Can technology make a difference in aged care?

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Supporting implementation

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New technologies can play an important part in enhancing health and social outcomes for older people by supporting their physical and emotional well-being, enabling continuing autonomy and independence, and facilitating their social connectedness within their family and community. Digital and technological innovations that support older people and families in maintaining health and well-being which prevent or delay entry to the aged care system need to be considered to address the impacts of population ageing. Technologies that can assist in the effective delivery and management of aged care and which enable nurses and careworkers to have more time to engage in direct resident and client care will be critical to the sustainability of the aged care system. While the aged care sector is seen to be behind other sectors in the use of technology, there is a body of evidence on technology applications within the sector.

Technology exemplars

Socially assistive devices such as care robots or companions are the focus of research interest as their use has been seen as a potential way to increase and maintain social and physical well-being. A review of RCTs using Paro, a 'seal robot' showed such technologies could be beneficial for improving quality of life, biopsychological conditions, and reducing psychotropic and pain medical

usage. [1] As with many innovations there is a need to understanding ethical implications associated with their use. [2-3]

Smart home technologies are increasingly being used in the management of chronic diseases in older people. Intervention technologies can be seen within three groups: smart home, characterized by environmental sensors detecting motion, contact, light, temperature, and humidity; external memory aids, characterized by a partnership between mobile apps and smart home-based activity learning; and hybrid technology, with the integration of multiple technologies, such as devices installed at patients' homes and telemedicine. [4] They appear to facilitate control of exacerbations and increase patients' safety by providing support in disease management through the constant monitoring of older people by local and hospital health services.

Telehealth and videoconferencing have both been studied for their role in supporting care and in maintaining social connectedness. Telehealth in nurse-led self-care promotion programs appears to have a positive impact on older adults, the evidence base for the most effective organization and delivery is still emerging. [5] Reviews have shown that video call use in geriatric settings is feasible and is effective in reducing social isolation among

residents. [6] eHealth technologies may also be of particular value to older adults living in rural and remote areas [7] or where ongoing and responsive care is needed such as palliative care. [8]

Interventions using with the older adult populations have been undertaken and have demonstrated potential. [9-10] A number of factors, especially related to frailty, usability, and acceptability, also need to be explored. [11] Studies have also been undertaken with palliative populations [12] and several systematic reviews on the use of VR in residential aged care are underway. [13]

Many different e-Health technologies are being developed to support cognitively impaired older adults and their family carers. They address areas such as safety and security, devices used for supporting memory and orientation for the person living with dementia and social interaction and leisure activities. Fewer studies considered assistive technologies which supported basic Activities of Daily Living activities such as feeding, washing, grooming, or dressing. [14] The most common solutions focused on cognitive training for people living with dementia and on education and support of carers. [15]

Systems and Data Usage

The increased availability of electronic health record data and data from quality indicators offers an opportunity to use predictive modelling to understand potential risks and precursors to adverse event and prevent or mitigate their impacts. The [Department of Health and Aged Care's Data Strategy 2022-2025 (1.40MB pdf)](#) notes that data is the backbone of the evidence base used to inform policy development, monitor and understand how services are being delivered and to whom, support future service planning and evaluate the impact of programs that we deliver, commission or provide grants for, so that we can be assured that we are receiving value for money. This turn requires them to be able to collect, manage and analyse data

effectively. This is likely to lead to significant technology and digital systems requirements to enable this level of data capture and analysis.

Implementing technology

There can be challenges in implementing new technologies and digital systems into the workplace and this is also true of aged care. Organisational capability to satisfactorily implement new technology is important if benefits are to be realised and the safety and quality of care for residents preserved. Technologies need to be fit for purpose and not increase documentation burdens. [16] The importance of usability assessment has been identified as critical. [17] The recent Testing Frameworks review completed for the ARIIA [Knowledge and Implementation Hub](#) synthesised many of these considerations. [18]

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