

The role of technology in supporting healthcare for older adults

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Purpose We are witnessing dramatic demographics changes worldwide that has widespread implications for nearly all sectors of society including housing, transportation, labor and financial markets, and healthcare systems. The number of persons aged 85+, worldwide is projected to increase by 434 million by 2050 (Kearns et al., 2017). Clearly, the increased number of older people in our society is associated with many positive implications as it underscores medical and social advances over disease. However, there are also challenges associated with population aging, especially the “oldest old (85+)” such as strains on the healthcare system. The incidence of chronic disease such as diabetes, heart disease, cancer, and dementia increases with age and older adults use more healthcare services than other age groups. The goal of this presentation is to discuss how technology can be used to address the healthcare challenges of an aging population. Examples from CREATE will be discussed. The focus will be on telemedicine and health websites. **Method** Telemedicine. We conducted a feasibility study of a home telemedicine system that monitored blood pressure and weight among older patients with hypertension (United Nations, 2015). The system also included a messaging function that sent a daily reminder to participants. The system was installed in the homes of 34 patients and linked to a server at a home care service for the elderly. Health websites. We have conducted several studies that have examined the ability of older adults to use the Internet to gather health information. We also examined factors that influenced “search success.” **Results & Discussion** The findings from our telemedicine study indicated that it was feasible to use the system with older adult patients. The participants found the system to be easy to use and that use of the device made them more compliant in following their medical plan and made them more knowledgeable about their health. More than 50% felt use of the device improved their health. In addition, the providers felt it improved their ability to monitor their patient. With respect to health websites our research has shown that older adults are willing to use health information they find on the Internet to inform health behaviors. They also find the information valuable. However, it is challenging for many older adults to comprehend and integrate the information they find as it tends to be highly technical and complex. Further, cognitive abilities are a strong predictor of “search success” such that people with higher abilities tend to use online tools more effectively. Overall, our findings indicate that technology can be used to support healthcare activities among older people. However, technology applications and tools need to be designed to take into account the needs, preferences, and abilities of diverse older adult population.

References

- Czaja, S.J., Lee, C.C., Arana, N., Nair, S. & Sharit, J. (2014). Use of a telehealth system by older adults with hypertension. *J. Telemed Telecare*, 20, 184-191.
- Kearns, W. D., Fozard, J. L, & Nams, V. O. (2017). Movement path tortuosity in free ambulation: Relationships to age and brain disease. *IEEE Journal of Biomedicine and Health Informatics*, 21(2), 539-548. <https://doi.org/10.1109/JBHI.2016.2517332>. Epub 2016 Jan 25. Review. PubMed PMID: 26829811.
- United Nations (2015). *World Population Ageing*. United Nations: New York.

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