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What's New about Getting Older

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Kathy Pichora-Fuller, PhD, Aud(C), RAUD, FCAHS



Hearing Care in the Context of Gerontechnology and Digital Literacy

The Questions

There is a new buzz about AI and how it may rapidly change our lives. Will it help us live longer or eliminate our species? Will it provide new solutions or pose new challenges for people living with hearing loss? Will AI threaten the employment of audiologists as tasks such as hearing testing and hearing aid fitting become automated or will AI free us to refocus our professional work more on counselling and building relationships as we help people to adapt to living with hearing loss?

AI in hearing aids promises exciting new benefits to people living with hearing loss. This new era of hearing technology may be especially beneficial to older listeners for whom solutions addressing declines in supra-threshold auditory processing (clarity) may be as or more important than solutions addressing reduced audibility (loudness). Other AI-based assistive technologies (e.g., speech-to-text apps) offer accessibility options that complement hearing aids. Audiology, like almost every other profession, must anticipate and adapt to how new technologies will change our

work and our clients' lives.

Importantly, advances in hearing and assistive listening technologies are happening in parallel with a more general "spectacular increase in assistive technology use and published research over the last 25 years" (Sweeting et al., 2024). The role of technology for people with disabilities has evolved remarkably over the last 25 years due to both demographic and technological trajectories. Demographically, the prevalence rates of disability have increased as the population has aged, while the availability of carers has shrunk (e.g., smaller families). Technologically, devices have shifted from analog to digital, including internet and wireless possibilities. For example, Auracast or AI live captioning in PowerPoint mark a new era of assistive technology for people with hearing loss.

Another trend audiologists must adapt to is convergence and harmonization across technologies that now interact with each other (e.g., hearing aids and smartphones). Robots may become communication partners or even therapists or caregivers for older people living with hearing loss. Older adults with hearing loss may also need accommodations for other age-related health issues such as declines in vision, dexterity, mobility, and cognition. Smart-home devices (e.g., Alexa or Siri) may be used to assist or monitor older adults, especially those who live alone. But is this new technology a bonus or a bust for older adults who often struggle with technology and have poor digital literacy? Is digital ageism a barrier to successful adoption of new technologies by older adults (Ménard et al., 2025)? Perhaps fear of, or low self-efficacy for, using digital technologies helps explain the surprisingly low uptake of hearing aids. Conversely, perhaps hearing aid adoption will become less stigmatizing as digital technologies become ubiquitous and differences between hearing aids and phones or other audio devices become less obvious to casual observers. Beyond the technology itself, would better digital literacy (knowledge, skills, attitudes) influence hearing aid uptake? Audiologists may need to think in new ways about how hearing care for older adults fits in the larger context of Gerontechnology and digital literacy.

Gerontechnology

The term *Gerontechnology* (combining gerontology and technology) was coined in 1989 to recognize that the trajectory of societal aging and the trajectory of technological capability should be considered together. Gerontechnology refers to an interdisciplinary field of research and application concerned with designing technologies and environments to support healthy aging, extend independent living, and enable the social participation and quality of life of older persons. The International Society for Gerontechnology (ISG) was founded in 1997; its mission is "to encourage and promote technological innovations in products and services that address older peoples' ambitions and needs based on scientific knowledge about ageing processes, including cultural and individual differences" (https://www.gerontechnology.org/).

Three main areas of Gerontechnology concern: 1. Information and communication technologies (including telehealth and AI); 2. Assistive technologies; and 3. Human-computer interaction technologies and virtual reality used in clinical treatments and rehabilitation (Pilotto et al., 2023). Such technologies can be used to prevent, delay, or compensate for age-related declines in sensory, cognitive or physical capacities (Millán-Calenti & Maseda, 2011). They may help older adults meet their needs in functional domains such as communication, health, housing, safety, mobility, comfort, leisure, and work. They may even enhance or augment capabilities beyond age-related baselines (https://technav.ieee.org/topic/gerontechnology/).

Because Gerontechnology is relevant to everyone who shares the goal of aligning technological solutions with the capacities, needs, and preferences of older people, it should be highly relevant to audiologists. How could audiologists re-think rehabilitation as a version of Gerontechnology focused on older adults living with hearing loss? How should audiologists think about the interface between hearing technologies and other technologies for older people as everyday activities become increasingly digital?

Digital Literacy

Digital literacy is necessary if older adults are to become proficient users of current and future technologies. In rehabilitative audiology, digital literacy is key to whether older adults succeed in learning to use hearing aids and a growing number of other technologies (e.g., smartphones) that interoperate with hearing aids.

Rapid technological changes in society are driving new policies to address digital literacy, especially AI. In 2026, the Canadian Minister of Innovation, Science and Industry published *Canada's National Artificial Intelligence Strategy: AI for All.*Around the same time, a Canadian report on *Digital Literacy for Older Adults* was published (Curkier & Israilov, 2026). The report found that only about a third of older Canadians have basic digital skills, with the proportion lower for women (31%) than for men (39%), and that health issues and self-ageist attitudes contribute to poor digital literacy. A main policy recommendation is that "*Canada needs a nationally led digital inclusion strategy for older adults.*" (p iv; Cukier & Israilov, 2026), entailing new approaches to identify needed digital skills, provide personalized and accessible instruction, and offer inter-generational and peer support in trusted community spaces. Some older adults have never used computers. Others used computers in their workplaces but have not updated their equipment or skills since retirement. Improving community-based access to instruction and support to build digital literacy could benefit older adults who may otherwise struggle as they learn to optimize the use of hearing technologies.

