THE DIGITAL DIVIDE AMONGST HIGH-NEED HIGH-RISK VETERANS

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High-need high-risk (HNHR) veterans are medically complex and at the highest risk of hospitalization and long-term institutionalization. Technology can mitigate challenges these veterans have in accessing healthcare. Willingness to use technology as well as access and ability to use technology were assessed in this study. At the time of the survey, 2543 Miami VAHS veterans were listed as HNHR. 634 veterans ultimately completed the questionnaire, and 602 answered the "willingness to use video-visits" question. Of the 602 respondents, 327 (54.3%) reported they were willing for video-visits with the VA, while 275 (45.6%) were not. Those who were willing were significantly younger (P<0.001), with higher educational qualifications (P=0.002), and more health literate than those not willing (P<0.001). They were more also capable of using the Internet, more likely to use email and be enrolled in the VA's patient portal, My HealtheVet (P<0.001). However, of the veterans who were willing, 248 (75.8%) had a device with video-capable technology. Those with video-capable technology were younger (P=0.004), more health literate (P=0.01), and less likely to be Black or African American (P=0.007). They were more capable of using the Internet, more likely to use email, and be enrolled in My HealtheVet than those without (P<0.001). Half of the respondents were willing for video-visits but a quarter of those willing lacked requisite technology, thereby making only about 41.2% of the respondents willing and video-capable. To minimize the digital divide, especially during the ongoing COVID-19 pandemic, targeted measures need to address these disparities in this vulnerable population.

USER PERCEPTIONS & SUBJECTIVE MEMORY CONCERNS ARE ASSOCIATED WITH BRIEF, REMOTE COGNITIVE ASSESSMENT PERFORMANCE

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Online cognitive tests offer a cost-effective, accessible means of cognitive screening and may prove especially important for individuals with memory complaints, a risk factor for cognitive impairment (Kaup et al., 2015). Although older adults' perceptions of everyday technologies impact their uptake and adoption, there is limited understanding about how perceptions of online cognitive screening tests impact test performance. The purpose of the current study was to examine relationships between performance on a brief, self-administered, web-based cognitive assessment tool (SMART) and user perceptions (e.g., ratings of challenge and length), technology confidence, brain health activities, and memory complaints. Participants were 1336 adults without a diagnosis of cognitive impairment (Mage=60.48 years, SD=15.18; 65.8% female; 81.8% White; 21.2% with subjective memory complaints). Most participants (97%) were willing to complete the SMART again, with over half (53.5%) willing to complete the SMART on at least a weekly basis. After adjusting for age and education, better SMART performance (i.e., faster completion time) was associated with user ratings of greater ease of completion, higher technology confidence, and greater participation in brain health activities (p<.05). In a subsample aged 60+, individuals with memory complaints took longer to complete certain SMART tasks (Trail Making Test B, Total SMART) than those without memory complaints (p<.05). Results suggest that the SMART is a well-accepted tool for frequent remote cognitive screening and highlight the importance of user perceptions, technology confidence, and memory complaints on online cognitive test performance.

USING ARTIFICIAL INTELLIGENCE TO IMPROVE PAIN ASSESSMENT AND PAIN MANAGEMENT: A SCOPING REVIEW

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Approximate 50 million U.S. adults experience chronic pain. It is a widely held view that pain has been linked to sleep disturbance, mental problems, and reduced quality of life. Uncontrolled pain has led to increased healthcare utilization, hospitalization, emergency visits, and financial burden. Recognizing, assessing, understanding, and treating pain can improve outcomes of patients and healthcare use. A comprehensive synthesis of the current use of AI-based interventions in pain management and pain assessment and their outcomes will guide the development of future clinical trials. This review aims to investigate the state of the science of AI-based interventions designed to improve pain management and pain assessment for adult patients. The electronic databases Web of Science, CINAHL, PsycINFO, Cochrane CENTRAL, Scopus, IEEE Xplore, and ACM Digital Library were searched. The search identified 2131 studies, and 18 studies met the inclusion criteria. The Critical Appraisals Skills Programme was used to assess the quality. This review provides evidence that machine learning, deep learning, data mining, and natural language processing were used to improve efficient pain recognition and pain assessment (44%), analyze self-reporting pain data (6%), predict pain (6%), and help physicians and patients to more effectively manage with chronic pain (44%). Findings from this review suggest that using AI-based interventions to improve pain recognition, pain prediction, and pain self-management is effective; however, most studies are pilot study which raises concerns about the generalizability of findings. Future research should focus on examining AI-based approaches on a larger cohort and over a longer period of time.