



Types of Technology in Aged Care: Virtual Reality

Aged care services are increasingly embracing innovative digital technologies to improve the care experiences of older people and to enable care workers to do more, even with fewer resources (e.g., staff, financial). This information sheet on virtual reality is part of a series covering types of technology currently used in aged care. These information sheets are available on the [ARIIA website](https://www.ariia.org.au).

What is virtual reality?

Virtual reality (VR) involves a computer software system that generates simulations of real or imagined 3D environments that a person can interact with using their own movements. [1] It usually involves the user wearing a headset and holding handheld sensors or wearing gloves to interact with their surroundings. In the field of health promotion in aged care, VR has advantages and is often used to increase engagement and motivation for older adults, and may involve interactive games, exercise, or relaxation environments such as a simulated garden. [2]



How is virtual reality used in aged care?

Virtual reality technologies can be used for a range of activities in aged care. Some of these include pain management, [2] supporting reminiscence therapy by recreating historical events, settings and even personal memories which can be a pleasant experience for older adults living with dementia, [3] and providing interactive physical exercises and supporting social experiences without having to leave home.

How can virtual reality benefit the aged care sector?

Virtual reality has the potential to benefit aged care services and increase quality of life for older adults. It can improve the mood of older adults by allowing them to explore new and exciting environments, revisit familiar places, and socially interact without leaving their home. [4]

The use of VR can provide cognitive stimulation for older adults and can be tailored to the individual to improve memory, problem solving skills, and spatial awareness. [5] Virtual reality may also be useful to reduce pain, anxiety, and social isolation by providing a distraction to an individual or guiding them through relaxation exercises, VR games, and even calming scenery. [2]

Examples of virtual reality technology in aged care

- **Virtual Forest™**: A peaceful and enjoyable immersive environment designed specifically to improve the quality of life for people living with dementia.
- **Neurons VR**: A therapy tool used in aged care to engage older adults in physical activity and allow them to revisit childhood memories and familiar destinations.
- **Dementia-friendly home app**: An interactive 3D game that can be used to provide carers with ideas to make homes more accessible for people living with dementia.

References

1. Levac D, Glegg SMN, Sveistrup H, Colquhoun H, Miller PA, Finestone H, et al. A knowledge translation intervention to enhance clinical application of a virtual reality system in stroke rehabilitation. *BMC Health Serv Res*. 2016;16(1):557.
2. Li G, Li X, Chen L. Effects of virtual reality-based interventions on the physical and mental health of older residents in long-term care facilities: A systematic review. *Int J Nurs Stud*. 2022;104378.
3. Tominari M, Uozumi R, Becker C, Kinoshita A. Reminiscence therapy using virtual reality technology affects cognitive function and morale of elderly with dementia: Developing topics. *Alzheimers Dement*. 2020;16(S7).
4. Brimelow RE, Dawe B, Dissanayaka N. Preliminary research: Virtual reality in residential aged care to reduce apathy and improve mood. *Cyberpsychol Behav Soc Netw*. 2020;23(3):165-170.
5. Muñoz J, Mehrabi S, Li Y, Basharat A, Middleton LE, Cao S, et al. Immersive virtual reality exergames for persons living with dementia: User-centered design study as a multistakeholder team during the COVID-19 pandemic. *JMIR Serious Games*. 2022;10(1).

www.ariia.org.au

For more information email ariia@ariia.org.au or call 08 7421 9134

ARIIA - Level 2, Tonsley Hub, South Rd, Tonsley SA 5042

ARIIA was established as an independent, not-for-profit organisation, set up to lead the advancement of the aged care workforce capability by promoting and facilitating innovation and research to improve the quality of aged care for all Australians.

Cite as: ARIIA Knowledge & Implementation Hub. *Types of Technology in Aged Care: Virtual Reality*. Adelaide, SA: ARIIA; 2023.