Skill Assessment. UNESCO provides a framework for identifying digital skills (Law et al., 2018). Within this framework, "digital literacy is the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies." Beyond proficiency in operating devices, the framework includes competencies involving critical thinking, problem-solving, and awareness of the safety, security, and ethics of device use (see Table 1). To varying degrees, the competence areas and specific competencies can be applied in rehabilitative audiology. A structured assessment of a client's digital literacy skills could inform decisions about technology choice and training planning to optimize technology use. Where skills fall short, rehabilitation could also recommend appropriate options for learning new digital skills that support an individual in becoming and remaining an effective technology user.

Table 1. UNESCO Digital Literacy Competencies

UNESCO Competence Area	UNESCO Competences
1. Information and data literacy	1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content

2. Communication and collaboration	2.1 Interacting through digital technologies 2.2 Sharing through digital technologies 2.3 Engaging in citizenship through digital technologies 2.4 Collaborating through digital technologies 2.5 Netiquette 2.6 Managing digital identity
3. Digital content creation	3.1 Developing digital content 3.2 Integrating and re-elaborating digital content 3.3 Copyright and licenses 3.4 Programming
4. Safety	4.1 Protecting devices 4.2 Protecting personal data and privacy 4.3 Protecting health and well-being 4.4 Protecting the environment
5. Problem solving	5.1 Solving technical problems 5.2 Identifying needs and technological responses 5.3 Creatively using digital technologies 5.4 Identifying digital competence gaps

The UNESCO framework could serve as an initial guide for developing an approach to assessing clients' digital literacy and planning training informed by the assessment. Training could be recommended based on the individual's digital literacy skills and how they might use hearing and other technologies in a range of situations and for a range of purposes. For example, competence areas 1 and 2 could matter for effectively using instructional materials, learning device controls, recording experiences when using devices, or collaborating effectively in remote checks with the audiologist. Competence area 3 could potentially be relevant if the device user will tailor settings for specific situations. Competence area 4 could relate to regular device maintenance, and it might be especially important for users concerned about the security and privacy of their communications. Competence area 5 could be adapted to hearing device troubleshooting. How could audiologists re-think assessment and training to ensure that clients have the necessary digital skills to operate hearing technologies and interfaces between hearing aids and other technologies?

Skill Training. Good digital literacy may open a new gateway to benefit from audiologic rehabilitation. Poor digital literacy may be a barrier to help-seeking for hearing loss, and it may predispose clients to abandon hearing aid use. For clients with poor digital literacy, an audiologist may spend as much time teaching them to use their smartphone as they do teaching them to use their hearing aids. Audiologists may be able to reduce this extra work as new public policies create resources to improve digital literacy for older adults. A review (Khan et al., 2026) identified seven primary barriers to digital literacy: health barriers, support networks, convenience and ease of use, knowledge and information, perception barriers, resource barriers, and barriers for special populations. The authors conclude that barriers to digital literacy are shaped by interacting individual, social, and contextual factors rather than isolated skill deficits, and that barriers often co-occur, with health-related limitations, access to support, technology design, and resource constraints jointly influencing digital engagement. Other authors have recommended co-creating digital literacy training with older adults to ensure it meets the needs of individuals or groups with similar needs (Sweeting et al., 2024). Digital literacy training opportunities for older adults are being developed in community settings such as public libraries or community centres. One Canadian study developed and evaluated digital literacy training co-created by a seniors' organization and community libraries (Elgamal et al., 2024). Connected Canadians, the UBC Edith Lando Virtual Learning Centre, and the PICS Digital Skills for Seniors Program are some examples of digital literacy training programs (see resources below). Funding to support digital literacy has been provided by programs such as the New Horizons for Seniors Program (NHSP) of Employment and Social Development Canada. What kind of digital literacy training would help prepare older adults for the experience of learning to use new hearing technologies? Could audiologists join forces with community librarians and seniors' organizations to co-create digital literacy training that supports older adults who are new hearing aid users?

The Challenge for Audiologists

Although few audiologists may be aware of the field of Gerontechnology, it is clearly relevant to audiologists. It may offer a new context for many aspects of hearing care for older people, including age-friendly use of technology for hearing screening, monitoring, assessment, and rehabilitation. Beyond new technologies for older adults, it is imperative to develop opportunities for digital literacy training. Such training could be tailored to the needs of older adults who use hearing technologies alongside other technologies. Audiologists and older adults receiving audiologic rehabilitation could co-create adaptations of broader digital literacy programs being developed and delivered in community settings such as libraries, community centers, or online. Combining digital literacy training and rehabilitative audiology in community settings could not only improve the lives of older adults living with hearing loss but also counteract digital ageism and boost public awareness of the value of hearing accessibility.

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