitivity to the effect of age and standing condition. Fifteen healthy younger and 15 older adults completed multiple standing trials in two separate laboratory visits and on three separate days in their own homes. Postural sway metrics included the mean distance from the center of the trajectory and root mean square were derived from both transverse-plane acceleration and angular velocity time series. Each sway metric demonstrated excellent test-retest reliability, even when analyzed separately by group and standing condition (ICCs: 0.78-0.89). Moreover, each metric was sensitive to age group and standing condition, such that greater sway was observed in older adults as compared to younger adults (p<0.03), and in more challenging standing conditions (p<0.0001). These results suggest that sensitive metrics of standing postural control may be reliably obtained from remote smartphone-based assessments in both younger and older adults.

AUTOMATIC QUANTIFICATION OF TANDEM WALKING USING A WEARABLE DEVICE: VALIDITY OF THE INSTRUMENTED TANDEM WALK

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Tandem walk (TW) is typically assessed by the time to complete the task and the number of missteps, however, these measures suffer from limitations and may not fully capture the range of performance in this task. We developed metrics of TW by using a body-fixed, wearable sensor in young and older adults. Healthy young men (n=40) and older adult men (n=362) were studied. While wearing a 3D accelerometer on their lower back, subjects performed three different tasks: TW, usual-walking, and quiet standing. The extracted measures for TW were: High-to-Low frequency band ratio from the power spectral density from the ML axis [nu], signal vector magnitude[g], step duration[s], sample entropy from ML, AP axis[nu] and CV[%]. All of the TW metrics were significantly different in the young and older men (p<0.001). Older men completed the TW with higher CV, suggesting greater stride-to-stride variability and they walked more slowly, as seen by their step duration. Additionally, the frequency ratio measure suggests that the older adults displayed less complex corrective movements in the ML axis. TW measures were modestly correlated with usual-walking (e.g., average stride time with TW step time, r=0.3; p<0.001) and with quiet standing postural control (e.g., acceleration path length in the ML and AP axis with TW sample entropy in the ML axis, r=0.13; p=0.014). Metrics derived from a wearable device complement conventional TW measures and vary with age. Further work is needed to determine if TW, gait and posture metrics are differentially associated with distinct adverse health outcomes.

WEARABLES REVEAL A GAP BETWEEN GAIT PERFORMANCE IN THE LAB AND DURING 24/7 MONITORING IN OLDER ADULTS

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We compared in-lab usual-walking (UW) and dual-task walking (DTW) to daily-living measures of gait obtained during 24/7 monitoring. In-lab gait features (e.g., gait speed, step and stride regularity) derived from UW and DTW were compared to the same gait features during daily-living in 150 elderly fallers (age: 76.5±6.3 years, 37.6% men). Features were extracted from a lower-back accelerometer. In daily-living setting, subjects wore the device for one week and pre-processing detected 30-second walking bouts. A histogram of all walking bouts was determined for each walking feature for each subject, then each subject's typical, worst and best values were determined. Statistics of reliability were assessed using ICC and Bland-Altman. As expected, in-lab gait speed, step regularity, and stride regularity were worse during DTW, compared to UW. Gait speed, step regularity, and stride regularity during UW were significantly higher (i.e., better) from the typical daily-living values (p<0.0001) and different (p<0.000) from the worst and best values. DTW values tended to be similar to typical daily-living values (p=0.205, p=0.053, p=0.013 respectively). ICC assessment and Bland-Altman plots indicated that in-lab values do not reliably reflect the daily-walking values. Gait values during relatively long daily-living walking bouts are more similar to the corresponding values obtained in the lab during DTW, as compared to UW. Still, gait performance during most daily-living walking bouts are worse than that measured in-lab and do not reliably reflect each other. That is, an older adult's typical daily-living gait cannot be estimated by simply measuring walking in a structured, laboratory setting.

VIDEO RECORDING FOR CAPTURING INTERACTIONS BETWEEN RESIDENTS WITH DEMENTIA AND STAFF: A SYSTEMATIC REVIEW

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The use of video-recording offers important advantages in observing and assessing the relationships between specific behaviors in health care settings. The purpose of this