

Application Fields and Innovative Technologies

Empowering Older Adult Participants in Research with Adaptive Digital Interactive Informed Consent F. Abujarad, C. Edwards. *Gerontechnology* 25(s)

Purpose Older adults 65 and older have the highest healthcare utilization rates, and by 2030 one in six people will be 60 years or older.[1,2] Despite this, older adults have been frequently excluded from participating in research, and current traditional methods are challenging. Traditional paper consent processes are lengthy and confusing, especially in busy settings for research such as the emergency department (ED). We describe how we developed an adaptive digital informed consent platform to recruit (N=1,000) older adults for an elder abuse study in the emergency department, utilizing digital coaching tools to enhance the IC process. **Method** Our digital informed consent tool, VIC, was previously developed and tested in a pilot study that demonstrated improved participant usability, acceptability, comprehension, and satisfaction when compared to a traditional paper-based IC process.[3] VIC was developed using a user-centered design (UCD) approach, incorporating multimedia features such as animated videos to explain research procedures, automated text-to-speech audio, and interactive comprehension checks to emphasize key concepts. We used VIC to consent older adult patients in a larger study for evaluating the feasibility of an elder abuse intervention, a self-administered digital health program to increase identification of elder mistreatment in emergency department (ED) setting.[4] A total of 1,012 participants ages 60 and older were consented during their visit at the ED. **Results and Discussion** 1,204 eligible participants agreed to participate in the study and started the consent process, of whom 1,012 (84%) participants were fully consented and enrolled in the study. Of the 192 (16%) participants who were not enrolled in the study: 158 (13%) did not complete the consent process for varying reasons, the most common reason being due to pain, and 34 (3%) completed the consent fully and chose not to participate. Of the participants who consented, 99% fully completed the study and completed all surveys. Consented participants included older adults from 60 to 102 years old with a mean age of 73.5. Most participants were female, white, and high school educated or higher. Participants rated their confidence in using a new technology on a scale of 1-10, (10 being most confident and 0 being least confident) with an average of 6.9. 85% of participants reported owning at least one technological device in their home (personal computer, tablet, or smartphone). Participants were able to complete the IC process on their own and with minimal help from study coordinators, demonstrating that older adults can and are willing to use new digital tools independently to complete the IC process. We believe that the significantly high study completion rate may be due to emphasizing key concepts using the new digital IC features (particularly video animations and comprehension checks) to better educate potential participants to make a true informed decision about their participation in the study. Ongoing work is being done to pilot VIC with generative AI features to improve upon earlier versions. More research is needed to compare traditional and digital consent processes with this population to evaluate the effectiveness of digital consent.

References

1. Zayas CE, He Z, Yuan J, Maldonado-Molina M, Hogan W, Modave F, Guo Y, Bian J. Examining Healthcare Utilization Patterns of Elderly Middle-Aged Adults in the United States. *Proc Int Fla AI Res Soc Conf.* 2016 May;2016:361-366.
2. World Health Organization: WHO. (2025, October 1). *Ageing and health*. <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>
3. Abujarad F, Peduzzi P, Mun S, Carlson K, Edwards C, Dziura J, Brandt C, Alfano S, Chupp G. Comparing a Multimedia Digital Informed Consent Tool With Traditional Paper-Based Methods: Randomized Controlled Trial, *JMIR Form Res* 2021;5(10):e20458. doi: 10.2196/20458
4. Abujarad F, Ulrich D, Edwards C, Choo E, Pantaloni V, Jubanyik K, Dziura J, D'Onofrio G, Gill T.M: Development and usability evaluation of VOICES: A digital health tool to identify elder mistreatment. *Journal American Geriatrics Soc (JAGS)*.(2021).1-10. Doi: 10.1111/jgs.17068

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