Technology's Promise to Elders

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Improved elder health and longevity, coupled with lower birth rates, is increasing the proportion of older people in the U.S. population. Those age 65 years and older comprised 9.8 percent of the population in 1970, 13 percent in 2010, and (expected) 20 percent by 2030 (Ortman, Velkoff, & Hogan, 2014). Though healthier than previous generations, today's elders may have special issues including chronic illness and isolation. Technology, including online social networks, holds promise for improving elders' quality of life.

SPECIAL ISSUES

Chronic diseases may prematurely take elders out of the labor market and increase their dependence on others for meeting their basic needs. The most prevalent health issues elders face include arthritis, heart disease, cancer, respiratory diseases, Alzheimer's disease, osteoporosis, diabetes, influenza/pneumonia, falls and other injuries, obesity, depression, oral health, and poverty (Vann, 2014). In addition, elders may experience psychological issues such as anxiety and substance abuse (Ginsberg & DiGilio, 2015). Depending on their health, elders may become limited in their ability to experience social situations. Numerous studies show that socially isolated elders are more at risk for adverse health issues, including loneliness, dementia, increased hospitalizations, and falls (Anderson, 2013).

Online social networks as well as technological tools and services are increasingly used by elders. A 2014 Pew study by Smith described two groups of older adults, those who are younger, more affluent, and educated (high use of technology) and those who are older, less affluent, and have disabilities (disconnected from technology). Listed in the article are several barriers to elders adopting new technologies, including physical challenges, skeptical attitudes, and difficulty learning. The same study found that elders lag behind younger Americans in technology use, but those elders who do learn and use technology reported a benefit from it.

THE PROMISE OF TECHNOLOGY

Studies (Anderson, 2013, for example) support the idea that increased connectedness with social supports improves an individual's sense of wellness in all areas of biological, psychological, and social health and well-being. Age-related physical deficits may be somewhat alleviated by adaptive technologies such as hearing aids, programed pill boxes, and wearable emergency-call buttons that can summon immediate assistance. One creative invention is the tremor spoon by Google; using the same technology applied to cameras recording sporting events, it stabilizes a spoon to allow an individual experiencing severe shaking to feed himself or herself. (Watch a demonstration on YouTube at <https://www.youtube.com/watch?v=99t5c6j8BR0>.)

Chan, Campo, Estève, and Fourniols (2009) wrote of "smart homes," technologically linked with numerous smart devices helping elders have greater independence, health, and connectedness with others. The article reviews available technology that practitioners might access for their older adult clients in a home-based health care environment, allowing older adults to remain in their own homes as long as possible. These smart houses are characterized by the presence of wearable, implantable, and microcapsule devices and assistive technologies. Examples are environmental sensors in the home that detect the elders' vital signs as well as safety issues (that is, falls, energy system problems—too hot/too cold). One smart house has a system allowing elders to "join" their distant family members for dinner. Prospero and Wolpin (2015) provide a guide for the newest smart home technology of 2016. One innovation is the smart bed designed to replace the fitness tracker. The bed has sleep IQ monitors that track breathing, heart rate, and movement. It provides information to improve sleep and has dual programs to be individualized for partners sharing the bed.

Online technology can assist with paying bills, balancing checking accounts, and managing investments, mitigating the impact of dependency for

those elders unable to drive; driverless cars will be available in the future! Religious services and even interactive support groups may be accessed through online and conference call technology for the home-bound elder. Low-cost video calling services such as Skype allow connections to be maintained with friends and family. Accessibility features incorporated into common computer software, combined with hardware accommodations such as enlarged monitors and text-to-speech recognition, may allow communication for some that would be impossible without computer assistance. Check out the article titled “Technology Is Helping Seniors Keep in Touch” (Assisted Living Today, 2013) for ways family, friends and health care providers may connect with older adults. The article shares a link from Purdue Research Park (2012) on robots that help humans “see.”

A report from the Centre for Policy on Ageing (2014) in the United Kingdom summarizes key future developments in the area of technology for elders:

- Health and social networking technologies for older people will be developed to use generic, freely available platforms including the Internet and smartphones and tablets running Windows, Android, or iOS.
- The technological development with the greatest impact on telemedicine, telehealth, telecare, and smart home technology for older people will be machine-to-machine networks that will provide improved resilience and communication between sensors and systems.
- In general, the technological developments with the greatest impact will be those that are “needs and outcomes” rather than “technology” led.
- Far-future technologies currently under development, with the greatest potential impact for older people, include wearable exoskeletons and driverless cars (for example, see Centre for Policy on Ageing, 2014; Daily Conversation, 2015).

CONCLUSION

Research indicates that many new technologies are available and evolving to affect the lives of older adults. Currently, these innovations are more accessible to younger, highly educated, affluent elders. Policy advocates for elder services have many issues to address the barriers to elders obtaining the technology that would make their lives easier. These

issues include lack of trained gerontology specialists, lack of specialized service providers, inadequate insurance benefits, stigma/age discrimination, lack of transportation, and lack of financial resources or education (Ginsberg & DiGilio, 2015).

The Eldercare Workforce Alliance (2011) identified educational needs in geriatric service provision. Recommendations include expanding geriatric education for health care professionals, training for direct care works (including technological innovations), and training and support for consumers and caregivers.

Despite these barriers, technology is evolving at a rapid rate, and practitioners are obligated to stay abreast of these developments to serve their elderly clients. Technology that can fill gaps in caregiving should be available to all. **HSW**

REFERENCES

- Anderson, J. (2013). *14 ways to help seniors avoid social isolation*. Retrieved from <http://www.aplaceformom.com/blog/help-seniors-avoid-social-isolation-8-14-2014/>
- Assisted Living Today. (2013). *Technology is helping seniors keep in touch*. Retrieved from <http://assistedlivingtoday.com/2012/06/technology-helps-seniors-keep-in-touch/>
- Centre for Policy on Ageing. (2014). *The potential impact of new technologies* [Rapid review]. Retrieved from http://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/CPA-The_potential_impact_of_new_technology.pdf?dtrk=true
- Chan, M., Campo, E., Estève, D., & Fourniols, J.-Y. (2009). Smart homes: Current features and future perspectives. *Maturitas*, 64(2), 90–97.
- Daily Conversation. (2015). *The future of driverless cars* [YouTube video]. Retrieved from <https://www.youtube.com/watch?v=P1tOeChenQ>
- Eldercare Workforce Alliance. (2011). *Education & training: Meeting the needs of older adults—The best prescription for healthier adults: Quality coordinated care*. Retrieved from <http://www.eldercareworkforce.org/research/issue-briefs/research:education-and-training/>
- Ginsberg, A., & DiGilio, D. (2015). *Mental and behavioral health and older Americans*. Retrieved from <http://www.apa.org/about/gr/issues/aging/mental-health.aspx>
- Ortman, J., Velkoff, V., & Hogan, H. (2014). *An aging nation: The older population in the United States*. Retrieved from <https://www.census.gov/prod/2014pubs/p25-1140.pdf>
- Prospero, M., & Wolpin, S. (2015). *Best smart home gadgets of 2016*. Retrieved from <http://www.tomsguide.com/us/best-smart-home-gadgets,review-2008.html>
- Purdue Research Park. (2012). *Human-vision robot* [YouTube video]. Retrieved from <https://www.youtube.com/watch?v=fZ04fxztd1s>
- Smith, A. (2014). *Older adults and technology use*. Retrieved from <http://www.pewinternet.org/2014/04/03/older-adults-and-technology-use/>
- Vann, M. R. (2014). *The 14 most common health concerns for seniors*. Retrieved from <http://www.everydayhealth.com/news/most-common-health-concerns-seniors/>

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Correction: The article titled “Impact of Death Work on Self: Existential and Emotional Challenges and Coping of Palliative Care Professionals” by Wallace Chi Ho Chan et al. (February 2016, Vol. 41, No. 1, pp. 33–41), was coauthored by Agnes Fong Tin, not Agnes Fong. **HSW**

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